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15 October 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 3, 2021 Progress Report
(July through September 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 3, 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 3, 2021 (July through September).

Actions Taken Quarter 3, 2021 (July through September)

- On 13 July, ERM conducted the GW SCM monthly water level monitoring. During this event, LNAPL was observed in MW-39. Observations are presented in Attachment A, Table Q3-2.
- On 15 July, ERM submitted the Q2 2021 Groundwater Source Control Measures (GW SCM) Quarterly Progress Report.
- On 30 July, ERM submitted the Q1-Q2 2021 GW SCM Performance Monitoring Report.
- On 2 August, ERM conducted the GW SCM monthly water level monitoring. During this event, LNAPL was observed in MW-39. Observations are present in Attachment A, Table Q3-3.
- Between 3 August and 13 August, ERM conducted the GW SCM quarterly groundwater monitoring. The air sparge system was shut down while conducting these activities. During this event, LNAPL was observed in MW-39. Observations are presented in Attachment A, Table Q3-7.
- On 11 August, ERM and subcontractors were onsite to conduct piping repair on the new heat exchanger outlet and attempted to repair a malfunctioning temperature sensor.
- On 15 September, ERM conducted the GW SCM monthly water level monitoring. During this event, LNAPL was observed in MW-39 and MW-43. Observations are present in Attachment A, Table Q3-4.
- On 30 August, Floyd Snider conducted a utility locate for MW-121 and MW-122, located on the northern shoreline.

- On 2 September, Floyd Snider installed two new wells on the northwestern edge of the site, MW-121 and MW-122.
- On 2 September, Floyd Snider developed MW-121 and MW-122.
- Between 21 – 28 September, Floyd Snider collected groundwater samples from 11 monitoring wells along the riverbank, including the new wells MW-121 and MW-122. Sampling was conducted in accordance with *Groundwater Investigation Work Plan* (Floyd Snider, August 2021). Groundwater samples were collected for metals, tributyltin, PCB congeners, dioxins/furans, pesticides, BEHP, PCP, PAHs, TPH, VOCs (BTEX, CVOCs, chlorobenzene), EPH/VPH, and TSS. During this event, LNAPL was observed in MW-43. The air sparge system was shut down while conducting these activities.

Data Received in Quarter 3, 2021 (July - September)

- Laboratory reports received in Quarter 3, 2021 are included in Attachment A, along with a QAQC validation memo prepared by ERM in Q3. 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 3, 2021 is presented in Attachment B, Tables Q3-2 through Q3-12, and will be included in the Q3-Q4 2021 GW SCM Semi-Annual Monitoring Report.

Issues Observed during Quarter 3, 2021 (July through September)

Following completion of the August 2021 groundwater sampling event, both shallow and deep air sparge systems have been operating at 50% of the design flow rates. These were reduced, as detailed in the *Q1-Q2 2021 GW SCM Semi-Annual Monitoring Report* (ERM, 2021), to reduce the load on the system while the programming and mechanical systems were being worked on, as detailed below; and to reduce the amount of air short circuiting from deep wells into the International Slip.

Subcontractors for air sparge system computer programming and mechanical systems returned to the site on 11 August to adjust the auto-shutdown alarm for the shallow air sparge system and to replace that the temperature sensor between the shallow blower and the new heat exchanger. During the replacement of the temperature sensor, the subcontractor observed that the wire connecting the sensor to the temperature gauge had failed and requiring the gauge to be replaced as well. The temperature gauge and sensor will be replaced during the week of 11 October 2021. ERM adjusted an auto-shutdown alarm to temporarily bypass the failed temperature sensor in order to enable the air sparge system to operate during this time..

Until the gauge and sensor are replaced, ERM field staff are manually checking the system operating conditions so that the system continues to operate within design parameters and does not overheat.

Actions Scheduled for Quarter 4, 2021 (July through August)

- The Quarterly Progress Report for Quarter 3, 2021 will be prepared and submitted.
- Monthly level transducer data downloading events and a quarterly groundwater sampling and water level monitoring event will be conducted.
- The replacement temperature gauge and sensor will be received and replaced and the auto-shutdown alarm will be reprogrammed.

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

Yours sincerely

Brendan Robinson, PE
Partner in Charge

Attachments:
Attachment A – Q3 2021 Laboratory Reports
Attachment B – Q3 2021 Tables
CC w/ attachments:
Tom Graf, GrafCon

Attachment A – Q1 2021 GW SCM
Groundwater Laboratory Reports

ERM

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Memorandum

To	Rita Cooper
From	Jack James
Date	29 September 2021
Reference	0583831
Subject	Data Review of PEO Groundwater Sampling, Third Quarter 2021 Pace Analytical Services, LLC Data Packages 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546.

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*, June 2018.

CASE NARRATIVE COMMENTS

The laboratory re-extracted and analyzed sample PEO-MW-33-202108 for polynuclear aromatic hydrocarbons for confirmation in excess of the EPA method holding time due to a low surrogate recovery in the initial analysis. Results confirmed the original analysis performed within hold time for all analytes except naphthalene. However, the initial analysis was performed within hold and is considered preferred. The initial results were used for this validation effort. No qualifications were necessary.

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. All non-detect nitrate as nitrogen results from samples associated with report 10574278 were rejected (R) due to the analysis conducted past the recommended 48 hour hold time. The qualified sample 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 following exceptions:

- Samples associated with report 10573024 arrived at the laboratory with temperatures of 21.1°C and 21.4°C.
- Samples associated with report 10573552 arrived at the laboratory with temperatures of 17.2°C, 15.1°C, and 18.0°C.
- Samples associated with report 10574168 arrived at the laboratory with temperatures of 13.8°C, 14.6°C, 12.1°C, 14.8°C, 11.6°C, and 13.2°C.

- Samples associated with report 10574278 arrived at the laboratory with temperatures of 21.1°C, 20.0°C, and 19.8°C.

The following qualifications resulted from the high receiving temperatures:

- Target analytes were not detected in samples TRIP BLANK-20210803, TRIP BLANK-20210805, TRIP BLANK-20210810, TRIP BLANK-20210811, and TRIP BLANK-20210812; consequently, the non-detect results were rejected (R).
- All non-detect results for the temperature sensitive methods of E353.2, E300.0, SW8260B, NWTPH-Gx, MWVPH, and NWEPH were in agreement with historical results and/or trends for the affected locations with the following exceptions. When results were in agreement, the non-detect results for these methods were qualified as estimates (UJ) and not rejected. The non-detect results were rejected for:
    - Ethylbenzene in samples PEO-MW-36-202108 and the associated field duplicate PEO-MW-Z1-202108,
    - Toluene in sample PEO-MW-27-202108 and the associated field duplicate PEO-MW-Z2-202108,
    - Gasoline range organics (GRO) in sample PEO-MW-37-202108,
    - Benzene in sample PEO-MW-35-202108,
    - Nitrogen, nitrate + nitrite in samples PEO-MW-27-202108, PEO-MW-Z2-202108, and PEO-MW-35-202108,
    - VPH Aliphatic Hydrocarbon (C10-C12) in samples PEO-MW-02-202108 and PEO-MW-34-202108.
- The detected results for E353.2, E300.0, and SM2320B were qualified as estimates with low bias (J-).
- The detected results for SW8260B, NWTPH-Gx, SW8270 SIM, and NWTPH-Dx SG were qualified as estimates with no bias (J), with the exception of some SW8270 SIM results also associated with low surrogate recoveries and NWTPH-Gx results also associated with headspace.
- Finally, the non-detect results for methods SW8270 SIM and NWTPH-Dx SG were qualified as estimates (UJ).
- Metals and hardness by method SW6010D and SW6020A do not have a temperature preservation requirement and the results were not affected or qualified.

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 most cases, sufficient headspace-free VOA vials remained for analysis and qualifications were not necessary. For samples PEO-MW-30-202108, PEO-MW-Z1-202108, PEO-MW-34-202108, and PEO-MW-11-202108 the detected NWTPH-Gx NWVPH results were qualified as estimated with a low bias (J-) and the non-detected result for PEO-MW-08-202108 was rejected (R). The qualified sample results are presented in Table 2.

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.

INITIAL CALIBRATION EXCEEDANCES

The laboratory noted that the initial calibration for benzo(a)pyrene was outside of method control limits in data packages 10574278 and 10574546. Consequently, the associated results were qualified as estimates with no bias (J) for detects and (UJ) for the non-detect. The associated qualified data are presented in Table 3.

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 the RL were qualified as estimated with a high bias (J+). The blank detections and associated qualified data are presented in Table 4.

The trip blank sample results from reports 10573024, 10573552, 10574168, 10574278, and 10574546 were rejected due to the samples arriving at the laboratory at ambient temperatures. Therefore, the trip blank results cannot be used to evaluate whether or not contaminants were introduced to the samples for these reports 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 5. No data were qualified as the outliers could be verified by another in-control recovery.

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 results associated with a low MS/MSD recoveries were qualified as an estimates (UJ). The MS/MSD outliers and associated qualifications can be found in Table 5.

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. 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 6.

CALIBRATION RANGE EXCEEDANCES

Several calibration range exceedances for MS/MSD samples from non-project parent samples were present. These samples do not affect project sample data quality and were not reviewed or presented in this memorandum.

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 ± 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. Professional judgement was used if one result was greater than the RL and the other was not detected (ND). In this instance the method detection limit for the ND result was used in the precision calculation. Parent and field duplicate results were qualified as estimates with no bias (J) when precision criteria was not met.

TPH EVALUATION

The laboratory noted early and/or late peaks outside the GRO (Gasoline Range Organics) window for several samples. ERM qualified the affected results as estimates with no bias (J) or estimates with a low bias (J-) due to other quality control reasons as shown in Table 9. Laboratory duplicates and MS/MSD sample results were not qualified.

OVERALL ASSESSMENT

Several non-detected results were rejected due to analytical hold time and receiving temperature exceedances where there were inconsistencies with historical results. 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
Third Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Extraction Holding Time	Time Exceeded	Analysis Holding Time	Time Exceeded	Affected Analyte	ERM Qualifier
10574278	PEO-MW-27-202108	E353.2	--	--	48 hours	12 hours	Nitrate as N	R
	PEO-MW-Z2-202108	E353.2	--	--	48 hours	11 hours	Nitrate as N	R
	PEO-MW-38-202108	E353.2	--	--	48 hours	9 hours	Nitrate as N	R
	PEO-MW-37-202108	E353.2	--	--	48 hours	8 hours	Nitrate as N	J-
	PEO-MW-35-202108	E353.2	--	--	48 hours	6 hours	Nitrate as N	R

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:

J- = Estimated detection with low bias

R = Result is rejected

SG = Silica gel

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10573024	TRIP BLANK-20210803	NWTPH-Gx, 8260B, NWVPH	21.1°C and 21.4°C	< 6°C	All analytes reported for sample	R
	PEO-MW-32-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	0.43 UJ[2]
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10573024	PEO-MW-33-202108	E353.2	21.1°C and 21.4°C	< 6°C	Nitrate as N	UJ
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
10573552	TRIP BLANK-20210805	NWTPH-Gx, 8260B, NWVPH	17.2°C, 15.1°C, and 18.0°C	< 6°C	All analytes reported for sample	R
	PEO-MW-06-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	J

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10573552	PEO-MW-06-202108	8270 SIM	17.2°C, 15.1°C, and 18.0°C	< 6°C	All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-19-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	UJ
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10573552	PEO-MW-44-202108	E353.2	17.2°C, 15.1°C, and 18.0°C	< 6°C	Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-31-202108	E353.2			Nitrate as N	R
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10573552	PEO-MW-31-202108	NWTPH-Gx	17.2°C, 15.1°C, and 18.0°C	< 6°C	GRO - NWTPH	UJ
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-18-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
10573839	PEO-MW-30-202108	NWTPH-Gx	Headspace > 6mm	No headspace	GRO - NWTPH	J-
	PEO-MW-08-202108	NWTPH-Gx	Headspace > 6mm	No headspace	GRO - NWTPH	R

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574168	TRIP BLANK-20210810	NWTPH-Gx, 8260B, NWVPH	13.8°C, 14.6°C, 12.1°C, 14.8°C, 11.6°C, and 13.2°C	< 6°C	All analytes reported for sample	R
	PEO-MW-28-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	UJ
		NWTPH-Dx SG			Diesel Fuel Range SG	UJ
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	UJ
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-29-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	J
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574168	PEO-MW-29-202108	NWTPH-Dx SG	13.8°C, 14.6°C, 12.1°C, 14.8°C, 11.6°C, and 13.2°C	< 6°C	Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-36-202108	E353.2			Nitrate as N	UJ
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	R
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-Z1-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574168	PEO-MW-Z1-202108	8260B	13.8°C, 14.6°C, 12.1°C, 14.8°C, 11.6°C, and 13.2°C	< 6°C	Benzene	J
					Ethylbenzene	R
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-26-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	UJ
		2320B			Alkalinity, Total as CaCO3	J-

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574168	PEO-MW-26-202108	NWVPH	13.8°C, 14.6°C, 12.1°C, 14.8°C, 11.6°C, and 13.2°C	< 6°C	VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-43-202108	E353.2			Nitrate as N	J-
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	J
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-Z1-202108	NWTPH-Gx	Headspace > 6mm	No headspace	GRO - NWTPH	J-[3]
10574278	TRIP BLANK-20210811	NWTPH-Gx, 8260B, NWVPH	21.1°C, 20.0°C, and 19.8°C	< 6°C	All analytes reported for sample	R
	PEO-MW-27-202108	E353.2			Nitrate as N	R[4]
					Nitrogen, NO_2^- + NO_3^-	R
		E300.0			Sulfate	J-

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574278	PEO-MW-27-202108	8260B	21.1°C, 20.0°C, and 19.8°C	< 6°C	Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	R
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-Z2-202108	E353.2			Nitrate as N	R[4]
					Nitrogen, NO_2^- + NO_3^-	R
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	R
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574278	PEO-MW-Z2-202108	NWVPH	21.1°C, 20.0°C, and 19.8°C	< 6°C	VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ
	PEO-MW-38-202108	E353.2			Nitrate as N	R[4]
					Nitrogen, NO_2^- + NO_3^-	J-
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	J
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-37-202108	E353.2			Nitrate as N	J-
					Nitrogen, NO_2^- + NO_3^-	J-
		E300.0			Sulfate	J-
		8260B			Benzene	UJ
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574278	PEO-MW-37-202108	8270 SIM	21.1°C, 20.0°C, and 19.8°C	< 6°C	All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	R
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-35-202108	E353.2			Nitrate as N	R
					Nitrogen, NO_2^- + NO_3^-	R
		E300.0			Sulfate	J-
		8260B			Benzene	R
					Ethylbenzene	UJ
					m,p-Xylenes	UJ
					o-Xylene	UJ
					Toluene	UJ
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	UJ
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	UJ
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	UJ

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574546	TRIP BLANK-20210812	NWTPH-Gx, 8260B, NWVPH	14.3°C, 6.4°C, and 7.0°C	< 6°C	All analytes reported for sample	R
	PEO-MW-02-202108	E353.2			Nitrate as N	UJ
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	J
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	R
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-34-202108	E353.2			Nitrate as N	UJ
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	J
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J-[3]

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574546	PEO-MW-34-202108	2320B	14.3°C, 6.4°C, and 7.0°C	< 6°C	Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	R
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J
	PEO-MW-11-202108	E353.2			Nitrate as N	UJ
		E300.0			Sulfate	J-
		8260B			Benzene	J
					Ethylbenzene	UJ
					m,p-Xylenes	J
					o-Xylene	J
					Toluene	J
		8270 SIM			All PAHs	J-[1] detects UJ non detects
		NWTPH-Dx SG			Diesel Fuel Range SG	J
					Motor Oil Range SG	J
		NWTPH-Gx			GRO - NWTPH	J-[3]
		2320B			Alkalinity, Total as CaCO3	J-
		NWVPH			VPH Aliphatic Hydrocarbon (C10-C12)	J
		NWEPH			EPH Aliphatic Hydrocarbon (C10-C12)	J

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

Lab Package	Sample ID	Method	Preservation Condition	Limits	Affected Analyte	ERM Qualifier
10574546	PEO-MW-34-202108	NWTPH-Gx	Headspace > 6mm	No headspace	GRO - NWTPH	J-
	PEO-MW-11-202108	NWTPH-Gx	Headspace > 6mm	No headspace	GRO - NWTPH	J-

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:
1 = Qualified due to the additional surrogate recovery exceedance
2 = Qualified due to the additional laboratory introduced contamination
3 = Qualified due to the additional headspace in the vial used for analysis
4 = Qualified due to additional holding time
J = Estimated detected result
J- = Estimated detection with low bias
EPH = Extractable petroleum hydrocarbons
GRO = Gasoline range organics
NWEPH = Northwest extractable petroleum hydrocarbons
NWTPH = Northwest total petroleum hydrocarbons
NWVPH = Northwest volatile petroleum hydrocarbons
PAH = Polynuclear aromatic hydrocarbons
R = Result is rejected
SG = Silica gel
UJ = Nondetected, estimated report limit
VPH = Volatile petroleum hydrocarbons

Table 3
Initial Calibration Exceedances
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Analyte	Calibration Exceedance	Associated Sample	Reported Concentration	Units	ERM Qualifier
10574278	Benzo(a)pyrene	Outside control limits	PEO-MW-38-202108	0.026	µg/L	J
10574546	Benzo(a)pyrene	Outside control limits	PEO-MW-02-202108	0.12	µg/L	J
			PEO-MW-34-202108	0.10	µg/L	J
			PEO-MW-11-202108	ND	µg/L	UJ

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:
J = Estimated detected result
ND = Not detected
µg/L = Micrograms per liter
UJ = Nondetected, estimated report limit

Table 4
Blank and Associated Suspect Sample Detections
PEO Groundwater Sampling
Third 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
10573024	MB 4063014	None for qualification	Manganese, Dissolved	0.21	0.50	--	--	µg/L	--
	MB 4061307	PEO-MW-32-202108	Motor Oil Range SG	0.16	0.40	0.24	0.43	mg/L	0.43 UJ[1]
10573296	MB 4063014	PEO-MW-25-202108	Manganese, Dissolved	0.21	0.50	6.7	1.0	µg/L	J+
10573552	MB 4063014	None for qualification	Manganese, Dissolved	0.21	0.50	--	--	µg/L	--
	MB 4063176	None for qualification	Diesel Fuel Range SG	0.13	0.40	--	--	mg/L	--
			Motor Oil Range SG	0.44	0.40	--	--	mg/L	--
10573839	MB 4066179	None for qualification	Manganese, Dissolved	0.58	0.50	--	--	µg/L	--
	MB 4065687	PEO-MW-41-202108	Anthracene	0.021	0.040	0.0052	0.038	µg/L	0.038 UJ[2]
		None for qualification	Benzo(a)anthracene	0.028	0.040	--	--	µg/L	--
			Chrysene	0.029	0.040	--	--	µg/L	--
			Fluoranthene	0.027	0.040	--	--	µg/L	--
			Phenanthrene	0.025	0.040	--	--	µg/L	--
			Pyrene	0.027	0.040	--	--	µg/L	--
	MB 4074334	PEO-MW-08-202108	Diesel Fuel Range SG	0.18	0.40	0.43	0.40	mg/L	J+
		PEO-MW-41-202108				0.12	0.41	mg/L	0.41 U
		PEO-MW-40-202108				0.17	0.40	mg/L	0.40 U
		PEO-MW-45-202108				0.23	0.40	mg/L	0.40 U

Table 4
Blank and Associated Suspect Sample Detections
PEO Groundwater Sampling
Third 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
10573839	MB 4074334	PEO-MW-08-202108	Motor Oil Range SG	0.55	0.40	0.56	0.40	mg/L	J+
		PEO-MW-41-202108				0.29	0.40	mg/L	0.40 U
		PEO-MW-40-202108				0.46	0.40	mg/L	J+
		PEO-MW-45-202108				0.55	0.40	mg/L	J+

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:
1 = Qualified due to additional preservation condition
2 = Qualified due to additional surrogate recovery
MB = Method blank
mg/L = Milligrams per liter
J+ = Detected results are estimated with a high bias
SG = Silica gel
U = Non-detected
UJ = Nondetected, estimated report limit
µg/L = Micrograms per liter

Table 5
Spike Recoveries Outside of Acceptable Limits
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
10573024	LCS 4061308 LCSD 4061309	None for qualification	Diesel Fuel Range SG	42/74	50-150	55	20	--	--	--
			Motor Oil Range SG	51/81	50-150	46	20	--	--	--
10573552	LCS 4063177 LCSD 4063178	None for qualification	Diesel Fuel Range SG	78/98	50-150	22	20	--	--	--
10573839	LCS 4066571 LCSD 4066572	None for qualification	Diesel Fuel Range SG	35/69	50-150	65	20	--	--	--
			Motor Oil Range SG	39/73	50-150	62	20	--	--	--
10574278	LCS 4071457 LCSD 4071458	None for qualification	Diesel Fuel Range SG	69/45	50-150	42	20	--	--	--
			Motor Oil Range SG	81/48	50-150	51	20	--	--	--
MS/MSD										
10573296	PEO-MW-24A-202108 MS/MSD	None for qualification	Manganese, Dissolved	249/194	75-125	8	20	4X	--	--
	PEO-MW-21-202108 MS/MSD	PEO-MW-21-202108	VPH Aliphatic Hydrocarbon (C10-C12)	46.6	70-130	--	--	ND	µg/L	UJ
10574168	PEO-MW-28-202108 MS/MSD	PEO-MW-28-202108	Benzo(g,h,i)perylene	51/51	55-125	1	30	ND	µg/L	UJ

Table 5
Spike Recoveries Outside of Acceptable Limits
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
10574546	PEO-MW-02-202108 MS	PEO-MW-02-202108	VPH Aliphatic Hydrocarbon (C10-C12)	63.6	65-140	--	--	ND	µg/L	R[1]

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:
1 = Result rejected due to preservation condition
4X = The unspiked sample result was greater than four times the spike concentration
LCS/LCSD = Laboratory control sample/laboratory control sample duplicate
MS/MSD = Matrix spike/matrix spike duplicate
ND = Not detected
R = Result is rejected
RPD = Relative percent difference
SG = Silica gel
UJ = Nondetected, estimated report limit
µg/L = Micrograms per liter
VPH = Volatile petroleum hydrocarbons

Table 6
Surrogate Recovery Results out of Acceptable Limits
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
10573024	PEO-MW-32-202108	8270 SIM	p-Terphenyl-d14	52	70-125	All	1	J- detects UJ non detects
	PEO-MW-33-202108	8270 SIM	p-Terphenyl-d14	65	70-125	All	1	
	Laboratory Duplicate PEO-MW-32-202108	NWTPH-Dx SG	o-Terphenyl	49	50-150	None for qualification	1	--
10573552	PEO-MW-06-202108	8270 SIM	p-Terphenyl-d14	64	70-125	All	1	J- detects UJ non detects
	PEO-MW-31-202108	8270 SIM	p-Terphenyl-d14	69	70-125	All	1	J- detects UJ non detects
	PEO-MW-18-202108	8270 SIM	p-Terphenyl-d14	55	70-125	All	1	J- detects UJ non detects
10573839	PEO-MW-30-202108	8270 SIM	p-Terphenyl-d14	60	70-125	All	1	UJ
	PEO-MW-08-202108	8270 SIM	p-Terphenyl-d14	67	70-125	All	1	UJ
	PEO-MW-41-202108	8270 SIM	p-Terphenyl-d14	67	70-125	All	1	J- detects UJ non detects
	PEO-MW-40-202108	8270 SIM	p-Terphenyl-d14	69	70-125	All	1	J- detects UJ non detects
	PEO-MW-45-202108	8270 SIM	p-Terphenyl-d14	64	70-125	All	1	J- detects UJ non detects
	MB 4065687	8270 SIM	p-Terphenyl-d14	58	70-125	None for qualification	1	--
	MB 4066570	NWTPH-Dx SG	n-Triacontane	47	50-150	None for qualification	1	--
			o-Terphenyl	42	50-150	None for qualification	1	--
10574168	PEO-MW-43-202108	8270 SIM	p-Terphenyl-d14	63	70-125	All	1	J- detects UJ non detects
10574278	LCSD 4071458	NWTPH-Dx SG	n-Triacontane	43	50-150	None for qualification	1	--
			o-Terphenyl	40	50-150	None for qualification	1	--

Table 6
Surrogate Recovery Results out of Acceptable Limits
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	Affected Analyte	Dilution Factor	ERM Qualifier
10574546	PEO-MW-02-202108	NWTPH-Dx SG	n-Triacontane	0	50-150	None for qualification	10	--
			o-Terphenyl	0	50-150	None for qualification	10	--
	PEO-MW-11-202108	8270 SIM	p-Terphenyl-d14	66	70-125	All	1	J- detects UJ non detects

Lab packages reviewed: 10573024, 10573296, 10573552, 10573839, 10574168, 10574278, and 10574546

Notes:
J- = Detected results are estimated with a low bias
MB = Method blank
LCSD = Laboratory control sample duplicate
NWTPH = Northwest total petroleum hydrocarbons
SIM = Selected ion monitoring
SG = Silica gel
UJ = Nondetected, estimated report limit

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

Lab Package	Sample ID	Analyte	Concentration		Report Limit	Units	RPD (%)	Limit (%)	ERM Qualifier
			Sample	Duplicate					
10573839	PEO-MW-30-202108	Diesel Fuel Range SG	7.8	11.5	0.4	mg/L	39	30	J

Lab packages reviewed: 10558570, 10558838, 10559028, 10559159, 10559454, and 10559667

Notes:
J = Estimated detected result
mg/L = Milligrams per liter
RPD = Relative percent difference
SG = Silica gel

Table 8
Field Duplicate Assessment
PEO Groundwater Sampling
Third 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						
10574168	PEO-MW-36-202108 PEO-MW-Z1-202108	Diesel Fuel Range SG	2.9	3.2	0.40	0.40	--	--	mg/L	9.8	30	--
		Motor Oil Range SG	0.25	0.34	0.40	0.40	NC	NC	mg/L	NC	NC	--
		TPH as Gas	1120	788	100.0	100.0	--	--	µg/L	35	30	J
		Total Hardness	110000	113000	3300	3300	--	--	µg/L	2.7	30	--
		Arsenic, Dissolved	16.3	15.6	0.50	0.50	--	--	µg/L	4.4	30	--
		Manganese, Dissolved	1770	1820	10.0	10.0	--	--	µg/L	2.8	30	--
		Acenaphthene	1.2	1.3	0.038	0.038	--	--	µg/L	8.0	30	--
		Acenaphthylene	0.060	0.081	0.038	0.038	0.021	0.076	µg/L	--	--	--
		Fluorene	1.1	1.4	0.038	0.038	--	--	µg/L	24	30	--
		1-Methylnaphthalene	0.30	0.35	0.038	0.038	--	--	µg/L	15	30	--
		2-Methylnaphthalene	0.048	0.047	0.038	0.038	0.001	0.076	µg/L	--	--	--
		Naphthalene	0.66	0.90	0.038	0.038	--	--	µg/L	31	30	J
		Pyrene	ND[1]	0.046	0.038	0.038	0.034	0.076	µg/L	--	--	--
		Benzene	1.7	2.0	1.0	1.0	0.30	2.0	µg/L	--	--	--
		Toluene	0.37	0.39	1.0	1.0	NC	NC	µg/L	NC	NC	--
		m&p-Xylene	0.43	0.47	2.0	2.0	NC	NC	µg/L	NC	NC	--
		o-Xylene	0.34	0.33	1.0	1.0	NC	NC	µg/L	NC	NC	--
		Alkalinity, Total as CaCO3	96.0	105	5.0	5.0	--	--	µg/L	9.0	30	--
		Sulfate	47.9	38.7	1.2	1.2	--	--	µg/L	21	30	--
		Nitrate as N	ND	0.020	0.10	0.10	NC	NC	mg/L	NC	NC	--
		EPH Aliphatic Hydrocarbon (C10-C12)	237	33.6	20.3	20.6	203	41.2	µg/L	--	--	J
		VPH Aliphatic Hydrocarbon (C10-C12)	34.4	61.3	12.2	12.2	26.9	24.4	µg/L	--	--	J
												--

Table 8
Field Duplicate Assessment
PEO Groundwater Sampling
Third 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						
10574278	PEO-MW-27-202108 MW-Z2-202108	Diesel Fuel Range SG	0.41	0.61	0.40	0.40	0.20	0.80	mg/L	--	--	--
		TPH as Gas	113	147	100	100	34	200	mg/L	--	--	--
		Total Hardness	59700	57900	3300	3300	--	--	µg/L	3.1	30	--
		Arsenic, Dissolved	37.5	37.9	0.50	0.50	--	--	µg/L	1.1	30	--
		Manganese, Dissolved	1180	1170	10.0	10.0	--	--	µg/L	0.9	30	--
		Acenaphthene	0.51	0.53	0.039	0.038	--	--	µg/L	3.8	30	--
		Acenaphthylene	0.081	0.085	0.039	0.038	0.004	0.076	µg/L	--	--	--
		Fluoranthene	0.045	0.048	0.039	0.038	0.003	0.076	µg/L	--	--	--
		Fluorene	0.63	0.64	0.039	0.038	--	--	µg/L	1.6	30	--
		1-Methylnaphthalene	0.078	0.072	0.039	0.038	0.006	0.076	µg/L	--	--	--
		2-Methylnaphthalene	ND	0.034	0.039	0.038	NC	NC	mg/L	NC	NC	--
		Naphthalene	0.14	0.13	0.039	0.038	0.010	0.076	µg/L	--	--	--
		Pyrene	0.037	0.040	0.039	0.038	0.003	0.076	µg/L	--	--	--
		Alkalinity, Total as CaCO3	33.1	31.6	5.0	5.0	--	--	mg/L	4.6	30	--
		Sulfate	47.9	49.1	1.2	1.2	--	--	mg/L	2.5	30	--

Lab packages reviewed: 10558570, 10558838, 10559028, 10559159, 10559454, and 10559667

Notes:
1 = Method detection limit used for field precision calculations
EPH = Extractable petroleum hydrocarbons
J = Estimated detected result
mg/L = Milligrams per liter
NC = Not calculated, both results below reporting limit
ND = Not detected
RPD = Relative percent difference
SG = Silica gel
TPH = Total petroleum hydrocarbons
µg/L = Micrograms per liter
VPH = Volatile petroleum hydrocarbons

Table 9
Suspect TPH Results
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Analyte	Reported Concentration	Units	Comment	ERM Qualifier
10573024	PEO-MW-32-202108	TPH as Gas	210	µg/L	Late and early peaks present outside the GRO window.	J[1]
10573296	Batch laboratory duplicate	TPH as Gas	249	µg/L	Late and early peaks present outside the GRO window.	--
10573552	PEO-MW-06-202108	TPH as Gas	4420	µg/L	Late and early peaks present outside the GRO window.	J[1]
	PEO-MW-06-202108 MS		8910	µg/L		--
	PEO-MW-06-202108 MSD		8780	µg/L		--
	PEO-MW-19-202108	TPH as Gas	139	µg/L	Late peaks present outside the GRO window.	J[1]
	PEO-MW-18-202108		287	µg/L		J[1]
	Laboratory duplicate of PEO-MW-18-202108		269	µg/L		--
10573839	PEO-MW-30-202108	TPH as Gas	797	µg/L	Late peaks present outside the GRO window.	J-[2]
10574168	PEO-MW-29-202108	TPH as Gas	3850	µg/L	Late and early peaks present outside the GRO window.	J[1]
	PEO-MW-36-202108	TPH as Gas	1120	µg/L		J[1]
	PEO-MW-Z1-202108	TPH as Gas	788	µg/L		J[1]
	PEO-MW-43-202108	TPH as Gas	2840	µg/L	Late peaks present outside the GRO window.	J[1]

Table 9
Suspect TPH Results
PEO Groundwater Sampling
Third Quarter 2021
Portland, Oregon

Lab Package	Sample ID	Analyte	Reported Concentration	Units	Comment	ERM Qualifier
10574278	PEO-MW-27-202108	TPH as Gas	113	µg/L	Late peaks present outside the GRO window.	J[1]
	Laboratory duplicate of PEO-MW-27-202108	TPH as Gas	107	µg/L		--
	PEO-MW-Z2-202108	TPH as Gas	147	µg/L		J[1]
	PEO-MW-38-202108	TPH as Gas	5760	µg/L	Late and early peaks present outside the GRO window.	J[1]
10574546	PEO-MW-02-202108	TPH as Gas	690	µg/L	Late peaks present outside the GRO window.	J[1]
	PEO-MW-34-202108	TPH as Gas	261	µg/L		J-[2]
	Laboratory duplicate of PEO-MW-34-202108	TPH as Gas	215	µg/L		--
	PEO-MW-11-202108	TPH as Gas	956	µg/L	Late and early peaks present outside the GRO window.	J-[2]

Lab packages reviewed: 10558570, 10558838, 10559028, 10559159, 10559454, and 10559667

Notes:

1 = Qualified for additional sample receiving conditions

2 = Qualified due to the additional headspace in the vial used for analysis

GRO = Gasoline range organics

J = Estimated detected result

J- = Estimated detection with low bias

TPH = Total Petroleum Hydrocarbons

µg/L = Micrograms per liter

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

September 01, 2021

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

RE: Project: 0539066
Pace Project No.: 10573024

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 04, 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10573024

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, LLC
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Minneapolis, MN 55414
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SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10573024

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10573024001	**TRIP BLANK-20210803**	Water	08/03/21 08:00	08/04/21 14:00
10573024002	**PEO-MW-32-202108**	Water	08/03/21 13:15	08/04/21 14:00
10573024003	**PEO-MW-33-202108**	Water	08/03/21 16:30	08/04/21 14:00

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SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573024

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10573024001	**TRIP BLANK-20210803**	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10573024002	**PEO-MW-32-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M
10573024003	**PEO-MW-33-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573024

Sample: TRIP BLANK-20210803 **Lab ID: 10573024001** Collected: 08/03/21 08:00 Received: 08/04/21 14:00 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		08/13/21 01:04		
Surrogates									
a,a,a-Trifluorotoluene (S)	94	%.	50-150		1		08/13/21 01:04	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 01:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 01:17	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 01:17	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 01:17	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 01:17	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 01:17	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 01:17	460-00-4	
Toluene-d8 (S)	103	%.	75-125		1		08/11/21 01:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573024

Sample: PEO-MW-32-202108 **Lab ID: 10573024002** Collected: 08/03/21 13:15 Received: 08/04/21 14:00 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	**0.20J**	mg/L	0.43	0.095	1	08/06/21 13:54	08/11/21 20:03	68334-30-5	L2
Motor Oil Range SG	**0.24J**	mg/L	0.43	0.14	1	08/06/21 13:54	08/11/21 20:03	64742-65-0	B
Surrogates									
o-Terphenyl (S)	61	%.	50-150		1	08/06/21 13:54	08/11/21 20:03	84-15-1	P2
n-Triacontane (S)	59	%.	50-150		1	08/06/21 13:54	08/11/21 20:03		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**210**	ug/L	100	42.8	1		08/12/21 16:56		G+,G-
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/12/21 16:56	98-08-8	
6010D MET ICP, Lab Filtered	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**103000**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 12:47		
6020A MET ICPMS, Lab Filtered	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**8.4**	ug/L	0.50	0.083	1	08/18/21 06:24	08/19/21 00:18	7440-38-2	
Manganese, Dissolved	**1.1**	ug/L	0.50	0.20	1	08/18/21 06:24	08/19/21 00:18	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/04/21 18:03	08/05/21 16:17	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/04/21 18:03	08/05/21 16:17	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/04/21 18:03	08/05/21 16:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/04/21 18:03	08/05/21 16:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/04/21 18:03	08/05/21 16:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/04/21 18:03	08/05/21 16:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/04/21 18:03	08/05/21 16:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/04/21 18:03	08/05/21 16:17	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/04/21 18:03	08/05/21 16:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/04/21 18:03	08/05/21 16:17	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.014	1	08/04/21 18:03	08/05/21 16:17	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/04/21 18:03	08/05/21 16:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/04/21 18:03	08/05/21 16:17	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0065	1	08/04/21 18:03	08/05/21 16:17	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0080	1	08/04/21 18:03	08/05/21 16:17	91-57-6	
Naphthalene	**0.044**	ug/L	0.038	0.0085	1	08/04/21 18:03	08/05/21 16:17	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/04/21 18:03	08/05/21 16:17	85-01-8	
Pyrene	ND	ug/L	0.038	0.0095	1	08/04/21 18:03	08/05/21 16:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%.	51-125		1	08/04/21 18:03	08/05/21 16:17	321-60-8	
p-Terphenyl-d14 (S)	52	%.	70-125		1	08/04/21 18:03	08/05/21 16:17	1718-51-0	2M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573024

Sample: PEO-MW-32-202108 **Lab ID: 10573024002** Collected: 08/03/21 13:15 Received: 08/04/21 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**0.23J**	ug/L	1.0	0.12	1		08/11/21 02:48	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 02:48	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 02:48	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 02:48	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 02:48	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 02:48	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 02:48	460-00-4	
Toluene-d8 (S)	100	%.	75-125		1		08/11/21 02:48	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**106**	mg/L	5.0	1.8	1		08/13/21 13:00		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**25.9**	mg/L	1.2	0.34	1		08/12/21 02:42	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.99**	mg/L	0.10	0.018	1		08/04/21 15:51	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573024

Sample: PEO-MW-33-202108 **Lab ID: 10573024003** Collected: 08/03/21 16:30 Received: 08/04/21 14:00 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	0.088	1	08/12/21 15:36	08/18/21 03:10	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 03:10	64742-65-0	
Surrogates									
o-Terphenyl (S)	68	%.	50-150		1	08/12/21 15:36	08/18/21 03:10	84-15-1	
n-Triacontane (S)	67	%.	50-150		1	08/12/21 15:36	08/18/21 03:10		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**54.4J**	ug/L	100	42.8	1		08/12/21 18:45		
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/12/21 18:45	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**87200**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:26		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**8.3**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 10:33	7440-38-2	
Manganese, Dissolved	**380**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:14	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.049**	ug/L	0.038	0.0066	1	08/04/21 18:03	08/05/21 16:37	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/04/21 18:03	08/05/21 16:37	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/04/21 18:03	08/05/21 16:37	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/04/21 18:03	08/05/21 16:37	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/04/21 18:03	08/05/21 16:37	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/04/21 18:03	08/05/21 16:37	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/04/21 18:03	08/05/21 16:37	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/04/21 18:03	08/05/21 16:37	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/04/21 18:03	08/05/21 16:37	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/04/21 18:03	08/05/21 16:37	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.014	1	08/04/21 18:03	08/05/21 16:37	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/04/21 18:03	08/05/21 16:37	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/04/21 18:03	08/05/21 16:37	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0065	1	08/04/21 18:03	08/05/21 16:37	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0080	1	08/04/21 18:03	08/05/21 16:37	91-57-6	
Naphthalene	**0.050**	ug/L	0.038	0.0085	1	08/04/21 18:03	08/05/21 16:37	91-20-3	1M
Phenanthrene	ND	ug/L	0.038	0.012	1	08/04/21 18:03	08/05/21 16:37	85-01-8	
Pyrene	ND	ug/L	0.038	0.0095	1	08/04/21 18:03	08/05/21 16:37	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%.	51-125		1	08/04/21 18:03	08/05/21 16:37	321-60-8	
p-Terphenyl-d14 (S)	65	%.	70-125		1	08/04/21 18:03	08/05/21 16:37	1718-51-0	S7

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573024

Sample: PEO-MW-33-202108 **Lab ID: 10573024003** Collected: 08/03/21 16:30 Received: 08/04/21 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 03:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 03:06	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 03:06	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 03:06	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 03:06	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/11/21 03:06	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 03:06	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 03:06	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**82.9**	mg/L	5.0	1.8	1		08/13/21 12:56		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**38.2**	mg/L	1.2	0.34	1		08/12/21 04:32	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		08/04/21 15:52	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 762828 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024001, 10573024002, 10573024003

METHOD BLANK: 4067116 Matrix: Water
Associated Lab Samples: 10573024001, 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 16:29	
a,a,a-Trifluorotoluene (S)	%.	95	50-150		08/12/21 16:29	

METHOD BLANK: 4067117 Matrix: Water
Associated Lab Samples: 10573024001, 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 21:01	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/12/21 21:01	

METHOD BLANK: 4069211 Matrix: Water
Associated Lab Samples: 10573024001, 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/13/21 01:57	
a,a,a-Trifluorotoluene (S)	%.	93	50-150		08/13/21 01:57	

LABORATORY CONTROL SAMPLE & LCSD: 4067118 4067119

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1040	939	104	94	75-127	10	20	
a,a,a-Trifluorotoluene (S)	%.				100	97	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068936 4068937

Parameter	Units	10573552002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	4420	5000	5000	8910	8780	90	87	71-139	1	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.						101	101	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

SAMPLE DUPLICATE: 4068930

Parameter	Units	10573024002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	210	249	17	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.	97	96			

SAMPLE DUPLICATE: 4068931

Parameter	Units	10573552006 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	287	269	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	95	95			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 761999
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024003

METHOD BLANK: 4063014 Matrix: Water
Associated Lab Samples: 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/13/21 10:27	
Manganese, Dissolved	ug/L	0.21J	0.50	0.20	08/12/21 12:09	

LABORATORY CONTROL SAMPLE: 4063015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	95.0	95	80-120	
Manganese, Dissolved	ug/L	100	99.9	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4063016 4063017

Parameter	Units	10573296002 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	1.0	100	100	89.9	93.3	89	92	75-125	4	20	
Manganese, Dissolved	ug/L	481	100	100	731	676	249	194	75-125	8	20	P6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 764026
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10573024002

METHOD BLANK: 4073106 Matrix: Water
Associated Lab Samples: 10573024002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/19/21 00:04	
Manganese, Dissolved	ug/L	ND	0.50	0.20	08/19/21 00:04	

LABORATORY CONTROL SAMPLE & LCSD: 4073107 4073377

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Arsenic, Dissolved	ug/L	100	96.6	97.6	97	98	80-120	1	20	
Manganese, Dissolved	ug/L	100	98.6	99.7	99	100	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 762529
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024001, 10573024002, 10573024003

METHOD BLANK: 4065682 Matrix: Water
Associated Lab Samples: 10573024001, 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Ethylbenzene	ug/L	ND	1.0	0.069	08/11/21 00:41	
m&p-Xylene	ug/L	ND	2.0	0.18	08/11/21 00:41	
o-Xylene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Toluene	ug/L	ND	1.0	0.11	08/11/21 00:41	
1,2-Dichlorobenzene-d4 (S)	%.	100	70-130		08/11/21 00:41	
4-Bromofluorobenzene (S)	%.	99	75-125		08/11/21 00:41	
Toluene-d8 (S)	%.	101	75-125		08/11/21 00:41	

LABORATORY CONTROL SAMPLE & LCSD: 4065683 4065684

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.7	20.4	98	102	73-125	4	20	
Ethylbenzene	ug/L	20	18.3	18.9	92	95	75-125	3	20	
m&p-Xylene	ug/L	40	39.2	40.5	98	101	75-125	3	20	
o-Xylene	ug/L	20	20.1	20.9	101	104	75-125	4	20	
Toluene	ug/L	20	19.1	19.9	96	99	75-125	4	20	
1,2-Dichlorobenzene-d4 (S)	%.				99	99	70-130			
4-Bromofluorobenzene (S)	%.				101	99	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 761308
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024002, 10573024003

METHOD BLANK: 4059056 Matrix: Water
Associated Lab Samples: 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/05/21 14:22	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/05/21 14:22	
Acenaphthene	ug/L	ND	0.040	0.0069	08/05/21 14:22	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/05/21 14:22	
Anthracene	ug/L	ND	0.040	0.0054	08/05/21 14:22	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/05/21 14:22	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/05/21 14:22	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/05/21 14:22	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/05/21 14:22	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/05/21 14:22	
Chrysene	ug/L	ND	0.040	0.0094	08/05/21 14:22	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/05/21 14:22	
Fluoranthene	ug/L	ND	0.040	0.014	08/05/21 14:22	
Fluorene	ug/L	ND	0.040	0.0060	08/05/21 14:22	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/05/21 14:22	
Naphthalene	ug/L	ND	0.040	0.0088	08/05/21 14:22	
Phenanthrene	ug/L	ND	0.040	0.012	08/05/21 14:22	
Pyrene	ug/L	ND	0.040	0.0099	08/05/21 14:22	
2-Fluorobiphenyl (S)	%.	71	51-125		08/05/21 14:22	
p-Terphenyl-d14 (S)	%.	77	70-125		08/05/21 14:22	

LABORATORY CONTROL SAMPLE & LCSD: 4059057 4059171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.70	0.66	70	66	34-125	5	20	
2-Methylnaphthalene	ug/L	1	0.66	0.62	66	62	34-125	5	20	
Acenaphthene	ug/L	1	0.71	0.69	71	69	35-125	3	20	
Acenaphthylene	ug/L	1	0.76	0.67	76	67	33-125	12	20	
Anthracene	ug/L	1	0.81	0.81	81	81	42-125	0	20	
Benzo(a)anthracene	ug/L	1	0.75	0.76	75	76	46-125	0	20	
Benzo(a)pyrene	ug/L	1	0.69	0.70	69	70	57-125	1	20	
Benzo(b)fluoranthene	ug/L	1	0.82	0.81	82	81	58-125	1	20	
Benzo(g,h,i)perylene	ug/L	1	0.71	0.73	71	73	55-125	3	20	
Benzo(k)fluoranthene	ug/L	1	0.77	0.81	77	81	55-125	4	20	
Chrysene	ug/L	1	0.80	0.77	80	77	56-125	4	20	
Dibenz(a,h)anthracene	ug/L	1	0.67	0.72	67	72	40-125	7	20	
Fluoranthene	ug/L	1	0.84	0.83	84	83	64-125	2	20	
Fluorene	ug/L	1	0.76	0.73	76	73	43-125	4	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.70	0.74	70	74	57-125	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

LABORATORY CONTROL SAMPLE & LCSD: 4059057 4059171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.66	0.62	66	62	30-125	7	20	
Phenanthrene	ug/L	1	0.79	0.75	79	75	47-125	6	20	
Pyrene	ug/L	1	0.82	0.80	82	80	46-125	3	20	
2-Fluorobiphenyl (S)	%.				62	66	51-125			
p-Terphenyl-d14 (S)	%.				73	72	70-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 761754
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10573024002

METHOD BLANK: 4061307 Matrix: Water
Associated Lab Samples: 10573024002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/11/21 19:30	
Motor Oil Range SG	mg/L	0.16J	0.40	0.12	08/11/21 19:30	
n-Triacontane (S)	%.	64	50-150		08/11/21 19:30	
o-Terphenyl (S)	%.	67	50-150		08/11/21 19:30	

LABORATORY CONTROL SAMPLE & LCSD: 4061308 4061309

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	0.84	1.5	42	74	50-150	55	20	L2,R1
Motor Oil Range SG	mg/L	2	1.0	1.6	51	81	50-150	46	20	R1
n-Triacontane (S)	%.				42	65	50-150			S0
o-Terphenyl (S)	%.				38	75	50-150			S0

SAMPLE DUPLICATE: 4061310

Parameter	Units	10573024002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	0.20J	0.19J		30	
Motor Oil Range SG	mg/L	0.24J	0.25J		30	
n-Triacontane (S)	%.	59	55			
o-Terphenyl (S)	%.	61	49			P2,S0

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 763054
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10573024003

METHOD BLANK: 4068272 Matrix: Water
Associated Lab Samples: 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/18/21 01:09	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/18/21 01:09	
n-Triacontane (S)	%.	51	50-150		08/18/21 01:09	
o-Terphenyl (S)	%.	64	50-150		08/18/21 01:09	

LABORATORY CONTROL SAMPLE: 4068273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.4	70	50-150	
Motor Oil Range SG	mg/L	2	1.5	73	50-150	
n-Triacontane (S)	%.			55	50-150	
o-Terphenyl (S)	%.			71	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068274 4068275

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range SG	mg/L	ND	2	2	1.0	1.2	50	58	50-150	14	30	
Motor Oil Range SG	mg/L	ND	2	2	1.1	1.3	54	63	50-150	14	30	
n-Triacontane (S)	%.						51	62	50-150			
o-Terphenyl (S)	%.						60	68	50-150			

SAMPLE DUPLICATE: 4068704

Parameter	Units	10574168007 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	4.3	0.10J		30	
Motor Oil Range SG	mg/L	0.28J	ND		30	
n-Triacontane (S)	%.	55	53			
o-Terphenyl (S)	%.	55	53			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 763364
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024002, 10573024003

METHOD BLANK: 4069689 Matrix: Water
Associated Lab Samples: 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/13/21 10:44	

LABORATORY CONTROL SAMPLE & LCSD: 4069690 4069691

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	42.0	105	105	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4069692 4069693

Parameter	Units	10574179001 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	20.1	40	40	60.2	60.0	100	100	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4069694 4069695

Parameter	Units	10573118001 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	184	40	40	225	226	102	105	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 762328
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024002, 10573024003

METHOD BLANK: 4064286 Matrix: Water
Associated Lab Samples: 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/11/21 10:43	

LABORATORY CONTROL SAMPLE: 4064287

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: 4064288 4064289

Parameter	Units	10573022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	8.4	50	50	56.3	57.3	96	98	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4064290 4064291

Parameter	Units	10573022002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	14.1	50	50	61.5	62.3	95	97	80-120	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573024

QC Batch: 761264
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573024002, 10573024003

METHOD BLANK: 4058720 Matrix: Water
Associated Lab Samples: 10573024002, 10573024003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/04/21 15:09	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573024

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.

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 10573024

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: 761462

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

Batch: 762529

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

Batch: 764389

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

ANALYTE QUALIFIERS

1M	Reanalysis conducted in excess of EPA method holding time. Results confirmed original analysis performed in hold time for all analytes except Naphthalene. Naphthalene reanalysis result was 0.028691.
2M	Surrogate recovery outside laboratory control limits due to the formation of an emulsion during extraction.
B	Analyte was detected in the associated method blank.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573024

ANALYTE QUALIFIERS

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.
S7	Surrogate recovery outside control limits (not confirmed by re-analysis).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573024

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573024002	**PEO-MW-32-202108**	EPA Mod. 3510C	761754	NWTPH-Dx	762968
10573024003	**PEO-MW-33-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573024001	**TRIP BLANK-20210803**	NWTPH-Gx	762828		
10573024002	**PEO-MW-32-202108**	NWTPH-Gx	762828		
10573024003	**PEO-MW-33-202108**	NWTPH-Gx	762828		
10573024003	**PEO-MW-33-202108**	EPA 3010A	761996	EPA 6010D	762851
10573024002	**PEO-MW-32-202108**	EPA 3010A	762636	EPA 6010D	763497
10573024003	**PEO-MW-33-202108**	EPA 3020A	761999	EPA 6020A	762857
10573024002	**PEO-MW-32-202108**	EPA 3020A	764026	EPA 6020A	764389
10573024002	**PEO-MW-32-202108**	EPA Mod. 3510C	761308	EPA 8270 by SIM	761462
10573024003	**PEO-MW-33-202108**	EPA Mod. 3510C	761308	EPA 8270 by SIM	761462
10573024001	**TRIP BLANK-20210803**	EPA 8260B	762529		
10573024002	**PEO-MW-32-202108**	EPA 8260B	762529		
10573024003	**PEO-MW-33-202108**	EPA 8260B	762529		
10573024002	**PEO-MW-32-202108**	SM 2320B	763364		
10573024003	**PEO-MW-33-202108**	SM 2320B	763364		
10573024002	**PEO-MW-32-202108**	EPA 300.0	762328		
10573024003	**PEO-MW-33-202108**	EPA 300.0	762328		
10573024002	**PEO-MW-32-202108**	EPA 353.2	761264		
10573024003	**PEO-MW-33-202108**	EPA 353.2	761264		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	ERM
Address:	1050 SW 6th Ave, Suite 1650
	Portland, OR 97204
Email To:	rita.cooper@erm.com
Phone: 207-329-6320	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Rita Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	0539066

Section C Invoice Information:

Attention:	
Company Name	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210803	GW	G	8/3/21	8:00				6	-	-	-	X	-	-	-		3	3	3	-	-	-	-	-	-	-	-	001
2	PEO-MW-32-202108	GW	G	8/3/21	13:15				19	X	X	X	X	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		Lab Filter Metals 002
3	PEO-MW-33-202108	GW	G	8/3/21	16:30				19	X	X	X	X	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		003
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

WO#: 10573024

10573024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	A. Johnson / ERM	8/3/21	18:30	IJ-PALE	8/4/21	1400	21.1/21.4	Y	N	Y

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	A. Johnson					
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 8/3/21				

*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.

Pace Analytical®	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#: 10573024

PM: JMT **Due Date: 08/18/21**

CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 027 PDX 7565 3123 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: _____ **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 (Blue)

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:** _____ °C **Average Corrected Temp (no temp blank only):** 21.1, 21.4 °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

Correction Factor: 0.0 **Cooler Temp Corrected w/temp blank:** _____ °C

USDA Regulated Soil: (☑ N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** 8/4/21 CJ

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?	☑ Yes ☐ No	1.
Chain of Custody Relinquished?	☑ Yes ☐ No	2.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes ☐ No	4.
Short Hold Time Analysis (<72 hr)?	☑ Yes ☐ No	5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☑ Nitrate ☑ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes ☑ No	6.
Sufficient Volume?	☑ Yes ☐ No	7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☐ No ☑ Yes ☐ No	8.
Containers Intact?	☑ Yes ☐ No	9.
Field Filtered Volume Received for Dissolved Tests?	☑ Yes ☐ No ☐ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other _____	☑ Yes ☐ No	11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☑ Yes ☐ No ☐ N/A	12. Sample # 1-2:11 1-2:V1
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes ☐ No ☐ N/A	☑ NaOH ☑ HNO_3 ☑ H_2SO_4 ☐ Zinc Acetate 8/4/21 CJ
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑ Yes ☐ No ☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐ ENV-FRM-MIN4-0142
		Res. Chlorine: 0-6 Roll 221419; 0-6 Strip; 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes ☐ No ☑ N/A	13. **See Exception** ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☑ Yes ☐ No ☐ N/A	
Trip Blank Present?	☑ Yes ☐ No ☐ N/A	14. Pace Trip Blank Lot # (if purchased): 318467 (10)
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☐ N/A	

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

Person Contacted: Joe Casey Date/Time: 8/4/21

Comments/Resolution: emailed to notify coolers were received out of temp, OK to proceed with analysis.

Project Manager Review: Julie Busse **Date:** 8/5/21

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).

Labeled by: HKB (1)

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp
21.5	T	21.1
21.2	R	
20.6	V	
20.9	G	

Tracking Number/Temperature	

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp
20.6	7	21.4
20.8	12	
21.8	6	
22.4	6	

Tracking Number/Temperature	

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:

Pace Analytical®	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-32-202108	1	0	8	9	N
Peo-mw-33-202108	2	0	7	9	N

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: 10573024
Work Order Number: 2108145

August 24, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 3 sample(s) on 8/10/2021 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: *08/24/2021*

CLIENT: Pace Analytical Minnesota
Project: 10573024
Work Order: 2108145

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108145-001	TRIP BLANK-20210803	08/03/2021 8:00 AM	08/10/2021 9:57 AM
2108145-002	PEO-MW-32-202108	08/03/2021 1:15 PM	08/10/2021 9:57 AM
2108145-003	PEO-MW-33-202108	08/03/2021 4:30 PM	08/10/2021 9:57 AM

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

Original

Case Narrative

WO#: **2108145**
Date: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573024

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

Analytical Report

Work Order: **2108145**
Date Reported: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573024

Lab ID: 2108145-001 **Collection Date:** 8/3/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210803** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 5:38:37 PM
Surr: 1,4-Difluorobenzene	76.8	65 - 140		%Rec	1	8/16/2021 5:38:37 PM
Surr: Bromofluorobenzene	91.8	65 - 140		%Rec	1	8/16/2021 5:38:37 PM

Lab ID: 2108145-002 **Collection Date:** 8/3/2021 1:15:00 PM
Client Sample ID: **PEO-MW-32-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	8/18/2021 4:33:04 AM
Surr: 1-Chlorooctadecane	74.3	60 - 140		%Rec	1	8/18/2021 4:33:04 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 5:16:31 AM
Surr: 1,4-Difluorobenzene	86.3	65 - 140		%Rec	1	8/17/2021 5:16:31 AM
Surr: Bromofluorobenzene	102	65 - 140		%Rec	1	8/17/2021 5:16:31 AM

Analytical Report

Work Order: **2108145**
Date Reported: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573024

Lab ID: 2108145-003 **Collection Date:** 8/3/2021 4:30:00 PM
Client Sample ID: **PEO-MW-33-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	8/18/2021 5:26:11 AM
Surr: 1-Chlorooctadecane	77.5	60 - 140		%Rec	1	8/18/2021 5:26:11 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 5:55:18 AM
Surr: 1,4-Difluorobenzene	82.2	65 - 140		%Rec	1	8/17/2021 5:55:18 AM
Surr: Bromofluorobenzene	99.9	65 - 140		%Rec	1	8/17/2021 5:55:18 AM

Work Order: 2108145
CLIENT: Pace Analytical Minnesota
Project: 10573024

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33320**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **MBLKW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404386**		
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	338		397.9		85.0	60	140				

Sample ID: **LCS-33320**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404387**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	351	39.7	496.7	0	70.7	70	130				
Surr: 1-Chlorooctadecane	336		397.3		84.5	60	140				

Sample ID: **LCSD-33320**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW02**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404962**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	368	39.3	491.0	0	74.9	70	130	351.1	4.62	20	
Surr: 1-Chlorooctadecane	362		392.8		92.2	60	140		0		

Sample ID: **2108116-001BMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **BATCH**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404390**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	379	41.4	518.0	0	73.3	70	130				
Surr: 1-Chlorooctadecane	305		414.4		73.5	60	140				

Work Order: 2108145
CLIENT: Pace Analytical Minnesota
Project: 10573024

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33368**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **LCSW**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407131**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	211	25.0	200.0	0	106	70	130				
Surr: 1,4-Difluorobenzene	47.5		50.00		95.0	65	140				
Surr: Bromofluorobenzene	49.0		50.00		98.1	65	140				

Sample ID: **MB-33368**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **MBLKW**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407130**			
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	39.1		50.00		78.1	65	140				
Surr: Bromofluorobenzene	47.7		50.00		95.5	65	140				

Sample ID: **2108140-002BDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **BATCH**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407109**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	469	25.0		0	0			526.5	11.6	25	
Surr: 1,4-Difluorobenzene	43.0		50.00		86.0	65	140		0		
Surr: Bromofluorobenzene	48.2		50.00		96.5	65	140		0		

Sample ID: **2108142-005BMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **BATCH**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407114**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	93.2	25.0	200.0	0	46.6	70	130				S
Surr: 1,4-Difluorobenzene	48.0		50.00		96.0	65	140				
Surr: Bromofluorobenzene	50.4		50.00		101	65	140				

NOTES:
S - Outlying spike recoveries were associated with this sample.

Work Order: 2108145
CLIENT: Pace Analytical Minnesota
Project: 10573024

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **2108144-003BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/16/2021** RunNo: **69420**
Client ID: **BATCH** Batch ID: **33368** Analysis Date: **8/17/2021** SeqNo: **1407120**

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	39.8		50.00		79.5	65	140		0		
Surr: Bromofluorobenzene	48.7		50.00		97.4	65	140		0		

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108145**
Logged by:	**Clare Griggs**	Date Received:	**8/10/2021 9:57:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.0

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

Chain of Custody

2108145

PASI Minnesota Laboratory

Pace Analytical
www.pacelabs.com

Workorder: 10573024 **Workorder Name:** 0539066 **Results Requested By:** 8/18/2021

Report / Invoice To	Subcontract To
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. 10573024

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H • AG1H						Requested Analysis: NWTPH-VPH (Aliphatic C10-C12)	Requested Analysis: NWTPH-EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210803	8/3/2021 08:00	10573024001	Water	2						X		
2	PEO-MW-32-202108	8/3/2021 13:15	10573024002	Water	5						X	X	
3	PEO-MW-33-202108	8/3/2021 16:30	10573024003	Water	5						X	X	
4													
5													

Transfers	Released By	Date/Time	Received By	Date/Time
1	Alec Pace	8/9/21 1515		8/10/21 0957
2				
3				

Comments: report to MDL, provide EQUIS EDD

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

August 25, 2021

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

RE: Project: 0539066
Pace Project No.: 10573296

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10573296

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, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10573296

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10573296001	**TRIP BLANK-20210804**	Water	08/04/21 08:00	08/05/21 14:40
10573296002	**PEO-MW-24A-202108**	Water	08/04/21 08:30	08/05/21 14:40
10573296003	**PEO-MW-42-202108**	Water	08/04/21 10:10	08/05/21 14:40
10573296004	**PEO-MW-25-202108**	Water	08/04/21 11:55	08/05/21 14:40
10573296005	**PEO-MW-21-202108**	Water	08/04/21 13:30	08/05/21 14:40
10573296006	**PEO-MW-03-202108**	Water	08/04/21 14:55	08/05/21 14:40

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573296

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10573296001	TRIP BLANK-20210804	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10573296002	PEO-MW-24A-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573296003	PEO-MW-42-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573296004	PEO-MW-25-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573296005	PEO-MW-21-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573296

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	AR3	1	PASI-M
10573296006	**PEO-MW-03-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: TRIP BLANK-20210804 **Lab ID: 10573296001** Collected: 08/04/21 08:00 Received: 08/05/21 14:40 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		08/12/21 21:28		
Surrogates									
a,a,a-Trifluorotoluene (S)	92	%.	50-150		1		08/12/21 21:28	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 01:35	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 01:35	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 01:35	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 01:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 01:35	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 01:35	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 01:35	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 01:35	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-24A-202108 **Lab ID: 10573296002** Collected: 08/04/21 08:30 Received: 08/05/21 14:40 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	0.088	1	08/12/21 15:36	08/18/21 03:21	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 03:21	64742-65-0	
Surrogates									
o-Terphenyl (S)	57	%.	50-150		1	08/12/21 15:36	08/18/21 03:21	84-15-1	
n-Triacontane (S)	59	%.	50-150		1	08/12/21 15:36	08/18/21 03:21		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/12/21 21:55		
Surrogates									
a,a,a-Trifluorotoluene (S)	93	%.	50-150		1		08/12/21 21:55	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**48700**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:35		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**1.0**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 10:36	7440-38-2	
Manganese, Dissolved	**481**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:17	7439-96-5	P6
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.039	0.0068	1	08/06/21 11:26	08/16/21 18:46	83-32-9	
Acenaphthylene	ND	ug/L	0.039	0.0060	1	08/06/21 11:26	08/16/21 18:46	208-96-8	
Anthracene	ND	ug/L	0.039	0.0053	1	08/06/21 11:26	08/16/21 18:46	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.039	0.0089	1	08/06/21 11:26	08/16/21 18:46	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.039	0.0087	1	08/06/21 11:26	08/16/21 18:46	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.039	0.0093	1	08/06/21 11:26	08/16/21 18:46	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.039	0.0080	1	08/06/21 11:26	08/16/21 18:46	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.039	0.0081	1	08/06/21 11:26	08/16/21 18:46	207-08-9	
Chrysene	ND	ug/L	0.039	0.0092	1	08/06/21 11:26	08/16/21 18:46	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.039	0.0078	1	08/06/21 11:26	08/16/21 18:46	53-70-3	
Fluoranthene	ND	ug/L	0.039	0.014	1	08/06/21 11:26	08/16/21 18:46	206-44-0	
Fluorene	ND	ug/L	0.039	0.0059	1	08/06/21 11:26	08/16/21 18:46	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.039	0.011	1	08/06/21 11:26	08/16/21 18:46	193-39-5	
1-Methylnaphthalene	**0.017J**	ug/L	0.039	0.0066	1	08/06/21 11:26	08/16/21 18:46	90-12-0	
2-Methylnaphthalene	**0.013J**	ug/L	0.039	0.0081	1	08/06/21 11:26	08/16/21 18:46	91-57-6	
Naphthalene	ND	ug/L	0.039	0.0086	1	08/06/21 11:26	08/16/21 18:46	91-20-3	
Phenanthrene	ND	ug/L	0.039	0.012	1	08/06/21 11:26	08/16/21 18:46	85-01-8	
Pyrene	ND	ug/L	0.039	0.0097	1	08/06/21 11:26	08/16/21 18:46	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%.	51-125		1	08/06/21 11:26	08/16/21 18:46	321-60-8	
p-Terphenyl-d14 (S)	72	%.	70-125		1	08/06/21 11:26	08/16/21 18:46	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-24A-202108 **Lab ID: 10573296002** Collected: 08/04/21 08:30 Received: 08/05/21 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 03:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 03:24	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 03:24	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 03:24	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 03:24	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/11/21 03:24	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 03:24	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 03:24	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**64.2**	mg/L	5.0	1.8	1		08/17/21 11:26		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**1.4**	mg/L	1.2	0.34	1		08/12/21 12:33	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.040J**	mg/L	0.10	0.018	1		08/05/21 21:02	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-42-202108 **Lab ID: 10573296003** Collected: 08/04/21 10:10 Received: 08/05/21 14:40 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	0.088	1	08/12/21 15:36	08/18/21 03:32	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 03:32	64742-65-0	
Surrogates									
o-Terphenyl (S)	63	%.	50-150		1	08/12/21 15:36	08/18/21 03:32	84-15-1	
n-Triacontane (S)	56	%.	50-150		1	08/12/21 15:36	08/18/21 03:32		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/12/21 22:22		
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/12/21 22:22	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**105000**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:36		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**4.5**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 10:51	7440-38-2	
Manganese, Dissolved	**611**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:32	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.040	0.0068	1	08/06/21 11:26	08/16/21 19:06	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0060	1	08/06/21 11:26	08/16/21 19:06	208-96-8	
Anthracene	ND	ug/L	0.040	0.0053	1	08/06/21 11:26	08/16/21 19:06	120-12-7	
Benzo(a)anthracene	**0.011J**	ug/L	0.040	0.0090	1	08/06/21 11:26	08/16/21 19:06	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	08/06/21 11:26	08/16/21 19:06	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.040	0.0094	1	08/06/21 11:26	08/16/21 19:06	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0080	1	08/06/21 11:26	08/16/21 19:06	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0082	1	08/06/21 11:26	08/16/21 19:06	207-08-9	
Chrysene	ND	ug/L	0.040	0.0093	1	08/06/21 11:26	08/16/21 19:06	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0079	1	08/06/21 11:26	08/16/21 19:06	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	08/06/21 11:26	08/16/21 19:06	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	08/06/21 11:26	08/16/21 19:06	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	08/06/21 11:26	08/16/21 19:06	193-39-5	
1-Methylnaphthalene	**0.010J**	ug/L	0.040	0.0067	1	08/06/21 11:26	08/16/21 19:06	90-12-0	
2-Methylnaphthalene	**0.012J**	ug/L	0.040	0.0082	1	08/06/21 11:26	08/16/21 19:06	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0087	1	08/06/21 11:26	08/16/21 19:06	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	08/06/21 11:26	08/16/21 19:06	85-01-8	
Pyrene	ND	ug/L	0.040	0.0098	1	08/06/21 11:26	08/16/21 19:06	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%.	51-125		1	08/06/21 11:26	08/16/21 19:06	321-60-8	
p-Terphenyl-d14 (S)	76	%.	70-125		1	08/06/21 11:26	08/16/21 19:06	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-42-202108 **Lab ID: 10573296003** Collected: 08/04/21 10:10 Received: 08/05/21 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 03:42	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 03:42	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 03:42	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 03:42	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 03:42	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/11/21 03:42	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 03:42	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 03:42	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**78.7**	mg/L	5.0	1.8	1		08/17/21 11:40		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**55.1**	mg/L	1.2	0.34	1		08/12/21 12:49	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.044J**	mg/L	0.10	0.018	1		08/05/21 21:07	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-25-202108 **Lab ID: 10573296004** Collected: 08/04/21 11:55 Received: 08/05/21 14:40 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	**0.12J**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 03:43	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 03:43	64742-65-0	
Surrogates									
o-Terphenyl (S)	60	%.	50-150		1	08/12/21 15:36	08/18/21 03:43	84-15-1	
n-Triacontane (S)	62	%.	50-150		1	08/12/21 15:36	08/18/21 03:43		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/12/21 22:49		
Surrogates									
a,a,a-Trifluorotoluene (S)	92	%.	50-150		1		08/12/21 22:49	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**52900**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:38		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.20J**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 10:54	7440-38-2	
Manganese, Dissolved	**6.7**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:35	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/06/21 11:26	08/16/21 19:26	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 19:26	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/06/21 11:26	08/16/21 19:26	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/06/21 11:26	08/16/21 19:26	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/06/21 11:26	08/16/21 19:26	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/06/21 11:26	08/16/21 19:26	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/06/21 11:26	08/16/21 19:26	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/06/21 11:26	08/16/21 19:26	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/06/21 11:26	08/16/21 19:26	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/06/21 11:26	08/16/21 19:26	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.014	1	08/06/21 11:26	08/16/21 19:26	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 19:26	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/06/21 11:26	08/16/21 19:26	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0065	1	08/06/21 11:26	08/16/21 19:26	90-12-0	
2-Methylnaphthalene	**0.051**	ug/L	0.038	0.0080	1	08/06/21 11:26	08/16/21 19:26	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0085	1	08/06/21 11:26	08/16/21 19:26	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/06/21 11:26	08/16/21 19:26	85-01-8	
Pyrene	**0.025J**	ug/L	0.038	0.0095	1	08/06/21 11:26	08/16/21 19:26	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%.	51-125		1	08/06/21 11:26	08/16/21 19:26	321-60-8	
p-Terphenyl-d14 (S)	79	%.	70-125		1	08/06/21 11:26	08/16/21 19:26	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-25-202108 **Lab ID: 10573296004** Collected: 08/04/21 11:55 Received: 08/05/21 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 04:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 04:00	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 04:00	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 04:00	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 04:00	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 04:00	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 04:00	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 04:00	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**54.3**	mg/L	5.0	1.8	1		08/17/21 11:52		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**19.4**	mg/L	1.2	0.34	1		08/12/21 13:05	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.30**	mg/L	0.10	0.018	1		08/05/21 21:08	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-21-202108 **Lab ID: 10573296005** Collected: 08/04/21 13:30 Received: 08/05/21 14:40 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	0.088	1	08/12/21 15:36	08/18/21 03:54	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 03:54	64742-65-0	
Surrogates									
o-Terphenyl (S)	67	%.	50-150		1	08/12/21 15:36	08/18/21 03:54	84-15-1	
n-Triacontane (S)	67	%.	50-150		1	08/12/21 15:36	08/18/21 03:54		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/12/21 23:16		
Surrogates									
a,a,a-Trifluorotoluene (S)	93	%.	50-150		1		08/12/21 23:16	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**43900**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:40		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.45J**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:03	7440-38-2	
Manganese, Dissolved	**126**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:44	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/06/21 11:26	08/16/21 19:46	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 19:46	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/06/21 11:26	08/16/21 19:46	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/06/21 11:26	08/16/21 19:46	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/06/21 11:26	08/16/21 19:46	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/06/21 11:26	08/16/21 19:46	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/06/21 11:26	08/16/21 19:46	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/06/21 11:26	08/16/21 19:46	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/06/21 11:26	08/16/21 19:46	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/06/21 11:26	08/16/21 19:46	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.014	1	08/06/21 11:26	08/16/21 19:46	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 19:46	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/06/21 11:26	08/16/21 19:46	193-39-5	
1-Methylnaphthalene	**0.0067J**	ug/L	0.038	0.0065	1	08/06/21 11:26	08/16/21 19:46	90-12-0	
2-Methylnaphthalene	**0.0098J**	ug/L	0.038	0.0080	1	08/06/21 11:26	08/16/21 19:46	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0085	1	08/06/21 11:26	08/16/21 19:46	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/06/21 11:26	08/16/21 19:46	85-01-8	
Pyrene	ND	ug/L	0.038	0.0095	1	08/06/21 11:26	08/16/21 19:46	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%.	51-125		1	08/06/21 11:26	08/16/21 19:46	321-60-8	
p-Terphenyl-d14 (S)	71	%.	70-125		1	08/06/21 11:26	08/16/21 19:46	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-21-202108 **Lab ID: 10573296005** Collected: 08/04/21 13:30 Received: 08/05/21 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 04:18	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 04:18	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 04:18	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 04:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 04:18	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 04:18	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 04:18	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 04:18	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**53.9**	mg/L	5.0	1.8	1		08/17/21 11:56		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**2.6**	mg/L	1.2	0.34	1		08/12/21 13:21	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.095J**	mg/L	0.10	0.018	1		08/05/21 21:09	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-03-202108 **Lab ID: 10573296006** Collected: 08/04/21 14:55 Received: 08/05/21 14:40 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	0.088	1	08/12/21 15:36	08/18/21 04:05	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 04:05	64742-65-0	
Surrogates									
o-Terphenyl (S)	66	%.	50-150		1	08/12/21 15:36	08/18/21 04:05	84-15-1	
n-Triacontane (S)	69	%.	50-150		1	08/12/21 15:36	08/18/21 04:05		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/12/21 23:43		
Surrogates									
a,a,a-Trifluorotoluene (S)	93	%.	50-150		1		08/12/21 23:43	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**44500**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:41		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.27J**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:06	7440-38-2	
Manganese, Dissolved	**32.8**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:47	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/06/21 11:26	08/16/21 20:06	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 20:06	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/06/21 11:26	08/16/21 20:06	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/06/21 11:26	08/16/21 20:06	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/06/21 11:26	08/16/21 20:06	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/06/21 11:26	08/16/21 20:06	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/06/21 11:26	08/16/21 20:06	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/06/21 11:26	08/16/21 20:06	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/06/21 11:26	08/16/21 20:06	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/06/21 11:26	08/16/21 20:06	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/06/21 11:26	08/16/21 20:06	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/06/21 11:26	08/16/21 20:06	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/06/21 11:26	08/16/21 20:06	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0064	1	08/06/21 11:26	08/16/21 20:06	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/06/21 11:26	08/16/21 20:06	91-57-6	
Naphthalene	**0.098**	ug/L	0.038	0.0084	1	08/06/21 11:26	08/16/21 20:06	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/06/21 11:26	08/16/21 20:06	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/06/21 11:26	08/16/21 20:06	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	79	%.	51-125		1	08/06/21 11:26	08/16/21 20:06	321-60-8	
p-Terphenyl-d14 (S)	81	%.	70-125		1	08/06/21 11:26	08/16/21 20:06	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573296

Sample: PEO-MW-03-202108 **Lab ID: 10573296006** Collected: 08/04/21 14:55 Received: 08/05/21 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 04:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 04:36	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 04:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 04:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 04:36	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/11/21 04:36	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 04:36	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 04:36	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**59.2**	mg/L	5.0	1.8	1		08/17/21 12:01		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**3.2**	mg/L	1.2	0.34	1		08/12/21 13:37	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.042J**	mg/L	0.10	0.018	1		08/05/21 21:11	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 762828 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4067116 Matrix: Water
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 16:29	
a,a,a-Trifluorotoluene (S)	%.	95	50-150		08/12/21 16:29	

METHOD BLANK: 4067117 Matrix: Water
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 21:01	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/12/21 21:01	

METHOD BLANK: 4069211 Matrix: Water
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/13/21 01:57	
a,a,a-Trifluorotoluene (S)	%.	93	50-150		08/13/21 01:57	

LABORATORY CONTROL SAMPLE & LCSD: 4067118 4067119

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1040	939	104	94	75-127	10	20	
a,a,a-Trifluorotoluene (S)	%.				100	97	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068936 4068937

Parameter	Units	10573552002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	4420	5000	5000	8910	8780	90	87	71-139	1	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.						101	101	50-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

SAMPLE DUPLICATE: 4068930

Parameter	Units	10573024002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	210	249	17	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.	97	96			

SAMPLE DUPLICATE: 4068931

Parameter	Units	10573552006 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	287	269	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	95	95			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 761999
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4063014 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/13/21 10:27	
Manganese, Dissolved	ug/L	0.21J	0.50	0.20	08/12/21 12:09	

LABORATORY CONTROL SAMPLE: 4063015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	95.0	95	80-120	
Manganese, Dissolved	ug/L	100	99.9	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4063016 4063017

Parameter	Units	10573296002 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	1.0	100	100	89.9	93.3	89	92	75-125	4	20	
Manganese, Dissolved	ug/L	481	100	100	731	676	249	194	75-125	8	20	P6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 762529 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4065682 Matrix: Water
Associated Lab Samples: 10573296001, 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Ethylbenzene	ug/L	ND	1.0	0.069	08/11/21 00:41	
m&p-Xylene	ug/L	ND	2.0	0.18	08/11/21 00:41	
o-Xylene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Toluene	ug/L	ND	1.0	0.11	08/11/21 00:41	
1,2-Dichlorobenzene-d4 (S)	%.	100	70-130		08/11/21 00:41	
4-Bromofluorobenzene (S)	%.	99	75-125		08/11/21 00:41	
Toluene-d8 (S)	%.	101	75-125		08/11/21 00:41	

LABORATORY CONTROL SAMPLE & LCSD: 4065683 4065684

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.7	20.4	98	102	73-125	4	20	
Ethylbenzene	ug/L	20	18.3	18.9	92	95	75-125	3	20	
m&p-Xylene	ug/L	40	39.2	40.5	98	101	75-125	3	20	
o-Xylene	ug/L	20	20.1	20.9	101	104	75-125	4	20	
Toluene	ug/L	20	19.1	19.9	96	99	75-125	4	20	
1,2-Dichlorobenzene-d4 (S)	%.				99	99	70-130			
4-Bromofluorobenzene (S)	%.				101	99	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 761750
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4061299 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/16/21 11:23	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/16/21 11:23	
Acenaphthene	ug/L	ND	0.040	0.0069	08/16/21 11:23	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/16/21 11:23	
Anthracene	ug/L	ND	0.040	0.0054	08/16/21 11:23	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/16/21 11:23	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/16/21 11:23	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/16/21 11:23	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/16/21 11:23	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/16/21 11:23	
Chrysene	ug/L	ND	0.040	0.0094	08/16/21 11:23	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/16/21 11:23	
Fluoranthene	ug/L	ND	0.040	0.014	08/16/21 11:23	
Fluorene	ug/L	ND	0.040	0.0060	08/16/21 11:23	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/16/21 11:23	
Naphthalene	ug/L	ND	0.040	0.0088	08/16/21 11:23	
Phenanthrene	ug/L	ND	0.040	0.012	08/16/21 11:23	
Pyrene	ug/L	ND	0.040	0.0099	08/16/21 11:23	
2-Fluorobiphenyl (S)	%.	71	51-125		08/16/21 11:23	
p-Terphenyl-d14 (S)	%.	75	70-125		08/16/21 11:23	

LABORATORY CONTROL SAMPLE & LCSD: 4061300 4061301

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.67	0.79	67	79	34-125	16	20	
2-Methylnaphthalene	ug/L	1	0.61	0.72	61	72	34-125	17	20	
Acenaphthene	ug/L	1	0.67	0.76	67	76	35-125	12	20	
Acenaphthylene	ug/L	1	0.68	0.79	68	79	33-125	16	20	
Anthracene	ug/L	1	0.78	0.80	78	80	42-125	3	20	
Benzo(a)anthracene	ug/L	1	0.81	0.84	81	84	46-125	4	20	
Benzo(a)pyrene	ug/L	1	0.85	0.88	85	88	57-125	3	20	
Benzo(b)fluoranthene	ug/L	1	0.87	0.92	87	92	58-125	6	20	
Benzo(g,h,i)perylene	ug/L	1	0.72	0.77	72	77	55-125	6	20	
Benzo(k)fluoranthene	ug/L	1	0.84	0.89	84	89	55-125	5	20	
Chrysene	ug/L	1	0.79	0.90	79	90	56-125	14	20	
Dibenz(a,h)anthracene	ug/L	1	0.72	0.77	72	77	40-125	6	20	
Fluoranthene	ug/L	1	0.87	0.94	87	94	64-125	7	20	
Fluorene	ug/L	1	0.78	0.86	78	86	43-125	9	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.76	0.80	76	80	57-125	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

LABORATORY CONTROL SAMPLE & LCSD: 4061300 4061301

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.61	0.73	61	73	30-125	18	20	
Phenanthrene	ug/L	1	0.77	0.83	77	83	47-125	7	20	
Pyrene	ug/L	1	0.78	0.83	78	83	46-125	6	20	
2-Fluorobiphenyl (S)	%.				69	75	51-125			
p-Terphenyl-d14 (S)	%.				79	82	70-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 763054 | 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: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4068272 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/18/21 01:09	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/18/21 01:09	
n-Triacontane (S)	%.	51	50-150		08/18/21 01:09	
o-Terphenyl (S)	%.	64	50-150		08/18/21 01:09	

LABORATORY CONTROL SAMPLE: 4068273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.4	70	50-150	
Motor Oil Range SG	mg/L	2	1.5	73	50-150	
n-Triacontane (S)	%.			55	50-150	
o-Terphenyl (S)	%.			71	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068274 4068275

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range SG	mg/L	ND	2	2	1.0	1.2	50	58	50-150	14	30	
Motor Oil Range SG	mg/L	ND	2	2	1.1	1.3	54	63	50-150	14	30	
n-Triacontane (S)	%.						51	62	50-150			
o-Terphenyl (S)	%.						60	68	50-150			

SAMPLE DUPLICATE: 4068704

Parameter	Units	10574168007 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	4.3	0.10J		30	
Motor Oil Range SG	mg/L	0.28J	ND		30	
n-Triacontane (S)	%.	55	53			
o-Terphenyl (S)	%.	55	53			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 763956 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4072882 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/17/21 10:14	

LABORATORY CONTROL SAMPLE & LCSD: 4072883 4072884

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	42.3	42.2	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072885 4072886

Parameter	Units	10573218001 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	66.9	40	40	107	108	101	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072887 4072888

Parameter	Units	10573296002 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	64.2	40	40	104	105	100	101	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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 762329 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: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4064292 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/12/21 09:05	

LABORATORY CONTROL SAMPLE: 4064293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4064294 4064295

Parameter	Units	10573599001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	840	1000	1000	1980	1970	114	113	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4064296 4064297

Parameter	Units	10573599002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	821	1000	1000	2080	1970	125	115	80-120	5	20	E,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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573296

QC Batch: 761662
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

METHOD BLANK: 4061034 Matrix: Water
Associated Lab Samples: 10573296002, 10573296003, 10573296004, 10573296005, 10573296006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/05/21 21:05	FS

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573296

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.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 762529

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

Batch: 763450

[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.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573296

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573296002	**PEO-MW-24A-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573296003	**PEO-MW-42-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573296004	**PEO-MW-25-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573296005	**PEO-MW-21-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573296006	**PEO-MW-03-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573296001	**TRIP BLANK-20210804**	NWTPH-Gx	762828		
10573296002	**PEO-MW-24A-202108**	NWTPH-Gx	762828		
10573296003	**PEO-MW-42-202108**	NWTPH-Gx	762828		
10573296004	**PEO-MW-25-202108**	NWTPH-Gx	762828		
10573296005	**PEO-MW-21-202108**	NWTPH-Gx	762828		
10573296006	**PEO-MW-03-202108**	NWTPH-Gx	762828		
10573296002	**PEO-MW-24A-202108**	EPA 3010A	761996	EPA 6010D	762851
10573296003	**PEO-MW-42-202108**	EPA 3010A	761996	EPA 6010D	762851
10573296004	**PEO-MW-25-202108**	EPA 3010A	761996	EPA 6010D	762851
10573296005	**PEO-MW-21-202108**	EPA 3010A	761996	EPA 6010D	762851
10573296006	**PEO-MW-03-202108**	EPA 3010A	761996	EPA 6010D	762851
10573296002	**PEO-MW-24A-202108**	EPA 3020A	761999	EPA 6020A	762857
10573296003	**PEO-MW-42-202108**	EPA 3020A	761999	EPA 6020A	762857
10573296004	**PEO-MW-25-202108**	EPA 3020A	761999	EPA 6020A	762857
10573296005	**PEO-MW-21-202108**	EPA 3020A	761999	EPA 6020A	762857
10573296006	**PEO-MW-03-202108**	EPA 3020A	761999	EPA 6020A	762857
10573296002	**PEO-MW-24A-202108**	EPA Mod. 3510C	761750	EPA 8270 by SIM	763450
10573296003	**PEO-MW-42-202108**	EPA Mod. 3510C	761750	EPA 8270 by SIM	763450
10573296004	**PEO-MW-25-202108**	EPA Mod. 3510C	761750	EPA 8270 by SIM	763450
10573296005	**PEO-MW-21-202108**	EPA Mod. 3510C	761750	EPA 8270 by SIM	763450
10573296006	**PEO-MW-03-202108**	EPA Mod. 3510C	761750	EPA 8270 by SIM	763450
10573296001	**TRIP BLANK-20210804**	EPA 8260B	762529		
10573296002	**PEO-MW-24A-202108**	EPA 8260B	762529		
10573296003	**PEO-MW-42-202108**	EPA 8260B	762529		
10573296004	**PEO-MW-25-202108**	EPA 8260B	762529		
10573296005	**PEO-MW-21-202108**	EPA 8260B	762529		
10573296006	**PEO-MW-03-202108**	EPA 8260B	762529		
10573296002	**PEO-MW-24A-202108**	SM 2320B	763956		
10573296003	**PEO-MW-42-202108**	SM 2320B	763956		
10573296004	**PEO-MW-25-202108**	SM 2320B	763956		
10573296005	**PEO-MW-21-202108**	SM 2320B	763956		
10573296006	**PEO-MW-03-202108**	SM 2320B	763956		
10573296002	**PEO-MW-24A-202108**	EPA 300.0	762329		
10573296003	**PEO-MW-42-202108**	EPA 300.0	762329		
10573296004	**PEO-MW-25-202108**	EPA 300.0	762329		
10573296005	**PEO-MW-21-202108**	EPA 300.0	762329		
10573296006	**PEO-MW-03-202108**	EPA 300.0	762329		
10573296002	**PEO-MW-24A-202108**	EPA 353.2	761662		
10573296003	**PEO-MW-42-202108**	EPA 353.2	761662		
10573296004	**PEO-MW-25-202108**	EPA 353.2	761662		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573296

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573296005	**PEO-MW-21-202108**	EPA 353.2	761662		
10573296006	**PEO-MW-03-202108**	EPA 353.2	761662		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

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:		Company Name:	
	Portland, OR 97204			Address:	
Email To:	rita.cooper@erm.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	207-329-6320 Fax:	Project Name:		Pace Project Manager:	Julie Bowser
Requested Due Date/TAT:	Standard	Project Number:	0539066	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210804	GW	G	8/4/21	8:00				6	-	-	-	X	-	-	-	-		3	3	3	-	-	-	-	-	-	-		001
2	PEO-MW-24A-202108	GW	G	8/4/21	8:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		002
3	PEO-MW-42-202108	GW	G	8/4/21	10:10				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		003
4	PEO-MW-25-202108	GW	G	8/4/21	11:55				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		004
5	PEO-MW-21-202108	GW	G	8/4/21	13:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		005
6	PEO-MW-03-202108	GW	G	8/4/21	14:55				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		006
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	A. Johnson / ERM	8/4/21	17:00	[signature] / PACE	8/5/21	14:40	5.5-5.1.26	Y	N	Y

WO# : 10573296

10573296

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnson

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 8/4/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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.

Pace Analytical®	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#: 10573296
PM: JMT Due Date: 08/19/21
CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: _____ 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: _____ **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:** 5.8, 5.9, 5.1, 2.6 °C

Correction Factor: TME **Cooler Temp Corrected w/temp blank:** 5.8, 5.9, 5.1, 2.6 °C

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

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

Date/Initials of Person Examining Contents: ED 8/5/21
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?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☑ Nitrate ☑ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No		8. sample 4 BP3S received empty
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☑ Yes	☐ No	☐ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☑ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** See Exception ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	12. Sample # 002-006
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes	☐ No	☐ N/A	☐ NaOH ☑ HNO_3 1/1 ☑ H_2SO_4 2,3,5,6: 1/1 ☐ Zinc Acetate
Exceptions: VOA Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** See Exception ☐ ENV-FRM-MIN4-0142
				Res. Chlorine: 0-6 Roll 221419 | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. See Exception ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☑ No	☐ N/A	
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	14. Pace Trip Blank Lot # (if purchased): 318407 (6)
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Julie Busse **Date:** 8/6/21

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: EDG

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: 10573296
Work Order Number: 2108142

August 24, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 8/10/2021 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: *08/24/2021*

CLIENT: Pace Analytical Minnesota
Project: 10573296
Work Order: 2108142

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108142-001	TRIP BLANK-20210804	08/04/2021 8:00 AM	08/10/2021 9:57 AM
2108142-002	PEO-MW-24A-20210804	08/04/2021 8:30 AM	08/10/2021 9:57 AM
2108142-003	PEO-MW-42-20210804	08/04/2021 10:10 AM	08/10/2021 9:57 AM
2108142-004	PEO-MW-25-20210804	08/04/2021 11:55 AM	08/10/2021 9:57 AM
2108142-005	PEO-MW-21-20210804	08/04/2021 1:30 PM	08/10/2021 9:57 AM
2108142-006	PEO-MW-03-20210804	08/04/2021 2:55 PM	08/10/2021 9:57 AM

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

Original

Case Narrative

WO#: **2108142**
Date: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573296

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

Analytical Report

Work Order: **2108142**
Date Reported: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573296

Lab ID: 2108142-001 **Collection Date:** 8/4/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 4:21:01 PM
Surr: 1,4-Difluorobenzene	77.1	65 - 140		%Rec	1	8/16/2021 4:21:01 PM
Surr: Bromofluorobenzene	89.2	65 - 140		%Rec	1	8/16/2021 4:21:01 PM

Lab ID: 2108142-002 **Collection Date:** 8/4/2021 8:30:00 AM
Client Sample ID: **PEO-MW-24A-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/17/2021 7:44:45 PM
Surr: 1-Chlorooctadecane	81.3	60 - 140		%Rec	1	8/17/2021 7:44:45 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 8:13:40 PM
Surr: 1,4-Difluorobenzene	79.1	65 - 140		%Rec	1	8/16/2021 8:13:40 PM
Surr: Bromofluorobenzene	96.4	65 - 140		%Rec	1	8/16/2021 8:13:40 PM

CLIENT: Pace Analytical Minnesota
Project: 10573296

Lab ID: 2108142-003 **Collection Date:** 8/4/2021 10:10:00 AM
Client Sample ID: **PEO-MW-42-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/20/2021 9:25:51 PM
Surr: 1-Chlorooctadecane	85.5	60 - 140		%Rec	1	8/20/2021 9:25:51 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 8:52:19 PM
Surr: 1,4-Difluorobenzene	78.5	65 - 140		%Rec	1	8/16/2021 8:52:19 PM
Surr: Bromofluorobenzene	95.4	65 - 140		%Rec	1	8/16/2021 8:52:19 PM

Lab ID: 2108142-004 **Collection Date:** 8/4/2021 11:55:00 AM
Client Sample ID: **PEO-MW-25-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.3		µg/L	1	8/17/2021 8:37:35 PM
Surr: 1-Chlorooctadecane	81.6	60 - 140		%Rec	1	8/17/2021 8:37:35 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 9:31:02 PM
Surr: 1,4-Difluorobenzene	81.5	65 - 140		%Rec	1	8/16/2021 9:31:02 PM
Surr: Bromofluorobenzene	99.4	65 - 140		%Rec	1	8/16/2021 9:31:02 PM

Analytical Report

Work Order: **2108142**
Date Reported: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573296

Lab ID: 2108142-005 **Collection Date:** 8/4/2021 1:30:00 PM
Client Sample ID: **PEO-MW-21-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	22.2	20.5	J	µg/L	1	8/17/2021 9:30:27 PM
Surr: 1-Chlorooctadecane	82.5	60 - 140		%Rec	1	8/17/2021 9:30:27 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 10:09:47 PM
Surr: 1,4-Difluorobenzene	84.3	65 - 140		%Rec	1	8/16/2021 10:09:47 PM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/16/2021 10:09:47 PM

Lab ID: 2108142-006 **Collection Date:** 8/4/2021 2:55:00 PM
Client Sample ID: **PEO-MW-03-20210804** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	8/17/2021 10:23:14 PM
Surr: 1-Chlorooctadecane	81.8	60 - 140		%Rec	1	8/17/2021 10:23:14 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 10:48:34 PM
Surr: 1,4-Difluorobenzene	79.6	65 - 140		%Rec	1	8/16/2021 10:48:34 PM
Surr: Bromofluorobenzene	97.8	65 - 140		%Rec	1	8/16/2021 10:48:34 PM

Date: *8/24/2021*

Work Order: 2108142
CLIENT: Pace Analytical Minnesota
Project: 10573296

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33320**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **MBLKW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404386**		
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	338		397.9		85.0	60	140				

Sample ID: **LCS-33320**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404387**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	351	39.7	496.7	0	70.7	70	130				
Surr: 1-Chlorooctadecane	336		397.3		84.5	60	140				

Sample ID: **LCSD-33320**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW02**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404962**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	368	39.3	491.0	0	74.9	70	130	351.1	4.62	20	
Surr: 1-Chlorooctadecane	362		392.8		92.2	60	140		0		

Sample ID: **2108116-001BMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **BATCH**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404390**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	379	41.4	518.0	0	73.3	70	130				
Surr: 1-Chlorooctadecane	305		414.4		73.5	60	140				

Work Order: 2108142
CLIENT: Pace Analytical Minnesota
Project: 10573296

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCS-33367**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/16/2021**			RunNo: **69438**		
Client ID: **LCSW**	Batch ID: **33367**					Analysis Date: **8/20/2021**			SeqNo: **1407057**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	366	39.3	491.2	0	74.5	70	130				
Surr: 1-Chlorooctadecane	355		392.9		90.4	60	140				

Sample ID: **LCSD-33367**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/16/2021**			RunNo: **69438**		
Client ID: **LCSW02**	Batch ID: **33367**					Analysis Date: **8/20/2021**			SeqNo: **1407058**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	371	39.3	491.2	0	75.4	70	130	365.8	1.30	20	
Surr: 1-Chlorooctadecane	393		393.0		100	60	140		0		

Sample ID: **MB-33367**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/16/2021**			RunNo: **69438**		
Client ID: **MBLKW**	Batch ID: **33367**					Analysis Date: **8/24/2021**			SeqNo: **1407248**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	39.7		0	0						
Surr: 1-Chlorooctadecane	362		397.3		91.0	60	140				

Work Order: 2108142
CLIENT: Pace Analytical Minnesota
Project: 10573296

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33368**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69420**
Client ID: **LCSW**	Batch ID: **33368**		Analysis Date: **8/16/2021**	SeqNo: **1407131**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	211	25.0	200.0	0	106	70	130				
Surr: 1,4-Difluorobenzene	47.5		50.00		95.0	65	140				
Surr: Bromofluorobenzene	49.0		50.00		98.1	65	140				

Sample ID: **MB-33368**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69420**
Client ID: **MBLKW**	Batch ID: **33368**		Analysis Date: **8/16/2021**	SeqNo: **1407130**

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	39.1		50.00		78.1	65	140				
Surr: Bromofluorobenzene	47.7		50.00		95.5	65	140				

Sample ID: **2108140-002BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69420**
Client ID: **BATCH**	Batch ID: **33368**		Analysis Date: **8/16/2021**	SeqNo: **1407109**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	469	25.0		0	0			526.5	11.6	25	
Surr: 1,4-Difluorobenzene	43.0		50.00		86.0	65	140		0		
Surr: Bromofluorobenzene	48.2		50.00		96.5	65	140		0		

Sample ID: **2108142-005BMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69420**
Client ID: **PEO-MW-21-20210804**	Batch ID: **33368**		Analysis Date: **8/16/2021**	SeqNo: **1407114**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	93.2	25.0	200.0	0	46.6	70	130				S
Surr: 1,4-Difluorobenzene	48.0		50.00		96.0	65	140				
Surr: Bromofluorobenzene	50.4		50.00		101	65	140				

NOTES:
S - Outlying spike recoveries were associated with this sample.

Work Order: 2108142
CLIENT: Pace Analytical Minnesota
Project: 10573296

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **2108144-003BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/16/2021** RunNo: **69420**
Client ID: **BATCH** Batch ID: **33368** Analysis Date: **8/17/2021** SeqNo: **1407120**

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	39.8		50.00		79.5	65	140		0		
Surr: Bromofluorobenzene	48.7		50.00		97.4	65	140		0		

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108142**
Logged by:	**Clare Griggs**	Date Received:	**8/10/2021 9:57:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.0

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

Chain of Custody

PASI Minnesota Laboratory

2108142

Pace Analytical®
www.pacelabs.com

Workorder: 10573296 **Workorder Name:** 0539066 **Results Requested By:** 8/19/2021

Report / Invoice To	Subcontract To
Julie Bowser Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone 612-607-6390 Email: julie.bowser@pacelabs.com	Fremont Analyitcal 3600 Fremont Ave N Seattle, WA 98103 P.O. 10573296

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	Requested Analysis: NWTPH VPH (Aliphatics C10-C12)	Requested Analysis: NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210804	8/4/2021 08:00	10573296001	Water	2	X		
2	PEO-MW-24A-202108	8/4/2021 08:30	10573296002	Water	5	X	X	
3	PEO-MW-42-202108	8/4/2021 10:10	10573296003	Water	5	X	X	
4	PEO-MW-25-202108	8/4/2021 11:55	10573296004	Water	5	X	X	
5	PEO-MW-21-202108	8/4/2021 13:30	10573296005	Water	5	X	X	
6	PEO-MW-03-202108	8/4/2021 14:55	10573296006	Water	5	X	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] 4/2/Pace	8/19/21 1515	[signature]	8/10/21 0457
2				
3				

Comments

Report to MDL, provide EQUIS EDD

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

August 25, 2021

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

RE: Project: 0539066
Pace Project No.: 10573552

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 06, 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10573552

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, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10573552

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10573552001	**TRIP BLANK-20210805**	Water	08/05/21 08:00	08/06/21 17:00
10573552002	**PEO-MW-06-202108**	Water	08/05/21 08:15	08/06/21 17:00
10573552003	**PEO-MW-19-202108**	Water	08/05/21 09:30	08/06/21 17:00
10573552004	**PEO-MW-44-202108**	Water	08/05/21 11:10	08/06/21 17:00
10573552005	**PEO-MW-31-202108**	Water	08/05/21 12:55	08/06/21 17:00
10573552006	**PEO-MW-18-202108**	Water	08/05/21 14:40	08/06/21 17:00

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573552

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10573552001	TRIP BLANK-20210805	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10573552002	PEO-MW-06-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573552003	PEO-MW-19-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573552004	PEO-MW-44-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10573552005	PEO-MW-31-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573552

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	AR3	1	PASI-M
10573552006	**PEO-MW-18-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6020A	ALB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: TRIP BLANK-20210805 **Lab ID: 10573552001** Collected: 08/05/21 08:00 Received: 08/06/21 17:00 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		08/13/21 02:24		
Surrogates									
a,a,a-Trifluorotoluene (S)	92	%.	50-150		1		08/13/21 02:24	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 01:53	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 01:53	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 01:53	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 01:53	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 01:53	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/11/21 01:53	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 01:53	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/11/21 01:53	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-06-202108 **Lab ID: 10573552002** Collected: 08/05/21 08:15 Received: 08/06/21 17:00 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	**1.2**	mg/L	0.40	0.088	1	08/09/21 07:52	08/11/21 22:16	68334-30-5	B,P2
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/09/21 07:52	08/11/21 22:16	64742-65-0	
Surrogates									
o-Terphenyl (S)	67	%.	50-150		1	08/09/21 07:52	08/11/21 22:16	84-15-1	
n-Triacontane (S)	73	%.	50-150		1	08/09/21 07:52	08/11/21 22:16		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**4420**	ug/L	500	214	5		08/13/21 05:06		G+,G-
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		5		08/13/21 05:06	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**30200**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:46		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**7.2**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:09	7440-38-2	
Manganese, Dissolved	**576**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:50	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**1.5**	ug/L	0.038	0.0066	1	08/09/21 14:02	08/12/21 15:59	83-32-9	
Acenaphthylene	**0.44**	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 15:59	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/09/21 14:02	08/12/21 15:59	120-12-7	
Benzo(a)anthracene	**0.013J**	ug/L	0.038	0.0086	1	08/09/21 14:02	08/12/21 15:59	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 15:59	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/09/21 14:02	08/12/21 15:59	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/09/21 14:02	08/12/21 15:59	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/09/21 14:02	08/12/21 15:59	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/09/21 14:02	08/12/21 15:59	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/09/21 14:02	08/12/21 15:59	53-70-3	
Fluoranthene	**0.060**	ug/L	0.038	0.013	1	08/09/21 14:02	08/12/21 15:59	206-44-0	
Fluorene	**3.9**	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 15:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/09/21 14:02	08/12/21 15:59	193-39-5	
1-Methylnaphthalene	**22.3**	ug/L	0.19	0.032	5	08/09/21 14:02	08/20/21 18:09	90-12-0	
2-Methylnaphthalene	**26.4**	ug/L	0.19	0.039	5	08/09/21 14:02	08/20/21 18:09	91-57-6	
Naphthalene	**3.6**	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 15:59	91-20-3	
Phenanthrene	**1.6**	ug/L	0.038	0.012	1	08/09/21 14:02	08/12/21 15:59	85-01-8	
Pyrene	**0.056**	ug/L	0.038	0.0094	1	08/09/21 14:02	08/12/21 15:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	65	%.	51-125		1	08/09/21 14:02	08/12/21 15:59	321-60-8	
p-Terphenyl-d14 (S)	64	%.	70-125		1	08/09/21 14:02	08/12/21 15:59	1718-51-0	S5

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-06-202108 **Lab ID: 10573552002** Collected: 08/05/21 08:15 Received: 08/06/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 04:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 04:54	100-41-4	
Toluene	**0.35J**	ug/L	1.0	0.11	1		08/11/21 04:54	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 04:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 04:54	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%.	70-130		1		08/11/21 04:54	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/11/21 04:54	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/11/21 04:54	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**55.8**	mg/L	5.0	1.8	1		08/17/21 15:06		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**0.46J**	mg/L	1.2	0.34	1		08/12/21 14:41	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		08/06/21 17:28	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-19-202108 **Lab ID: 10573552003** Collected: 08/05/21 09:30 Received: 08/06/21 17:00 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	0.088	1	08/12/21 15:36	08/18/21 04:16	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 04:16	64742-65-0	
Surrogates									
o-Terphenyl (S)	63	%.	50-150		1	08/12/21 15:36	08/18/21 04:16	84-15-1	
n-Triacontane (S)	63	%.	50-150		1	08/12/21 15:36	08/18/21 04:16		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**139**	ug/L	100	42.8	1		08/13/21 02:51		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/13/21 02:51	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**103000**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:48		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.39J**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:12	7440-38-2	
Manganese, Dissolved	**1060**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:53	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/09/21 14:02	08/12/21 16:19	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:19	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/09/21 14:02	08/12/21 16:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/09/21 14:02	08/12/21 16:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 16:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/09/21 14:02	08/12/21 16:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/09/21 14:02	08/12/21 16:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/09/21 14:02	08/12/21 16:19	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/09/21 14:02	08/12/21 16:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/09/21 14:02	08/12/21 16:19	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/09/21 14:02	08/12/21 16:19	206-44-0	
Fluorene	**0.015J**	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/09/21 14:02	08/12/21 16:19	193-39-5	
1-Methylnaphthalene	**0.031J**	ug/L	0.038	0.0064	1	08/09/21 14:02	08/12/21 16:19	90-12-0	
2-Methylnaphthalene	**0.038**	ug/L	0.038	0.0079	1	08/09/21 14:02	08/12/21 16:19	91-57-6	
Naphthalene	**0.0091J**	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 16:19	91-20-3	
Phenanthrene	**0.025J**	ug/L	0.038	0.012	1	08/09/21 14:02	08/12/21 16:19	85-01-8	
Pyrene	**0.013J**	ug/L	0.038	0.0094	1	08/09/21 14:02	08/12/21 16:19	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%.	51-125		1	08/09/21 14:02	08/12/21 16:19	321-60-8	
p-Terphenyl-d14 (S)	74	%.	70-125		1	08/09/21 14:02	08/12/21 16:19	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-19-202108 **Lab ID: 10573552003** Collected: 08/05/21 09:30 Received: 08/06/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 05:12	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 05:12	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 05:12	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 05:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 05:12	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 05:12	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 05:12	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 05:12	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**144**	mg/L	5.0	1.8	1		08/17/21 14:53		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**9.8**	mg/L	1.2	0.34	1		08/12/21 15:29	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**1.0**	mg/L	0.10	0.018	1		08/06/21 17:29	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-44-202108 **Lab ID: 10573552004** Collected: 08/05/21 11:10 Received: 08/06/21 17:00 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	0.088	1	08/12/21 15:36	08/18/21 04:27	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 04:27	64742-65-0	
Surrogates									
o-Terphenyl (S)	68	%.	50-150		1	08/12/21 15:36	08/18/21 04:27	84-15-1	
n-Triacontane (S)	71	%.	50-150		1	08/12/21 15:36	08/18/21 04:27		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/13/21 03:18		
Surrogates									
a,a,a-Trifluorotoluene (S)	93	%.	50-150		1		08/13/21 03:18	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**69200**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:50		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**1.9**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:15	7440-38-2	
Manganese, Dissolved	**306**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:56	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/09/21 14:02	08/12/21 16:39	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:39	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/09/21 14:02	08/12/21 16:39	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/09/21 14:02	08/12/21 16:39	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 16:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/09/21 14:02	08/12/21 16:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/09/21 14:02	08/12/21 16:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/09/21 14:02	08/12/21 16:39	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/09/21 14:02	08/12/21 16:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/09/21 14:02	08/12/21 16:39	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/09/21 14:02	08/12/21 16:39	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:39	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/09/21 14:02	08/12/21 16:39	193-39-5	
1-Methylnaphthalene	**0.019J**	ug/L	0.038	0.0064	1	08/09/21 14:02	08/12/21 16:39	90-12-0	
2-Methylnaphthalene	**0.016J**	ug/L	0.038	0.0079	1	08/09/21 14:02	08/12/21 16:39	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 16:39	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/09/21 14:02	08/12/21 16:39	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/09/21 14:02	08/12/21 16:39	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%.	51-125		1	08/09/21 14:02	08/12/21 16:39	321-60-8	
p-Terphenyl-d14 (S)	72	%.	70-125		1	08/09/21 14:02	08/12/21 16:39	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-44-202108 **Lab ID: 10573552004** Collected: 08/05/21 11:10 Received: 08/06/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 05:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 05:30	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 05:30	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 05:30	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 05:30	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 05:30	2199-69-1	
4-Bromofluorobenzene (S)	98	%.	75-125		1		08/11/21 05:30	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 05:30	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**84.0**	mg/L	5.0	1.8	1		08/18/21 10:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**17.5**	mg/L	1.2	0.34	1		08/12/21 15:45	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.046J**	mg/L	0.10	0.018	1		08/06/21 17:23	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-31-202108 **Lab ID: 10573552005** Collected: 08/05/21 12:55 Received: 08/06/21 17:00 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	**0.78**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 04:38	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 04:38	64742-65-0	
Surrogates									
o-Terphenyl (S)	63	%.	50-150		1	08/12/21 15:36	08/18/21 04:38	84-15-1	
n-Triacontane (S)	65	%.	50-150		1	08/12/21 15:36	08/18/21 04:38		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/13/21 03:45		
Surrogates									
a,a,a-Trifluorotoluene (S)	93	%.	50-150		1		08/13/21 03:45	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**151000**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:51		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.29J**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:18	7440-38-2	
Manganese, Dissolved	**241**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 12:59	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/09/21 14:02	08/12/21 16:59	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:59	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/09/21 14:02	08/12/21 16:59	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/09/21 14:02	08/12/21 16:59	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/09/21 14:02	08/12/21 16:59	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/09/21 14:02	08/12/21 16:59	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/09/21 14:02	08/12/21 16:59	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/09/21 14:02	08/12/21 16:59	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/09/21 14:02	08/12/21 16:59	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/09/21 14:02	08/12/21 16:59	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.014	1	08/09/21 14:02	08/12/21 16:59	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 16:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/09/21 14:02	08/12/21 16:59	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0065	1	08/09/21 14:02	08/12/21 16:59	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0080	1	08/09/21 14:02	08/12/21 16:59	91-57-6	
Naphthalene	**0.032J**	ug/L	0.038	0.0085	1	08/09/21 14:02	08/12/21 16:59	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/09/21 14:02	08/12/21 16:59	85-01-8	
Pyrene	ND	ug/L	0.038	0.0095	1	08/09/21 14:02	08/12/21 16:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%.	51-125		1	08/09/21 14:02	08/12/21 16:59	321-60-8	
p-Terphenyl-d14 (S)	69	%.	70-125		1	08/09/21 14:02	08/12/21 16:59	1718-51-0	1M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-31-202108 **Lab ID: 10573552005** Collected: 08/05/21 12:55 Received: 08/06/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 05:49	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 05:49	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 05:49	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 05:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 05:49	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 05:49	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/11/21 05:49	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/11/21 05:49	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**115**	mg/L	5.0	1.8	1		08/18/21 10:44		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**88.1**	mg/L	1.2	0.34	1		08/12/21 17:40	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		08/06/21 17:30	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-18-202108 **Lab ID: 10573552006** Collected: 08/05/21 14:40 Received: 08/06/21 17:00 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	**1.8**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 04:49	68334-30-5	
Motor Oil Range SG	**0.24J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 04:49	64742-65-0	
Surrogates									
o-Terphenyl (S)	55	%.	50-150		1	08/12/21 15:36	08/18/21 04:49	84-15-1	
n-Triacontane (S)	57	%.	50-150		1	08/12/21 15:36	08/18/21 04:49		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**287**	ug/L	100	42.8	1		08/13/21 04:12		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/13/21 04:12	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**178000**	ug/L	3300	76.7	1	08/11/21 08:14	08/16/21 12:53		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**6.6**	ug/L	0.50	0.083	1	08/11/21 08:18	08/13/21 11:21	7440-38-2	
Manganese, Dissolved	**2180**	ug/L	2.5	1.0	5	08/11/21 08:18	08/12/21 13:02	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0065	1	08/09/21 14:02	08/12/21 17:20	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/09/21 14:02	08/12/21 17:20	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/09/21 14:02	08/12/21 17:20	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/09/21 14:02	08/12/21 17:20	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/09/21 14:02	08/12/21 17:20	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0090	1	08/09/21 14:02	08/12/21 17:20	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/09/21 14:02	08/12/21 17:20	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0078	1	08/09/21 14:02	08/12/21 17:20	207-08-9	
Chrysene	ND	ug/L	0.038	0.0089	1	08/09/21 14:02	08/12/21 17:20	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0075	1	08/09/21 14:02	08/12/21 17:20	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/09/21 14:02	08/12/21 17:20	206-44-0	
Fluorene	ND	ug/L	0.038	0.0057	1	08/09/21 14:02	08/12/21 17:20	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/09/21 14:02	08/12/21 17:20	193-39-5	
1-Methylnaphthalene	**0.074**	ug/L	0.038	0.0064	1	08/09/21 14:02	08/12/21 17:20	90-12-0	
2-Methylnaphthalene	**0.076**	ug/L	0.038	0.0078	1	08/09/21 14:02	08/12/21 17:20	91-57-6	
Naphthalene	**0.10**	ug/L	0.038	0.0083	1	08/09/21 14:02	08/12/21 17:20	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/09/21 14:02	08/12/21 17:20	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/09/21 14:02	08/12/21 17:20	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%.	51-125		1	08/09/21 14:02	08/12/21 17:20	321-60-8	
p-Terphenyl-d14 (S)	55	%.	70-125		1	08/09/21 14:02	08/12/21 17:20	1718-51-0	S5

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573552

Sample: PEO-MW-18-202108 **Lab ID: 10573552006** Collected: 08/05/21 14:40 Received: 08/06/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/11/21 06:07	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/11/21 06:07	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/11/21 06:07	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/11/21 06:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/11/21 06:07	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/11/21 06:07	2199-69-1	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/11/21 06:07	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/11/21 06:07	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**180**	mg/L	5.0	1.8	1		08/18/21 10:49		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**32.3**	mg/L	1.2	0.34	1		08/12/21 17:56	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.033J**	mg/L	0.10	0.018	1		08/06/21 17:31	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 762828 — Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx — Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4067116 Matrix: Water
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 16:29	
a,a,a-Trifluorotoluene (S)	%.	95	50-150		08/12/21 16:29	

METHOD BLANK: 4067117 Matrix: Water
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/12/21 21:01	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/12/21 21:01	

METHOD BLANK: 4069211 Matrix: Water
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/13/21 01:57	
a,a,a-Trifluorotoluene (S)	%.	93	50-150		08/13/21 01:57	

LABORATORY CONTROL SAMPLE & LCSD: 4067118 4067119

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1040	939	104	94	75-127	10	20	
a,a,a-Trifluorotoluene (S)	%.				100	97	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068936 4068937

Parameter	Units	10573552002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	4420	5000	5000	8910	8780	90	87	71-139	1	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.						101	101	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

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

SAMPLE DUPLICATE: 4068930

Parameter	Units	10573024002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	210	249	17	30	G+,G-
a,a,a-Trifluorotoluene (S)	%.	97	96			

SAMPLE DUPLICATE: 4068931

Parameter	Units	10573552006 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	287	269	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	95	95			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 761999
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4063014 Matrix: Water
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/13/21 10:27	
Manganese, Dissolved	ug/L	0.21J	0.50	0.20	08/12/21 12:09	

LABORATORY CONTROL SAMPLE: 4063015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	95.0	95	80-120	
Manganese, Dissolved	ug/L	100	99.9	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4063016 4063017

Parameter	Units	10573296002 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	1.0	100	100	89.9	93.3	89	92	75-125	4	20	
Manganese, Dissolved	ug/L	481	100	100	731	676	249	194	75-125	8	20	P6

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 762529 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4065682 Matrix: Water
Associated Lab Samples: 10573552001, 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Ethylbenzene	ug/L	ND	1.0	0.069	08/11/21 00:41	
m&p-Xylene	ug/L	ND	2.0	0.18	08/11/21 00:41	
o-Xylene	ug/L	ND	1.0	0.12	08/11/21 00:41	
Toluene	ug/L	ND	1.0	0.11	08/11/21 00:41	
1,2-Dichlorobenzene-d4 (S)	%.	100	70-130		08/11/21 00:41	
4-Bromofluorobenzene (S)	%.	99	75-125		08/11/21 00:41	
Toluene-d8 (S)	%.	101	75-125		08/11/21 00:41	

LABORATORY CONTROL SAMPLE & LCSD: 4065683 4065684

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.7	20.4	98	102	73-125	4	20	
Ethylbenzene	ug/L	20	18.3	18.9	92	95	75-125	3	20	
m&p-Xylene	ug/L	40	39.2	40.5	98	101	75-125	3	20	
o-Xylene	ug/L	20	20.1	20.9	101	104	75-125	4	20	
Toluene	ug/L	20	19.1	19.9	96	99	75-125	4	20	
1,2-Dichlorobenzene-d4 (S)	%.				99	99	70-130			
4-Bromofluorobenzene (S)	%.				101	99	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 762163
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4063635 Matrix: Water
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/12/21 13:38	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/12/21 13:38	
Acenaphthene	ug/L	ND	0.040	0.0069	08/12/21 13:38	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/12/21 13:38	
Anthracene	ug/L	ND	0.040	0.0054	08/12/21 13:38	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/12/21 13:38	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/12/21 13:38	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/12/21 13:38	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/12/21 13:38	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/12/21 13:38	
Chrysene	ug/L	ND	0.040	0.0094	08/12/21 13:38	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/12/21 13:38	
Fluoranthene	ug/L	ND	0.040	0.014	08/12/21 13:38	
Fluorene	ug/L	ND	0.040	0.0060	08/12/21 13:38	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/12/21 13:38	
Naphthalene	ug/L	ND	0.040	0.0088	08/12/21 13:38	
Phenanthrene	ug/L	ND	0.040	0.012	08/12/21 13:38	
Pyrene	ug/L	ND	0.040	0.0099	08/12/21 13:38	
2-Fluorobiphenyl (S)	%.	59	51-125		08/12/21 13:38	
p-Terphenyl-d14 (S)	%.	70	70-125		08/12/21 13:38	

LABORATORY CONTROL SAMPLE: 4063636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	1	0.64	64	34-125	
2-Methylnaphthalene	ug/L	1	0.65	65	34-125	
Acenaphthene	ug/L	1	0.68	68	35-125	
Acenaphthylene	ug/L	1	0.69	69	33-125	
Anthracene	ug/L	1	0.78	78	42-125	
Benzo(a)anthracene	ug/L	1	0.80	80	46-125	
Benzo(a)pyrene	ug/L	1	0.83	83	57-125	
Benzo(b)fluoranthene	ug/L	1	0.85	85	58-125	
Benzo(g,h,i)perylene	ug/L	1	0.67	67	55-125	
Benzo(k)fluoranthene	ug/L	1	0.79	79	55-125	
Chrysene	ug/L	1	0.79	79	56-125	
Dibenz(a,h)anthracene	ug/L	1	0.69	69	40-125	
Fluoranthene	ug/L	1	0.88	88	64-125	
Fluorene	ug/L	1	0.75	75	43-125	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.73	73	57-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

LABORATORY CONTROL SAMPLE: 4063636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	1	0.63	63	30-125	
Phenanthrene	ug/L	1	0.76	76	47-125	
Pyrene	ug/L	1	0.76	76	46-125	
2-Fluorobiphenyl (S)	%.			63	51-125	
p-Terphenyl-d14 (S)	%.			75	70-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 762060
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552002

METHOD BLANK: 4063176 Matrix: Water
Associated Lab Samples: 10573552002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	0.13J	0.40	0.088	08/11/21 21:43	
Motor Oil Range SG	mg/L	0.44	0.40	0.12	08/11/21 21:43	
n-Triacontane (S)	%.	65	50-150		08/11/21 21:43	
o-Terphenyl (S)	%.	54	50-150		08/11/21 21:43	

LABORATORY CONTROL SAMPLE & LCSD: 4063177 4063178

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	1.6	2.0	78	98	50-150	22	20	R1
Motor Oil Range SG	mg/L	2	1.9	2.2	95	109	50-150	13	20	
n-Triacontane (S)	%.				85	69	50-150			
o-Terphenyl (S)	%.				78	64	50-150			

SAMPLE DUPLICATE: 4063179

Parameter	Units	10573552002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	1.2	1.1	14	30	P2
Motor Oil Range SG	mg/L	ND	0.35J		30	
n-Triacontane (S)	%.	73	72			
o-Terphenyl (S)	%.	67	62			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 763054
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4068272 Matrix: Water
Associated Lab Samples: 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/18/21 01:09	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/18/21 01:09	
n-Triacontane (S)	%.	51	50-150		08/18/21 01:09	
o-Terphenyl (S)	%.	64	50-150		08/18/21 01:09	

LABORATORY CONTROL SAMPLE: 4068273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.4	70	50-150	
Motor Oil Range SG	mg/L	2	1.5	73	50-150	
n-Triacontane (S)	%.			55	50-150	
o-Terphenyl (S)	%.			71	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068274 4068275

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range SG	mg/L	ND	2	2	1.0	1.2	50	58	50-150	14	30	
Motor Oil Range SG	mg/L	ND	2	2	1.1	1.3	54	63	50-150	14	30	
n-Triacontane (S)	%.						51	62	50-150			
o-Terphenyl (S)	%.						60	68	50-150			

SAMPLE DUPLICATE: 4068704

Parameter	Units	10574168007 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	4.3	0.10J		30	
Motor Oil Range SG	mg/L	0.28J	ND		30	
n-Triacontane (S)	%.	55	53			
o-Terphenyl (S)	%.	55	53			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 764073
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552002, 10573552003

METHOD BLANK: 4073306 Matrix: Water
Associated Lab Samples: 10573552002, 10573552003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/17/21 13:02	

LABORATORY CONTROL SAMPLE & LCSD: 4073307 4073308

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	42.7	42.7	107	107	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4073309 4073310

Parameter	Units	10574742001 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	29.0	40	40	69.4	69.7	101	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4073311 4073312

Parameter	Units	10573552003 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	144	40	40	181	183	91	98	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 764310 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552004, 10573552005, 10573552006

METHOD BLANK: 4074220 Matrix: Water
Associated Lab Samples: 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/18/21 10:20	

LABORATORY CONTROL SAMPLE & LCSD: 4074221 4074222

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	42.2	42.3	105	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4074223 4074224

Parameter	Units	10573552004 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	84.0	40	40	124	125	101	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4074225 4074226

Parameter	Units	10573764001 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	90.8	40	40	131	131	101	99	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 762329 — 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: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4064292 — Matrix: Water
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/12/21 09:05	

LABORATORY CONTROL SAMPLE: 4064293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4064294 — 4064295

Parameter	Units	10573599001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	840	1000	1000	1980	1970	114	113	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4064296 — 4064297

Parameter	Units	10573599002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	821	1000	1000	2080	1970	125	115	80-120	5	20	E,M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573552

QC Batch: 761923
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

METHOD BLANK: 4062474 Matrix: Water
Associated Lab Samples: 10573552002, 10573552003, 10573552004, 10573552005, 10573552006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/06/21 17:32	FS

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573552

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.

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 10573552

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: 762529

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

Batch: 763120

[1] Shares QCs with Batch OEXT 60985 / MSSV 25007. MS/MSD was extracted in that batch.

ANALYTE QUALIFIERS

1M	Surrogate recovery outside laboratory control limits due to formation of an emulsion during extraction.
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.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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.

Pace Analytical Services, LLC
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QUALIFIERS

Project: 0539066
Pace Project No.: 10573552

ANALYTE QUALIFIERS

R1	RPD value was outside control limits.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573552

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573552002	**PEO-MW-06-202108**	EPA Mod. 3510C	762060	NWTPH-Dx	762970
10573552003	**PEO-MW-19-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573552004	**PEO-MW-44-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573552005	**PEO-MW-31-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573552006	**PEO-MW-18-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10573552001	**TRIP BLANK-20210805**	NWTPH-Gx	762828		
10573552002	**PEO-MW-06-202108**	NWTPH-Gx	762828		
10573552003	**PEO-MW-19-202108**	NWTPH-Gx	762828		
10573552004	**PEO-MW-44-202108**	NWTPH-Gx	762828		
10573552005	**PEO-MW-31-202108**	NWTPH-Gx	762828		
10573552006	**PEO-MW-18-202108**	NWTPH-Gx	762828		
10573552002	**PEO-MW-06-202108**	EPA 3010A	761996	EPA 6010D	762851
10573552003	**PEO-MW-19-202108**	EPA 3010A	761996	EPA 6010D	762851
10573552004	**PEO-MW-44-202108**	EPA 3010A	761996	EPA 6010D	762851
10573552005	**PEO-MW-31-202108**	EPA 3010A	761996	EPA 6010D	762851
10573552006	**PEO-MW-18-202108**	EPA 3010A	761996	EPA 6010D	762851
10573552002	**PEO-MW-06-202108**	EPA 3020A	761999	EPA 6020A	762857
10573552003	**PEO-MW-19-202108**	EPA 3020A	761999	EPA 6020A	762857
10573552004	**PEO-MW-44-202108**	EPA 3020A	761999	EPA 6020A	762857
10573552005	**PEO-MW-31-202108**	EPA 3020A	761999	EPA 6020A	762857
10573552006	**PEO-MW-18-202108**	EPA 3020A	761999	EPA 6020A	762857
10573552002	**PEO-MW-06-202108**	EPA Mod. 3510C	762163	EPA 8270 by SIM	763120
10573552003	**PEO-MW-19-202108**	EPA Mod. 3510C	762163	EPA 8270 by SIM	763120
10573552004	**PEO-MW-44-202108**	EPA Mod. 3510C	762163	EPA 8270 by SIM	763120
10573552005	**PEO-MW-31-202108**	EPA Mod. 3510C	762163	EPA 8270 by SIM	763120
10573552006	**PEO-MW-18-202108**	EPA Mod. 3510C	762163	EPA 8270 by SIM	763120
10573552001	**TRIP BLANK-20210805**	EPA 8260B	762529		
10573552002	**PEO-MW-06-202108**	EPA 8260B	762529		
10573552003	**PEO-MW-19-202108**	EPA 8260B	762529		
10573552004	**PEO-MW-44-202108**	EPA 8260B	762529		
10573552005	**PEO-MW-31-202108**	EPA 8260B	762529		
10573552006	**PEO-MW-18-202108**	EPA 8260B	762529		
10573552002	**PEO-MW-06-202108**	SM 2320B	764073		
10573552003	**PEO-MW-19-202108**	SM 2320B	764073		
10573552004	**PEO-MW-44-202108**	SM 2320B	764310		
10573552005	**PEO-MW-31-202108**	SM 2320B	764310		
10573552006	**PEO-MW-18-202108**	SM 2320B	764310		
10573552002	**PEO-MW-06-202108**	EPA 300.0	762329		
10573552003	**PEO-MW-19-202108**	EPA 300.0	762329		
10573552004	**PEO-MW-44-202108**	EPA 300.0	762329		
10573552005	**PEO-MW-31-202108**	EPA 300.0	762329		
10573552006	**PEO-MW-18-202108**	EPA 300.0	762329		
10573552002	**PEO-MW-06-202108**	EPA 353.2	761923		
10573552003	**PEO-MW-19-202108**	EPA 353.2	761923		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573552

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573552004	**PEO-MW-44-202108**	EPA 353.2	761923		
10573552005	**PEO-MW-31-202108**	EPA 353.2	761923		
10573552006	**PEO-MW-18-202108**	EPA 353.2	761923		

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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.

Page: 1 of 1

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:		Company Name:	
	Portland, OR 97204			Address:	
Email To:	rita.cooper@erm.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	207-329-6320 Fax:	Project Name:		Pace Project Manager:	Julie Bowser
Requested Due Date/TAT:	Standard	Project Number:	0539066	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210805	GW	G	8/5/21	8:00				6	-	-	-	X	-	-	-	-		3	3	3	-	-	-	-	-	-	-	-	CC1
2	PEO-MW-06-202108	GW	G	8/5/21	8:15				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	CC2
3	PEO-MW-19-202108	GW	G	8/5/21	9:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	CC3
4	PEO-MW-44-202108	GW	G	8/5/21	11:10				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	CC4
5	PEO-MW-31-202108	GW	G	8/5/21	12:55				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	CC5
6	PEO-MW-18-202108	GW	G	8/5/21	14:40				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	CC6
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	A. Johnson / ERM	8/5/21	17:00	C Pace 8/6/21 CP 8/6/21	~~8/6/21~~	1700	17.2	Y	N	Y
							15.1			
							18.0			

WO#: 10573552

10573552

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnsen

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 8/5/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*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.

Pace Analytical®	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#: 10573552

PM: JMT Due Date: 08/20/21

CLIENT: ERM-Oregon

Courier: ☐ Fed.Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: _____ 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: _____ **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:** 17.1, 15.0, 17.9 °C

Correction Factor: +0.1°C **Cooler Temp Corrected w/temp blank:** 17.2, 15.1, 18.0 °C

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

USDA Regulated Soil: (☑ N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** CJSI 8/6/21

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?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☑ Nitrate ☑ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No		8. only 6 TBIs received
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** See Exception ☐ ENV-FRM-MIN4-0142
Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other_____				
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	12. Sample # 002-006
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes	☐ No	☐ N/A	☐ NaOH ☑ HNO_3 1/1 ☑ H_2SO_4 1/1 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** See Exception ☐ ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll 221419 | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. See Exception ☑ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☑ Yes	☐ No	☐ N/A	
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 358129

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

Person Contacted: Joe Casey Date/Time: 8/9/21

Comments/Resolution: emailed to notify coolers were received out of temp, OK to proceed with analysis.

Project Manager Review: Julie Busse **Date:** 8/9/21

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: CJSI

Pace Analytical®	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?
TRIP-Blank 20210805	Ø	Ø	6	6	NO
PEO-MW-06-202108	1	Ø	8	9	NO
-19-202108	Ø	Ø	9	9	NO
-44-202108	Ø	Ø	9	9	NO
-31-202108	1	Ø	8	9	NO
-18-202108	Ø	1	8	9	NO

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: 10573552
Work Order Number: 2108144

August 24, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 8/10/2021 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: *08/24/2021*

CLIENT: Pace Analytical Minnesota
Project: 10573552
Work Order: 2108144

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108144-001	TRIP BLANK-20210805	08/05/2021 8:00 AM	08/10/2021 10:27 AM
2108144-002	PEO-MW-06-202108	08/05/2021 8:15 AM	08/10/2021 10:27 AM
2108144-003	PEO-MW-19-202108	08/05/2021 8:30 AM	08/10/2021 10:27 AM
2108144-004	PEO-MW-44-202108	08/05/2021 11:10 AM	08/10/2021 10:27 AM
2108144-005	PEO-MW-31-202108	08/05/2021 12:55 PM	08/10/2021 10:27 AM
2108144-006	PEO-MW-18-202108	08/05/2021 2:40 PM	08/10/2021 10:27 AM

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

Original

Case Narrative

WO#: **2108144**
Date: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573552

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

Analytical Report

Work Order: **2108144**
Date Reported: **8/24/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573552

Lab ID: 2108144-001 **Collection Date:** 8/5/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210805** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/16/2021 4:59:50 PM
Surr: 1,4-Difluorobenzene	77.4	65 - 140		%Rec	1	8/16/2021 4:59:50 PM
Surr: Bromofluorobenzene	90.8	65 - 140		%Rec	1	8/16/2021 4:59:50 PM

Lab ID: 2108144-002 **Collection Date:** 8/5/2021 8:15:00 AM
Client Sample ID: **PEO-MW-06-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	806	20.6		µg/L	1	8/17/2021 11:16:05 PM
Surr: 1-Chlorooctadecane	92.4	60 - 140		%Rec	1	8/17/2021 11:16:05 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	666	12.2		µg/L	1	8/17/2021 1:24:07 AM
Surr: 1,4-Difluorobenzene	88.0	65 - 140		%Rec	1	8/17/2021 1:24:07 AM
Surr: Bromofluorobenzene	99.0	65 - 140		%Rec	1	8/17/2021 1:24:07 AM

CLIENT: Pace Analytical Minnesota
Project: 10573552

Lab ID: 2108144-003 **Collection Date:** 8/5/2021 8:30:00 AM
Client Sample ID: **PEO-MW-19-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	8/18/2021 12:08:50 AM
Surr: 1-Chlorooctadecane	85.0	60 - 140		%Rec	1	8/18/2021 12:08:50 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 2:02:50 AM
Surr: 1,4-Difluorobenzene	83.7	65 - 140		%Rec	1	8/17/2021 2:02:50 AM
Surr: Bromofluorobenzene	98.2	65 - 140		%Rec	1	8/17/2021 2:02:50 AM

Lab ID: 2108144-004 **Collection Date:** 8/5/2021 11:10:00 AM
Client Sample ID: **PEO-MW-44-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/18/2021 1:54:28 AM
Surr: 1-Chlorooctadecane	76.1	60 - 140		%Rec	1	8/18/2021 1:54:28 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 3:20:19 AM
Surr: 1,4-Difluorobenzene	82.8	65 - 140		%Rec	1	8/17/2021 3:20:19 AM
Surr: Bromofluorobenzene	98.9	65 - 140		%Rec	1	8/17/2021 3:20:19 AM

CLIENT: Pace Analytical Minnesota
Project: 10573552

Lab ID: 2108144-005 **Collection Date:** 8/5/2021 12:55:00 PM
Client Sample ID: **PEO-MW-31-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	8/18/2021 2:47:17 AM
Surr: 1-Chlorooctadecane	83.8	60 - 140		%Rec	1	8/18/2021 2:47:17 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 3:58:54 AM
Surr: 1,4-Difluorobenzene	85.1	65 - 140		%Rec	1	8/17/2021 3:58:54 AM
Surr: Bromofluorobenzene	99.8	65 - 140		%Rec	1	8/17/2021 3:58:54 AM

Lab ID: 2108144-006 **Collection Date:** 8/5/2021 2:40:00 PM
Client Sample ID: **PEO-MW-18-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.7		µg/L	1	8/20/2021 10:18:34 PM
Surr: 1-Chlorooctadecane	62.0	60 - 140		%Rec	1	8/20/2021 10:18:34 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33368		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 4:37:43 AM
Surr: 1,4-Difluorobenzene	85.0	65 - 140		%Rec	1	8/17/2021 4:37:43 AM
Surr: Bromofluorobenzene	102	65 - 140		%Rec	1	8/17/2021 4:37:43 AM

Date: *8/24/2021*

Work Order: 2108144
CLIENT: Pace Analytical Minnesota
Project: 10573552

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33320**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **MBLKW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404386**		
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	338		397.9		85.0	60	140				

Sample ID: **LCS-33320**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404387**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	351	39.7	496.7	0	70.7	70	130				
Surr: 1-Chlorooctadecane	336		397.3		84.5	60	140				

Sample ID: **LCSD-33320**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **LCSW02**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404962**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	368	39.3	491.0	0	74.9	70	130	351.1	4.62	20	
Surr: 1-Chlorooctadecane	362		392.8		92.2	60	140		0		

Sample ID: **2108116-001BMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/11/2021**			RunNo: **69292**		
Client ID: **BATCH**	Batch ID: **33320**					Analysis Date: **8/17/2021**			SeqNo: **1404390**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	379	41.4	518.0	0	73.3	70	130				
Surr: 1-Chlorooctadecane	305		414.4		73.5	60	140				

Work Order: 2108144
CLIENT: Pace Analytical Minnesota
Project: 10573552

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCS-33367**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **LCSW**	Batch ID: **33367**		Analysis Date: **8/20/2021**	SeqNo: **1407057**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	366	39.3	491.2	0	74.5	70	130				
Surr: 1-Chlorooctadecane	355		392.9		90.4	60	140				

Sample ID: **LCSD-33367**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **LCSW02**	Batch ID: **33367**		Analysis Date: **8/20/2021**	SeqNo: **1407058**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	371	39.3	491.2	0	75.4	70	130	365.8	1.30	20	
Surr: 1-Chlorooctadecane	393		393.0		100	60	140		0		

Sample ID: **MB-33367**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **MBLKW**	Batch ID: **33367**		Analysis Date: **8/24/2021**	SeqNo: **1407248**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	39.7		0	0						
Surr: 1-Chlorooctadecane	362		397.3		91.0	60	140				

Work Order: 2108144
CLIENT: Pace Analytical Minnesota
Project: 10573552

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33368**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **LCSW**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407131**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	211	25.0	200.0	0	106	70	130				
Surr: 1,4-Difluorobenzene	47.5		50.00		95.0	65	140				
Surr: Bromofluorobenzene	49.0		50.00		98.1	65	140				

Sample ID: **MB-33368**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **MBLKW**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407130**			
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	39.1		50.00		78.1	65	140				
Surr: Bromofluorobenzene	47.7		50.00		95.5	65	140				

Sample ID: **2108140-002BDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **BATCH**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407109**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	469	25.0		0	0			526.5	11.6	25	
Surr: 1,4-Difluorobenzene	43.0		50.00		86.0	65	140		0		
Surr: Bromofluorobenzene	48.2		50.00		96.5	65	140		0		

Sample ID: **2108142-005BMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/16/2021**		RunNo: **69420**			
Client ID: **BATCH**	Batch ID: **33368**					Analysis Date: **8/16/2021**		SeqNo: **1407114**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	93.2	25.0	200.0	0	46.6	70	130				S
Surr: 1,4-Difluorobenzene	48.0		50.00		96.0	65	140				
Surr: Bromofluorobenzene	50.4		50.00		101	65	140				

NOTES:
S - Outlying spike recoveries were associated with this sample.

Date: *8/24/2021*

Work Order: 2108144
CLIENT: Pace Analytical Minnesota
Project: 10573552

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **2108144-003BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **8/16/2021** RunNo: **69420**
Client ID: **PEO-MW-19-202108** Batch ID: **33368** Analysis Date: **8/17/2021** SeqNo: **1407120**

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	39.8		50.00		79.5	65	140		0		
Surr: Bromofluorobenzene	48.7		50.00		97.4	65	140		0		

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108144**
Logged by:	**Clare Griggs**	Date Received:	**8/10/2021 10:27:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	2.1

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

Chain of Custody

PASI Minnesota Laboratory

2198144

Pace Analytical®
www.pacelabs.com

Workorder: 10573552 **Workorder Name:** 0539066 **Results Requested By:** 8/20/2021

Report / Invoice To	Subcontract To
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. 10573552

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	NWTPH VPH (Aliphatics C10-C12)	NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210805	8/5/2021 08:00	10573552001	Water	2	X		
2	PEO-MW-06-202108	8/5/2021 08:15	10573552002	Water	5	X	X	
3	PEO-MW-19-202108	8/5/2021 09:30	10573552003	Water	5	X	X	
4	PEO-MW-44-202108	8/5/2021 11:10	10573552004	Water	5	X	X	
5	PEO-MW-31-202108	8/5/2021 12:55	10573552005	Water	5	X	X	
6	PEO-MW-18-202108	8/5/2021 14:40	10573552006	Water	5	X	X	

Comments: J flag to MDL, provide EQUIS EDD

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] Pace	8/9/21 1515	[signature]	8/10 10:27
2				
3				

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

September 10, 2021

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

RE: Project: 0539066
Pace Project No.: 10573839

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10573839

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, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10573839

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10573839001	**TRIP BLANK-20210809**	Water	08/09/21 08:00	08/10/21 14:15
10573839002	**PEO-MW-30-202108**	Water	08/09/21 08:45	08/10/21 14:15
10573839003	**PEO-MW-08-202108**	Water	08/09/21 10:25	08/10/21 14:15
10573839004	**PEO-MW-41-202108**	Water	08/09/21 11:55	08/10/21 14:15
10573839005	**PEO-MW-40-202108**	Water	08/09/21 13:50	08/10/21 14:15
10573839006	**PEO-MW-45-202108**	Water	08/09/21 15:20	08/10/21 14:15

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10573839001	**TRIP BLANK-20210809**	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10573839002	**PEO-MW-30-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M
10573839003	**PEO-MW-08-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M
10573839004	**PEO-MW-41-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M
10573839005	**PEO-MW-40-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10573839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	JFP	1	PASI-M
10573839006	**PEO-MW-45-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	JFP	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: TRIP BLANK-20210809 **Lab ID: 10573839001** Collected: 08/09/21 08:00 Received: 08/10/21 14:15 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		08/22/21 20:02		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/22/21 20:02	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 02:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 02:31	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 02:31	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 02:31	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 02:31	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/13/21 02:31	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/13/21 02:31	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/13/21 02:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-30-202108 **Lab ID: 10573839002** Collected: 08/09/21 08:45 Received: 08/10/21 14:15 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	**7.8**	mg/L	0.40	0.088	1	08/11/21 12:54	08/16/21 12:46	68334-30-5	D6,L2
Motor Oil Range SG	**0.38J**	mg/L	0.40	0.12	1	08/11/21 12:54	08/16/21 12:46	64742-65-0	L2,P2
Surrogates									
o-Terphenyl (S)	70	%.	50-150		1	08/11/21 12:54	08/16/21 12:46	84-15-1	
n-Triacontane (S)	61	%.	50-150		1	08/11/21 12:54	08/16/21 12:46		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**797**	ug/L	100	42.8	1		08/22/21 20:29		G+,HS
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%.	50-150		1		08/22/21 20:29	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**235000**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 12:49		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**16.2**	ug/L	0.50	0.083	1	08/12/21 12:19	08/16/21 22:31	7440-38-2	
Manganese, Dissolved	**4450**	ug/L	10.0	4.0	20	08/12/21 12:19	08/16/21 22:35	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/10/21 15:50	08/20/21 20:51	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/20/21 20:51	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/10/21 15:50	08/20/21 20:51	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/10/21 15:50	08/20/21 20:51	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/10/21 15:50	08/20/21 20:51	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/10/21 15:50	08/20/21 20:51	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/10/21 15:50	08/20/21 20:51	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/10/21 15:50	08/20/21 20:51	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/10/21 15:50	08/20/21 20:51	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/10/21 15:50	08/20/21 20:51	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/10/21 15:50	08/20/21 20:51	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/20/21 20:51	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/10/21 15:50	08/20/21 20:51	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0064	1	08/10/21 15:50	08/20/21 20:51	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/10/21 15:50	08/20/21 20:51	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0084	1	08/10/21 15:50	08/20/21 20:51	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/10/21 15:50	08/20/21 20:51	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/10/21 15:50	08/20/21 20:51	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	54	%.	51-125		1	08/10/21 15:50	08/20/21 20:51	321-60-8	
p-Terphenyl-d14 (S)	60	%.	70-125		1	08/10/21 15:50	08/20/21 20:51	1718-51-0	H5,S0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-30-202108 **Lab ID: 10573839002** Collected: 08/09/21 08:45 Received: 08/10/21 14:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**0.69J**	ug/L	1.0	0.12	1		08/18/21 22:08	71-43-2	
Ethylbenzene	**0.21J**	ug/L	1.0	0.069	1		08/18/21 22:08	100-41-4	
Toluene	**0.41J**	ug/L	1.0	0.11	1		08/18/21 22:08	108-88-3	
m&p-Xylene	**0.22J**	ug/L	2.0	0.18	1		08/18/21 22:08	179601-23-1	
o-Xylene	**0.47J**	ug/L	1.0	0.12	1		08/18/21 22:08	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%.	70-130		1		08/18/21 22:08	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/18/21 22:08	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/18/21 22:08	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**225**	mg/L	5.0	1.8	1		08/20/21 13:43		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**51.9**	mg/L	1.2	0.34	1		08/12/21 09:53	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.050J**	mg/L	0.10	0.018	1		08/10/21 15:52	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-08-202108 **Lab ID: 10573839003** Collected: 08/09/21 10:25 Received: 08/10/21 14:15 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	**0.43**	mg/L	0.40	0.088	1	08/18/21 11:24	08/20/21 15:41	68334-30-5	B
Motor Oil Range SG	**0.56**	mg/L	0.40	0.12	1	08/18/21 11:24	08/20/21 15:41	64742-65-0	B,P2
Surrogates									
o-Terphenyl (S)	83	%.	50-150		1	08/18/21 11:24	08/20/21 15:41	84-15-1	
n-Triacontane (S)	95	%.	50-150		1	08/18/21 11:24	08/20/21 15:41		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/22/21 20:56		HS
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/22/21 20:56	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**54400**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 12:57		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**1.0**	ug/L	0.50	0.083	1	08/12/21 12:19	08/16/21 22:38	7440-38-2	
Manganese, Dissolved	**740**	ug/L	10.0	4.0	20	08/12/21 12:19	08/16/21 22:41	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0065	1	08/10/21 15:50	08/20/21 21:11	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0057	1	08/10/21 15:50	08/20/21 21:11	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/10/21 15:50	08/20/21 21:11	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0085	1	08/10/21 15:50	08/20/21 21:11	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0083	1	08/10/21 15:50	08/20/21 21:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0090	1	08/10/21 15:50	08/20/21 21:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/10/21 15:50	08/20/21 21:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0078	1	08/10/21 15:50	08/20/21 21:11	207-08-9	
Chrysene	ND	ug/L	0.038	0.0089	1	08/10/21 15:50	08/20/21 21:11	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0075	1	08/10/21 15:50	08/20/21 21:11	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/10/21 15:50	08/20/21 21:11	206-44-0	
Fluorene	ND	ug/L	0.038	0.0057	1	08/10/21 15:50	08/20/21 21:11	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/10/21 15:50	08/20/21 21:11	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0063	1	08/10/21 15:50	08/20/21 21:11	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0078	1	08/10/21 15:50	08/20/21 21:11	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0083	1	08/10/21 15:50	08/20/21 21:11	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/10/21 15:50	08/20/21 21:11	85-01-8	
Pyrene	ND	ug/L	0.038	0.0093	1	08/10/21 15:50	08/20/21 21:11	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%.	51-125		1	08/10/21 15:50	08/20/21 21:11	321-60-8	
p-Terphenyl-d14 (S)	67	%.	70-125		1	08/10/21 15:50	08/20/21 21:11	1718-51-0	H5,S0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-08-202108 **Lab ID: 10573839003** Collected: 08/09/21 10:25 Received: 08/10/21 14:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 04:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 04:36	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 04:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 04:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 04:36	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 04:36	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/13/21 04:36	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/13/21 04:36	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**17.8**	mg/L	5.0	1.8	1		08/20/21 16:04		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**66.6**	mg/L	1.2	0.34	1		08/12/21 10:09	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.034J**	mg/L	0.10	0.018	1		08/10/21 15:53	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-41-202108 **Lab ID: 10573839004** Collected: 08/09/21 11:55 Received: 08/10/21 14:15 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	**0.12J**	mg/L	0.41	0.089	1	08/18/21 11:24	08/20/21 15:52	68334-30-5	B
Motor Oil Range SG	**0.29J**	mg/L	0.41	0.13	1	08/18/21 11:24	08/20/21 15:52	64742-65-0	B,P2
Surrogates									
o-Terphenyl (S)	76	%.	50-150		1	08/18/21 11:24	08/20/21 15:52	84-15-1	
n-Triacontane (S)	83	%.	50-150		1	08/18/21 11:24	08/20/21 15:52		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/22/21 21:50		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/22/21 21:50	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**45100**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 13:02		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**0.82**	ug/L	0.50	0.083	1	08/12/21 12:19	08/16/21 22:45	7440-38-2	
Manganese, Dissolved	**442**	ug/L	0.50	0.20	1	08/12/21 12:19	08/16/21 22:45	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/10/21 15:50	08/23/21 16:12	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 16:12	208-96-8	
Anthracene	**0.0052J**	ug/L	0.038	0.0051	1	08/10/21 15:50	08/23/21 16:12	120-12-7	B
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/10/21 15:50	08/23/21 16:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/10/21 15:50	08/23/21 16:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/10/21 15:50	08/23/21 16:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/10/21 15:50	08/23/21 16:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 16:12	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/10/21 15:50	08/23/21 16:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/10/21 15:50	08/23/21 16:12	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/10/21 15:50	08/23/21 16:12	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 16:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/10/21 15:50	08/23/21 16:12	193-39-5	
1-Methylnaphthalene	**0.013J**	ug/L	0.038	0.0064	1	08/10/21 15:50	08/23/21 16:12	90-12-0	
2-Methylnaphthalene	**0.013J**	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 16:12	91-57-6	
Naphthalene	**0.011J**	ug/L	0.038	0.0084	1	08/10/21 15:50	08/23/21 16:12	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/10/21 15:50	08/23/21 16:12	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/10/21 15:50	08/23/21 16:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%.	51-125		1	08/10/21 15:50	08/23/21 16:12	321-60-8	
p-Terphenyl-d14 (S)	67	%.	70-125		1	08/10/21 15:50	08/23/21 16:12	1718-51-0	H5,S0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-41-202108 **Lab ID: 10573839004** Collected: 08/09/21 11:55 Received: 08/10/21 14:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 04:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 04:54	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 04:54	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 04:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 04:54	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 04:54	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/13/21 04:54	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/13/21 04:54	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**58.9**	mg/L	5.0	1.8	1		08/20/21 14:11		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**1.9**	mg/L	1.2	0.34	1		08/19/21 00:44	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.037J**	mg/L	0.10	0.018	1		08/10/21 15:54	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-40-202108 **Lab ID: 10573839005** Collected: 08/09/21 13:50 Received: 08/10/21 14:15 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	0.088	1	08/18/21 11:24	08/20/21 16:03	68334-30-5	B
Motor Oil Range SG	**0.46**	mg/L	0.40	0.12	1	08/18/21 11:24	08/20/21 16:03	64742-65-0	B,P2
Surrogates									
o-Terphenyl (S)	73	%.	50-150		1	08/18/21 11:24	08/20/21 16:03	84-15-1	
n-Triacontane (S)	76	%.	50-150		1	08/18/21 11:24	08/20/21 16:03		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/22/21 22:18		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/22/21 22:18	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**75700**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 13:04		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**3.5**	ug/L	0.50	0.083	1	08/12/21 12:19	08/16/21 22:51	7440-38-2	
Manganese, Dissolved	**988**	ug/L	10.0	4.0	20	08/12/21 12:19	08/16/21 22:55	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/10/21 15:50	08/23/21 17:12	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 17:12	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/10/21 15:50	08/23/21 17:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/10/21 15:50	08/23/21 17:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/10/21 15:50	08/23/21 17:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/10/21 15:50	08/23/21 17:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/10/21 15:50	08/23/21 17:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 17:12	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/10/21 15:50	08/23/21 17:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/10/21 15:50	08/23/21 17:12	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/10/21 15:50	08/23/21 17:12	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 17:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/10/21 15:50	08/23/21 17:12	193-39-5	
1-Methylnaphthalene	**0.0087J**	ug/L	0.038	0.0064	1	08/10/21 15:50	08/23/21 17:12	90-12-0	
2-Methylnaphthalene	**0.0092J**	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 17:12	91-57-6	
Naphthalene	**0.0095J**	ug/L	0.038	0.0084	1	08/10/21 15:50	08/23/21 17:12	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/10/21 15:50	08/23/21 17:12	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/10/21 15:50	08/23/21 17:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%.	51-125		1	08/10/21 15:50	08/23/21 17:12	321-60-8	
p-Terphenyl-d14 (S)	69	%.	70-125		1	08/10/21 15:50	08/23/21 17:12	1718-51-0	H5,S0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-40-202108 **Lab ID: 10573839005** Collected: 08/09/21 13:50 Received: 08/10/21 14:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 05:12	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 05:12	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 05:12	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 05:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 05:12	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 05:12	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/13/21 05:12	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/13/21 05:12	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**24.8**	mg/L	5.0	1.8	1		08/20/21 14:15		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**73.9**	mg/L	1.2	0.34	1		08/19/21 01:32	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.033J**	mg/L	0.10	0.018	1		08/10/21 15:55	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-45-202108 **Lab ID: 10573839006** Collected: 08/09/21 15:20 Received: 08/10/21 14:15 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	**0.23J**	mg/L	0.40	0.088	1	08/18/21 11:24	08/20/21 16:14	68334-30-5	B
Motor Oil Range SG	**0.55**	mg/L	0.40	0.12	1	08/18/21 11:24	08/20/21 16:14	64742-65-0	B,P2
Surrogates									
o-Terphenyl (S)	76	%.	50-150		1	08/18/21 11:24	08/20/21 16:14	84-15-1	
n-Triacontane (S)	84	%.	50-150		1	08/18/21 11:24	08/20/21 16:14		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/22/21 22:45		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/22/21 22:45	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**58000**	ug/L	3300	76.7	1	08/13/21 06:19	08/15/21 13:06		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	ND	ug/L	0.50	0.083	1	08/12/21 12:19	08/16/21 23:15	7440-38-2	
Manganese, Dissolved	**286**	ug/L	0.50	0.20	1	08/12/21 12:19	08/16/21 23:15	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/10/21 15:50	08/23/21 17:32	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 17:32	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/10/21 15:50	08/23/21 17:32	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/10/21 15:50	08/23/21 17:32	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/10/21 15:50	08/23/21 17:32	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/10/21 15:50	08/23/21 17:32	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/10/21 15:50	08/23/21 17:32	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 17:32	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/10/21 15:50	08/23/21 17:32	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/10/21 15:50	08/23/21 17:32	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/10/21 15:50	08/23/21 17:32	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/10/21 15:50	08/23/21 17:32	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/10/21 15:50	08/23/21 17:32	193-39-5	
1-Methylnaphthalene	**0.018J**	ug/L	0.038	0.0064	1	08/10/21 15:50	08/23/21 17:32	90-12-0	
2-Methylnaphthalene	**0.022J**	ug/L	0.038	0.0079	1	08/10/21 15:50	08/23/21 17:32	91-57-6	
Naphthalene	**0.015J**	ug/L	0.038	0.0084	1	08/10/21 15:50	08/23/21 17:32	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/10/21 15:50	08/23/21 17:32	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/10/21 15:50	08/23/21 17:32	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	54	%.	51-125		1	08/10/21 15:50	08/23/21 17:32	321-60-8	
p-Terphenyl-d14 (S)	64	%.	70-125		1	08/10/21 15:50	08/23/21 17:32	1718-51-0	H5,S0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10573839

Sample: PEO-MW-45-202108 **Lab ID: 10573839006** Collected: 08/09/21 15:20 Received: 08/10/21 14:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 05:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 05:30	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 05:30	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 05:30	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 05:30	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 05:30	2199-69-1	
4-Bromofluorobenzene (S)	98	%.	75-125		1		08/13/21 05:30	460-00-4	
Toluene-d8 (S)	100	%.	75-125		1		08/13/21 05:30	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**2.8J**	mg/L	5.0	1.8	1		08/20/21 16:09		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**65.6**	mg/L	1.2	0.34	1		08/19/21 01:48	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.21**	mg/L	0.10	0.018	1		08/10/21 15:56	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 765010 — Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx — Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839001, 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4077759 Matrix: Water
Associated Lab Samples: 10573839001, 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/22/21 19:35	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/22/21 19:35	

METHOD BLANK: 4077760 Matrix: Water
Associated Lab Samples: 10573839001, 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/23/21 01:27	
a,a,a-Trifluorotoluene (S)	%.	98	50-150		08/23/21 01:27	

LABORATORY CONTROL SAMPLE & LCSD: 4077761 4077762

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	945	968	94	97	75-127	2	20	
a,a,a-Trifluorotoluene (S)	%.				100	100	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4077763 4077764

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	1000	1000	1110	965	111	96	71-139	14	30	
a,a,a-Trifluorotoluene (S)	%.						101	99	50-150			

SAMPLE DUPLICATE: 4077801

Parameter	Units	10573839003 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	HS
a,a,a-Trifluorotoluene (S)	%.	97	97			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

SAMPLE DUPLICATE: 4077802

Parameter	Units	10574278002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	113	107	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	91	96			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 762635
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4066179 Matrix: Water
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/16/21 21:48	
Manganese, Dissolved	ug/L	0.58	0.50	0.20	08/16/21 21:48	P8

LABORATORY CONTROL SAMPLE: 4066180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	103	103	80-120	
Manganese, Dissolved	ug/L	100	104	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4066181 4066182

Parameter	Units	10574752001 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	9.4	100	100	113	114	104	105	75-125	1	20	
Manganese, Dissolved	ug/L	1.0	100	100	102	103	101	102	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 763154 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839001, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4068925 Matrix: Water
Associated Lab Samples: 10573839001, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/13/21 02:13	
Ethylbenzene	ug/L	ND	1.0	0.069	08/13/21 02:13	
m&p-Xylene	ug/L	ND	2.0	0.18	08/13/21 02:13	
o-Xylene	ug/L	ND	1.0	0.12	08/13/21 02:13	
Toluene	ug/L	ND	1.0	0.11	08/13/21 02:13	
1,2-Dichlorobenzene-d4 (S)	%.	99	70-130		08/13/21 02:13	
4-Bromofluorobenzene (S)	%.	99	75-125		08/13/21 02:13	
Toluene-d8 (S)	%.	100	75-125		08/13/21 02:13	

LABORATORY CONTROL SAMPLE & LCSD: 4068926 4068927

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	19.5	17.9	97	90	73-125	8	20	
Ethylbenzene	ug/L	20	17.7	16.1	89	81	75-125	9	20	
m&p-Xylene	ug/L	40	37.8	34.4	95	86	75-125	10	20	
o-Xylene	ug/L	20	18.9	17.1	95	86	75-125	10	20	
Toluene	ug/L	20	18.7	16.8	93	84	75-125	10	20	
1,2-Dichlorobenzene-d4 (S)	%.				100	100	70-130			
4-Bromofluorobenzene (S)	%.				100	101	75-125			
Toluene-d8 (S)	%.				101	100	75-125			

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REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 764466
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10573839002

METHOD BLANK: 4074895 Matrix: Water
Associated Lab Samples: 10573839002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/18/21 20:54	
Ethylbenzene	ug/L	ND	1.0	0.069	08/18/21 20:54	
m&p-Xylene	ug/L	ND	2.0	0.18	08/18/21 20:54	
o-Xylene	ug/L	ND	1.0	0.12	08/18/21 20:54	
Toluene	ug/L	ND	1.0	0.11	08/18/21 20:54	
1,2-Dichlorobenzene-d4 (S)	%.	101	70-130		08/18/21 20:54	
4-Bromofluorobenzene (S)	%.	101	75-125		08/18/21 20:54	
Toluene-d8 (S)	%.	103	75-125		08/18/21 20:54	

LABORATORY CONTROL SAMPLE & LCSD: 4074896 4074897

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	21.2	21.0	106	105	73-125	1	20	
Ethylbenzene	ug/L	20	19.3	19.2	96	96	75-125	0	20	
m&p-Xylene	ug/L	40	40.9	40.8	102	102	75-125	0	20	
o-Xylene	ug/L	20	20.7	20.7	104	103	75-125	0	20	
Toluene	ug/L	20	20.5	20.0	102	100	75-125	2	20	
1,2-Dichlorobenzene-d4 (S)	%.				101	99	70-130			
4-Bromofluorobenzene (S)	%.				103	102	75-125			
Toluene-d8 (S)	%.				101	101	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 762530
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4065687 Matrix: Water
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/20/21 16:48	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/20/21 16:48	
Acenaphthene	ug/L	ND	0.040	0.0069	08/20/21 16:48	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/20/21 16:48	
Anthracene	ug/L	0.021J	0.040	0.0054	08/20/21 16:48	
Benzo(a)anthracene	ug/L	0.028J	0.040	0.0090	08/20/21 16:48	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/20/21 16:48	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/20/21 16:48	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/20/21 16:48	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/20/21 16:48	
Chrysene	ug/L	0.029J	0.040	0.0094	08/20/21 16:48	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/20/21 16:48	
Fluoranthene	ug/L	0.027J	0.040	0.014	08/20/21 16:48	
Fluorene	ug/L	ND	0.040	0.0060	08/20/21 16:48	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/20/21 16:48	
Naphthalene	ug/L	ND	0.040	0.0088	08/20/21 16:48	
Phenanthrene	ug/L	0.025J	0.040	0.012	08/20/21 16:48	
Pyrene	ug/L	0.027J	0.040	0.0099	08/20/21 16:48	
2-Fluorobiphenyl (S)	%.	62	51-125		08/20/21 16:48	
p-Terphenyl-d14 (S)	%.	58	70-125		08/20/21 16:48	S0

LABORATORY CONTROL SAMPLE & LCSD: 4065688 4065689

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.63	0.63	63	63	34-125	1	20	
2-Methylnaphthalene	ug/L	1	0.58	0.62	58	62	34-125	7	20	
Acenaphthene	ug/L	1	0.64	0.64	64	64	35-125	1	20	
Acenaphthylene	ug/L	1	0.61	0.61	61	61	33-125	0	20	
Anthracene	ug/L	1	0.74	0.72	74	72	42-125	3	20	
Benzo(a)anthracene	ug/L	1	0.69	0.70	69	70	46-125	1	20	
Benzo(a)pyrene	ug/L	1	0.68	0.74	68	74	57-125	8	20	
Benzo(b)fluoranthene	ug/L	1	0.74	0.77	74	77	58-125	3	20	
Benzo(g,h,i)perylene	ug/L	1	0.65	0.70	65	70	55-125	7	20	
Benzo(k)fluoranthene	ug/L	1	0.72	0.77	72	77	55-125	6	20	
Chrysene	ug/L	1	0.74	0.79	74	79	56-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.63	0.66	63	66	40-125	4	20	
Fluoranthene	ug/L	1	0.76	0.77	76	77	64-125	1	20	
Fluorene	ug/L	1	0.62	0.63	62	63	43-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.61	0.70	61	70	57-125	14	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

LABORATORY CONTROL SAMPLE & LCSD: 4065688 4065689

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.63	0.61	63	61	30-125	4	20	
Phenanthrene	ug/L	1	0.71	0.69	71	69	47-125	3	20	
Pyrene	ug/L	1	0.79	0.79	79	79	46-125	0	20	
2-Fluorobiphenyl (S)	%.				59	59	51-125			
p-Terphenyl-d14 (S)	%.				72	70	70-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 762734
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839002

METHOD BLANK: 4066570 Matrix: Water
Associated Lab Samples: 10573839002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/16/21 12:13	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/16/21 12:13	
n-Triacontane (S)	%.	47	50-150		08/16/21 12:13	S0
o-Terphenyl (S)	%.	42	50-150		08/16/21 12:13	S0

LABORATORY CONTROL SAMPLE & LCSD: 4066571 4066572

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	0.70	1.4	35	69	50-150	65	20	L2,R1
Motor Oil Range SG	mg/L	2	0.77	1.5	39	73	50-150	62	20	L2,R1
n-Triacontane (S)	%.				32	55	50-150			S0
o-Terphenyl (S)	%.				36	63	50-150			S0

SAMPLE DUPLICATE: 4066573

Parameter	Units	10573839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	7.8	11.5	39	30	D6
Motor Oil Range SG	mg/L	0.38J	0.79		30	P2
n-Triacontane (S)	%.	61	80			
o-Terphenyl (S)	%.	70	77			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 764336
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4074334 Matrix: Water
Associated Lab Samples: 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	0.18J	0.40	0.088	08/20/21 15:08	
Motor Oil Range SG	mg/L	0.55	0.40	0.12	08/20/21 15:08	
n-Triacontane (S)	%.	82	50-150		08/20/21 15:08	
o-Terphenyl (S)	%.	73	50-150		08/20/21 15:08	

LABORATORY CONTROL SAMPLE & LCSD: 4074335 4074336

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	1.7	1.6	85	78	50-150	9	20	
Motor Oil Range SG	mg/L	2	2.2	1.9	111	94	50-150	17	20	
n-Triacontane (S)	%.				88	72	50-150			
o-Terphenyl (S)	%.				87	64	50-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 765009 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4077747 Matrix: Water
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/20/21 13:32	

LABORATORY CONTROL SAMPLE & LCSD: 4077748 4077749

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	42.4	42.4	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4077750 4077751

Parameter	Units	10573839002 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	225	40	40	257	261	81	90	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4077752 4077753

Parameter	Units	10574117014 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	ND	40	40	43.0	43.6	106	107	80-120	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 762678
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839002, 10573839003

METHOD BLANK: 4066357 Matrix: Water
Associated Lab Samples: 10573839002, 10573839003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/11/21 23:31	

LABORATORY CONTROL SAMPLE: 4066358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	47.6	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4066359 4066360

Parameter	Units	10573698001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.7	50	50	51.8	52.8	98	100	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4066361 4066362

Parameter	Units	10573698002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.5	50	50	51.8	52.7	99	100	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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 763764
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10573839004, 10573839005, 10573839006

METHOD BLANK: 4072104 Matrix: Water
Associated Lab Samples: 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/18/21 20:12	

LABORATORY CONTROL SAMPLE: 4072105

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: 4072106 4072107

Parameter	Units	10573839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1.9	50	50	50.5	51.5	97	99	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072108 4072109

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	5.0	50	50	54.1	54.8	98	100	80-120	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10573839

QC Batch: 762554 | 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: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

METHOD BLANK: 4065789 Matrix: Water
Associated Lab Samples: 10573839002, 10573839003, 10573839004, 10573839005, 10573839006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/10/21 15:57	FS

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573839

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: 763154

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

Batch: 764466

[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.
FS	The sample was filtered in the laboratory prior to analysis.
G+	Late peaks present outside the GRO window.
H5	Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10573839

ANALYTE QUALIFIERS

S0 Surrogate recovery outside laboratory control limits.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573839

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573839002	**PEO-MW-30-202108**	EPA Mod. 3510C	762734	NWTPH-Dx	763882
10573839003	**PEO-MW-08-202108**	EPA Mod. 3510C	764336	NWTPH-Dx	764964
10573839004	**PEO-MW-41-202108**	EPA Mod. 3510C	764336	NWTPH-Dx	764964
10573839005	**PEO-MW-40-202108**	EPA Mod. 3510C	764336	NWTPH-Dx	764964
10573839006	**PEO-MW-45-202108**	EPA Mod. 3510C	764336	NWTPH-Dx	764964
10573839001	**TRIP BLANK-20210809**	NWTPH-Gx	765010		
10573839002	**PEO-MW-30-202108**	NWTPH-Gx	765010		
10573839003	**PEO-MW-08-202108**	NWTPH-Gx	765010		
10573839004	**PEO-MW-41-202108**	NWTPH-Gx	765010		
10573839005	**PEO-MW-40-202108**	NWTPH-Gx	765010		
10573839006	**PEO-MW-45-202108**	NWTPH-Gx	765010		
10573839002	**PEO-MW-30-202108**	EPA 3010A	762636	EPA 6010D	763497
10573839003	**PEO-MW-08-202108**	EPA 3010A	762636	EPA 6010D	763497
10573839004	**PEO-MW-41-202108**	EPA 3010A	762636	EPA 6010D	763497
10573839005	**PEO-MW-40-202108**	EPA 3010A	762636	EPA 6010D	763497
10573839006	**PEO-MW-45-202108**	EPA 3010A	762636	EPA 6010D	763497
10573839002	**PEO-MW-30-202108**	EPA 3020A	762635	EPA 6020A	763312
10573839003	**PEO-MW-08-202108**	EPA 3020A	762635	EPA 6020A	763312
10573839004	**PEO-MW-41-202108**	EPA 3020A	762635	EPA 6020A	763312
10573839005	**PEO-MW-40-202108**	EPA 3020A	762635	EPA 6020A	763312
10573839006	**PEO-MW-45-202108**	EPA 3020A	762635	EPA 6020A	763312
10573839002	**PEO-MW-30-202108**	EPA Mod. 3510C	762530	EPA 8270 by SIM	765015
10573839003	**PEO-MW-08-202108**	EPA Mod. 3510C	762530	EPA 8270 by SIM	765015
10573839004	**PEO-MW-41-202108**	EPA Mod. 3510C	762530	EPA 8270 by SIM	765015
10573839005	**PEO-MW-40-202108**	EPA Mod. 3510C	762530	EPA 8270 by SIM	765015
10573839006	**PEO-MW-45-202108**	EPA Mod. 3510C	762530	EPA 8270 by SIM	765015
10573839001	**TRIP BLANK-20210809**	EPA 8260B	763154		
10573839002	**PEO-MW-30-202108**	EPA 8260B	764466		
10573839003	**PEO-MW-08-202108**	EPA 8260B	763154		
10573839004	**PEO-MW-41-202108**	EPA 8260B	763154		
10573839005	**PEO-MW-40-202108**	EPA 8260B	763154		
10573839006	**PEO-MW-45-202108**	EPA 8260B	763154		
10573839002	**PEO-MW-30-202108**	SM 2320B	765009		
10573839003	**PEO-MW-08-202108**	SM 2320B	765009		
10573839004	**PEO-MW-41-202108**	SM 2320B	765009		
10573839005	**PEO-MW-40-202108**	SM 2320B	765009		
10573839006	**PEO-MW-45-202108**	SM 2320B	765009		
10573839002	**PEO-MW-30-202108**	EPA 300.0	762678		
10573839003	**PEO-MW-08-202108**	EPA 300.0	762678		
10573839004	**PEO-MW-41-202108**	EPA 300.0	763764		
10573839005	**PEO-MW-40-202108**	EPA 300.0	763764		
10573839006	**PEO-MW-45-202108**	EPA 300.0	763764		
10573839002	**PEO-MW-30-202108**	EPA 353.2	762554		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10573839

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10573839003	**PEO-MW-08-202108**	EPA 353.2	762554		
10573839004	**PEO-MW-41-202108**	EPA 353.2	762554		
10573839005	**PEO-MW-40-202108**	EPA 353.2	762554		
10573839006	**PEO-MW-45-202108**	EPA 353.2	762554		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	ERM
Address:	1050 SW 6th Ave, Suite 1650
	Portland, OR 97204
Email To:	rita.cooper@erm.com
Phone: 207-329-6320	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Rita Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	0539066

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N Analysis Test	GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210809	GW	G	8/9/21	8:00				6	-	-	-	X	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	
2	PEO-MW-30-202108	GW	G	8/9/21	8:45				19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1		
3	PEO-MW-08-202108	GW	G	8/9/21	10:25				19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1		
4	PEO-MW-41-202108	GW	G	8/9/21	11:55				19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1		
5	PEO-MW-40-202108	GW	G	8/9/21	13:50				19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1		
6	PEO-MW-45-202108	GW	G	8/9/21	15:20				19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1		
7																														
8																														
9																														
10																														
11																														
12																														

DC1
DC2
DC3
DC4
DC5
DC6

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	A. Johnson / ERM	8/9/21	17:00	TJ-PACE	8/10/21	1415

SAMPLE CONDITIONS: * | 4 | 4 | 4

WO# : 10573839

Page 34 of 48 10573839

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 8/9/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*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-Q-020rev.07, 15-Feb-2007

T = 2.9, 1.8, 3.3, 4.7

Pace Analytical®	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#: 10573839

PM: JMT Due Date: 08/24/21
CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 477 PDX 7505 5551 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:_____ **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:** 2.9, 1.8, 3.3, 4.7 °C

Correction Factor: 0.0 **Cooler Temp Corrected w/temp blank:** 2.9, 1.8, 3.3, 4.7 °C

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

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

Date/Initials of Person Examining Contents: 8/10/21 HB

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?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☑ Nitrate ☑ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No		8.
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests? JMB 8/10/21	☒ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other_____	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes	☐ No	☐ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA Coliform, TOC/DOC Oil and Grease, DRO/8015 (Water) and Dioxin/PFAS	☑ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐ ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. **See Exception** ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☑ Yes	☐ No	☐ N/A	
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 318407

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

Person Contacted:_____ Date/Time:_____

Comments/Resolution:_____

Project Manager Review: Julie Bursó **Date:** 8/10/21

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).

Labeled by: HB

Pace Analytical®	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-30	5	2	2	9	N
PEO-mw-8	4	0	5	9	N
PEO mw-40	1	0	8	9	N

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: 10573839
Work Order Number: 2108156

August 25, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 8/11/2021 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

Date: *08/25/2021*

CLIENT: Pace Analytical Minnesota
Project: 10573839
Work Order: 2108156

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108156-001	TRIP BLANK-20210809	08/09/2021 8:00 AM	08/11/2021 10:47 AM
2108156-002	PEO-MW-30-202108	08/09/2021 8:45 AM	08/11/2021 10:47 AM
2108156-003	PEO-MW-08-202108	08/09/2021 10:25 AM	08/11/2021 10:47 AM
2108156-004	PEO-MW-41-202108	08/09/2021 11:55 AM	08/11/2021 10:47 AM
2108156-005	PEO-MW-40-202108	08/09/2021 1:50 PM	08/11/2021 10:47 AM
2108156-006	PEO-MW-45-202108	08/09/2021 3:20 PM	08/11/2021 10:47 AM

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

Original

Case Narrative

WO#: **2108156**

Date: **8/25/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573839

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

Analytical Report

Work Order: **2108156**
Date Reported: **8/25/2021**

CLIENT: Pace Analytical Minnesota
Project: 10573839

Lab ID: 2108156-001 **Collection Date:** 8/9/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210809** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 12:19:40 PM
Surr: 1,4-Difluorobenzene	84.4	65 - 140		%Rec	1	8/17/2021 12:19:40 PM
Surr: Bromofluorobenzene	102	65 - 140		%Rec	1	8/17/2021 12:19:40 PM

Lab ID: 2108156-002 **Collection Date:** 8/9/2021 8:45:00 AM
Client Sample ID: **PEO-MW-30-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	22.7	20.5	J	µg/L	1	8/18/2021 6:19:09 AM
Surr: 1-Chlorooctadecane	71.6	60 - 140		%Rec	1	8/18/2021 6:19:09 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	82.7	12.2		µg/L	1	8/17/2021 1:37:08 PM
Surr: 1,4-Difluorobenzene	91.3	65 - 140		%Rec	1	8/17/2021 1:37:08 PM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/17/2021 1:37:08 PM

CLIENT: Pace Analytical Minnesota
Project: 10573839

Lab ID: 2108156-003 **Collection Date:** 8/9/2021 10:25:00 AM
Client Sample ID: **PEO-MW-08-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.2		µg/L	1	8/18/2021 7:11:51 AM
Surr: 1-Chlorooctadecane	78.8	60 - 140		%Rec	1	8/18/2021 7:11:51 AM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 2:16:00 PM
Surr: 1,4-Difluorobenzene	81.6	65 - 140		%Rec	1	8/17/2021 2:16:00 PM
Surr: Bromofluorobenzene	99.6	65 - 140		%Rec	1	8/17/2021 2:16:00 PM

Lab ID: 2108156-004 **Collection Date:** 8/9/2021 11:55:00 AM
Client Sample ID: **PEO-MW-41-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/21/2021 12:22:23 PM
Surr: 1-Chlorooctadecane	89.0	60 - 140		%Rec	1	8/21/2021 12:22:23 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 2:54:44 PM
Surr: 1,4-Difluorobenzene	81.3	65 - 140		%Rec	1	8/17/2021 2:54:44 PM
Surr: Bromofluorobenzene	97.5	65 - 140		%Rec	1	8/17/2021 2:54:44 PM

CLIENT: Pace Analytical Minnesota
Project: 10573839

Lab ID: 2108156-005 **Collection Date:** 8/9/2021 1:50:00 PM
Client Sample ID: **PEO-MW-40-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	8/21/2021 1:15:15 PM
Surr: 1-Chlorooctadecane	87.0	60 - 140		%Rec	1	8/21/2021 1:15:15 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 4:12:20 PM
Surr: 1,4-Difluorobenzene	84.2	65 - 140		%Rec	1	8/17/2021 4:12:20 PM
Surr: Bromofluorobenzene	104	65 - 140		%Rec	1	8/17/2021 4:12:20 PM

Lab ID: 2108156-006 **Collection Date:** 8/9/2021 3:20:00 PM
Client Sample ID: **PEO-MW-45-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33320		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.5		µg/L	1	8/21/2021 2:07:59 PM
Surr: 1-Chlorooctadecane	89.9	60 - 140		%Rec	1	8/21/2021 2:07:59 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 4:51:15 PM
Surr: 1,4-Difluorobenzene	75.0	65 - 140		%Rec	1	8/17/2021 4:51:15 PM
Surr: Bromofluorobenzene	94.0	65 - 140		%Rec	1	8/17/2021 4:51:15 PM

Work Order: 2108156
CLIENT: Pace Analytical Minnesota
Project: 10573839

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33320**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/11/2021**	RunNo: **69292**
Client ID: **MBLKW**	Batch ID: **33320**		Analysis Date: **8/17/2021**	SeqNo: **1404386**

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	338		397.9		85.0	60	140				

Sample ID: **LCS-33320**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/11/2021**	RunNo: **69292**
Client ID: **LCSW**	Batch ID: **33320**		Analysis Date: **8/17/2021**	SeqNo: **1404387**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	351	39.7	496.7	0	70.7	70	130				
Surr: 1-Chlorooctadecane	336		397.3		84.5	60	140				

Sample ID: **LCSD-33320**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **8/11/2021**	RunNo: **69292**
Client ID: **LCSW02**	Batch ID: **33320**		Analysis Date: **8/17/2021**	SeqNo: **1404962**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	368	39.3	491.0	0	74.9	70	130	351.1	4.62	20	
Surr: 1-Chlorooctadecane	362		392.8		92.2	60	140		0		

Sample ID: **2108116-001BMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/11/2021**	RunNo: **69292**
Client ID: **BATCH**	Batch ID: **33320**		Analysis Date: **8/17/2021**	SeqNo: **1404390**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	379	41.4	518.0	0	73.3	70	130				
Surr: 1-Chlorooctadecane	305		414.4		73.5	60	140				

Work Order: 2108156
CLIENT: Pace Analytical Minnesota
Project: 10573839

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33383**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/17/2021**	RunNo: **69449**
Client ID: **LCSW**	Batch ID: **33383**		Analysis Date: **8/17/2021**	SeqNo: **1407971**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	203	25.0	200.0	0	102	70	130				
Surr: 1,4-Difluorobenzene	48.1		50.00		96.3	65	140				
Surr: Bromofluorobenzene	51.9		50.00		104	65	140				

Sample ID: **MB-33383**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/17/2021**	RunNo: **69449**
Client ID: **MBLKW**	Batch ID: **33383**		Analysis Date: **8/17/2021**	SeqNo: **1407970**

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	40.5		50.00		80.9	65	140				
Surr: Bromofluorobenzene	48.7		50.00		97.4	65	140				

Sample ID: **2108156-004BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/17/2021**	RunNo: **69449**
Client ID: **PEO-MW-41-202108**	Batch ID: **33383**		Analysis Date: **8/17/2021**	SeqNo: **1407964**

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	39.9		50.00		79.8	65	140		0		
Surr: Bromofluorobenzene	48.7		50.00		97.5	65	140		0		

Sample ID: **MB-33383B**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69449**
Client ID: **MBLKW**	Batch ID: **33383**		Analysis Date: **8/24/2021**	SeqNo: **1407984**

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	43.9		50.00		87.8	65	140				
Surr: Bromofluorobenzene	49.5		50.00		99.1	65	140				

Work Order: 2108156
CLIENT: Pace Analytical Minnesota
Project: 10573839

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **2108191-002BMS** SampType: **MS** Units: **µg/L** Prep Date: **8/17/2021** RunNo: **69449**
Client ID: **BATCH** Batch ID: **33383** Analysis Date: **8/24/2021** SeqNo: **1407975**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	193	25.0	200.0	0	96.4	70	130				
Surr: 1,4-Difluorobenzene	52.4		50.00		105	65	140				
Surr: Bromofluorobenzene	51.6		50.00		103	65	140				

Sample ID: **2108191-002BMSD** SampType: **MSD** Units: **µg/L** Prep Date: **8/17/2021** RunNo: **69449**
Client ID: **BATCH** Batch ID: **33383** Analysis Date: **8/24/2021** SeqNo: **1407976**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	185	25.0	200.0	0	92.6	70	130	192.9	4.06	30	
Surr: 1,4-Difluorobenzene	53.7		50.00		107	65	140		0		
Surr: Bromofluorobenzene	52.4		50.00		105	65	140		0		

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108156**
Logged by:	**Clare Griggs**	Date Received:	**8/11/2021 10:47:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	5.7

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

2108156

Chain of Custody

PASI Minnesota Laboratory

Pace Analytical®
www.pacelabs.com

Workorder: 10573839 **Workorder Name:** 0539066 **Results Requested By:** 8/24/2021

Report / Invoice To	Subcontract To
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 Seattle, WA 98103 P.O. 10573839

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	Requested Analysis: NWTPH VPH (Aliphatics C10-C12)	Requested Analysis: NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210809	8/9/2021 08:00	10573839001	Water	2	X		
2	PEO-MW-30-202108	8/9/2021 08:45	10573839002	Water	5	X	X	
3	PEO-MW-08-202108	8/9/2021 10:25	10573839003	Water	5	X	X	
4	PEO-MW-41-202108	8/9/2021 11:55	10573839004	Water	5	X	X	
5	PEO-MW-40-202108	8/9/2021 13:50	10573839005	Water	5	X	X	
6	PEO-MW-45-202108	8/9/2021 15:20	10573839006	Water	5	X	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	8/10/21 1550	[signature]	8/11/21 1047
2				
3				

Comments

Report to MDL, provide EQUIS EDD

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

August 27, 2021

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

RE: Project: 0539066
Pace Project No.: 10574168

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10574168

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, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10574168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10574168001	**TRIP BLANK-20210810**	Water	08/10/21 08:00	08/11/21 17:00
10574168002	**PEO-MW-28-202108**	Water	08/10/21 07:50	08/11/21 17:00
10574168003	**PEO-MW-29-202108**	Water	08/10/21 10:05	08/11/21 17:00
10574168004	**PEO-MW-36-202108**	Water	08/10/21 12:30	08/11/21 17:00
10574168005	**PEO-MW-Z1-202108**	Water	08/10/21 12:35	08/11/21 17:00
10574168006	**PEO-MW-26-202108**	Water	08/10/21 14:40	08/11/21 17:00
10574168007	**PEO-MW-43-202108**	Water	08/10/21 16:15	08/11/21 17:00

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10574168

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10574168001	TRIP BLANK-20210810	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10574168002	PEO-MW-28-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574168003	PEO-MW-29-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574168004	PEO-MW-36-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574168005	PEO-MW-Z1-202108	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10574168

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	AR3	1	PASI-M
10574168006	**PEO-MW-26-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574168007	**PEO-MW-43-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	JNG	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: TRIP BLANK-20210810 **Lab ID: 10574168001** Collected: 08/10/21 08:00 Received: 08/11/21 17:00 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		08/23/21 01:55		
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/23/21 01:55	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 21:10	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 21:10	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 21:10	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 21:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 21:10	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 21:10	2199-69-1	
4-Bromofluorobenzene (S)	96	%.	75-125		1		08/13/21 21:10	460-00-4	
Toluene-d8 (S)	96	%.	75-125		1		08/13/21 21:10	2037-26-5	

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-28-202108 **Lab ID: 10574168002** Collected: 08/10/21 07:50 Received: 08/11/21 17:00 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	0.089	1	08/12/21 15:36	08/18/21 01:31	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.41	0.13	1	08/12/21 15:36	08/18/21 01:31	64742-65-0	
Surrogates									
o-Terphenyl (S)	69	%.	50-150		1	08/12/21 15:36	08/18/21 01:31	84-15-1	
n-Triacontane (S)	64	%.	50-150		1	08/12/21 15:36	08/18/21 01:31		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/22/21 23:12		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/22/21 23:12	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**55300**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:20		
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	08/16/21 14:25	08/18/21 21:39	7440-38-2	
Manganese, Dissolved	**0.71**	ug/L	0.50	0.20	1	08/16/21 14:25	08/18/21 21:39	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/12/21 09:57	08/20/21 19:55	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/12/21 09:57	08/20/21 19:55	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/12/21 09:57	08/20/21 19:55	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/12/21 09:57	08/20/21 19:55	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/12/21 09:57	08/20/21 19:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/12/21 09:57	08/20/21 19:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/12/21 09:57	08/20/21 19:55	191-24-2	M1
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/20/21 19:55	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/12/21 09:57	08/20/21 19:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/12/21 09:57	08/20/21 19:55	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/12/21 09:57	08/20/21 19:55	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/12/21 09:57	08/20/21 19:55	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/12/21 09:57	08/20/21 19:55	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0064	1	08/12/21 09:57	08/20/21 19:55	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/20/21 19:55	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0084	1	08/12/21 09:57	08/20/21 19:55	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/12/21 09:57	08/20/21 19:55	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/12/21 09:57	08/20/21 19:55	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%.	51-125		1	08/12/21 09:57	08/20/21 19:55	321-60-8	
p-Terphenyl-d14 (S)	76	%.	70-125		1	08/12/21 09:57	08/20/21 19:55	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-28-202108 **Lab ID: 10574168002** Collected: 08/10/21 07:50 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 21:26	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 21:26	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 21:26	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 21:26	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 21:26	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%.	70-130		1		08/13/21 21:26	2199-69-1	
4-Bromofluorobenzene (S)	96	%.	75-125		1		08/13/21 21:26	460-00-4	
Toluene-d8 (S)	97	%.	75-125		1		08/13/21 21:26	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**64.7**	mg/L	5.0	1.8	1		08/24/21 12:11		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**5.0**	mg/L	1.2	0.34	1		08/19/21 02:52	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		08/11/21 20:35	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-29-202108 **Lab ID: 10574168003** Collected: 08/10/21 10:05 Received: 08/11/21 17:00 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	**3.6**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 02:04	68334-30-5	
Motor Oil Range SG	**0.20J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 02:04	64742-65-0	
Surrogates									
o-Terphenyl (S)	64	%.	50-150		1	08/12/21 15:36	08/18/21 02:04	84-15-1	
n-Triacontane (S)	60	%.	50-150		1	08/12/21 15:36	08/18/21 02:04		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**3850**	ug/L	500	214	5		08/23/21 05:31		G+,G-
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%.	50-150		5		08/23/21 05:31	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**191000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:31		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**42.6**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:13	7440-38-2	
Manganese, Dissolved	**3390**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 22:17	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**1.5**	ug/L	0.038	0.0066	1	08/12/21 09:57	08/20/21 20:55	83-32-9	
Acenaphthylene	**0.12**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/20/21 20:55	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/12/21 09:57	08/20/21 20:55	120-12-7	
Benzo(a)anthracene	**0.019J**	ug/L	0.038	0.0086	1	08/12/21 09:57	08/20/21 20:55	56-55-3	
Benzo(a)pyrene	**0.0092J**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/20/21 20:55	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/12/21 09:57	08/20/21 20:55	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/12/21 09:57	08/20/21 20:55	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/20/21 20:55	207-08-9	
Chrysene	**0.015J**	ug/L	0.038	0.0090	1	08/12/21 09:57	08/20/21 20:55	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/12/21 09:57	08/20/21 20:55	53-70-3	
Fluoranthene	**0.11**	ug/L	0.038	0.013	1	08/12/21 09:57	08/20/21 20:55	206-44-0	
Fluorene	**1.8**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/20/21 20:55	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/12/21 09:57	08/20/21 20:55	193-39-5	
1-Methylnaphthalene	**1.1**	ug/L	0.038	0.0064	1	08/12/21 09:57	08/20/21 20:55	90-12-0	
2-Methylnaphthalene	**0.18**	ug/L	0.038	0.0079	1	08/12/21 09:57	08/20/21 20:55	91-57-6	
Naphthalene	**2.0**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/20/21 20:55	91-20-3	
Phenanthrene	**0.50**	ug/L	0.038	0.012	1	08/12/21 09:57	08/20/21 20:55	85-01-8	
Pyrene	**0.10**	ug/L	0.038	0.0094	1	08/12/21 09:57	08/20/21 20:55	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	77	%.	51-125		1	08/12/21 09:57	08/20/21 20:55	321-60-8	
p-Terphenyl-d14 (S)	71	%.	70-125		1	08/12/21 09:57	08/20/21 20:55	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-29-202108 **Lab ID: 10574168003** Collected: 08/10/21 10:05 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	**1.3**	ug/L	1.0	0.12	1		08/13/21 21:43	71-43-2	
Ethylbenzene	**1.6**	ug/L	1.0	0.069	1		08/13/21 21:43	100-41-4	
Toluene	**2.4**	ug/L	1.0	0.11	1		08/13/21 21:43	108-88-3	
m&p-Xylene	**6.1**	ug/L	2.0	0.18	1		08/13/21 21:43	179601-23-1	
o-Xylene	**1.0**	ug/L	1.0	0.12	1		08/13/21 21:43	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/13/21 21:43	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/13/21 21:43	460-00-4	
Toluene-d8 (S)	99	%.	75-125		1		08/13/21 21:43	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**244**	mg/L	5.0	1.8	1		08/24/21 12:24		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**0.46J**	mg/L	1.2	0.34	1		08/19/21 03:56	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.030J**	mg/L	0.10	0.018	1		08/11/21 20:39	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-36-202108 **Lab ID: 10574168004** Collected: 08/10/21 12:30 Received: 08/11/21 17:00 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	**2.9**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 02:15	68334-30-5	
Motor Oil Range SG	**0.25J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 02:15	64742-65-0	
Surrogates									
o-Terphenyl (S)	76	%.	50-150		1	08/12/21 15:36	08/18/21 02:15	84-15-1	
n-Triacontane (S)	64	%.	50-150		1	08/12/21 15:36	08/18/21 02:15		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**1120**	ug/L	100	42.8	1		08/22/21 23:39		G+,G-
Surrogates									
a,a,a-Trifluorotoluene (S)	91	%.	50-150		1		08/22/21 23:39	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**110000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:33		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**16.3**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:20	7440-38-2	
Manganese, Dissolved	**1770**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 22:24	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**1.2**	ug/L	0.038	0.0066	1	08/12/21 09:57	08/23/21 17:52	83-32-9	
Acenaphthylene	**0.060**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 17:52	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/12/21 09:57	08/23/21 17:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/12/21 09:57	08/23/21 17:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 17:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/12/21 09:57	08/23/21 17:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/12/21 09:57	08/23/21 17:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 17:52	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/12/21 09:57	08/23/21 17:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/12/21 09:57	08/23/21 17:52	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/12/21 09:57	08/23/21 17:52	206-44-0	
Fluorene	**1.1**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 17:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/12/21 09:57	08/23/21 17:52	193-39-5	
1-Methylnaphthalene	**0.30**	ug/L	0.038	0.0064	1	08/12/21 09:57	08/23/21 17:52	90-12-0	
2-Methylnaphthalene	**0.048**	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 17:52	91-57-6	
Naphthalene	**0.66**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 17:52	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/12/21 09:57	08/23/21 17:52	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/12/21 09:57	08/23/21 17:52	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	77	%.	51-125		1	08/12/21 09:57	08/23/21 17:52	321-60-8	
p-Terphenyl-d14 (S)	78	%.	70-125		1	08/12/21 09:57	08/23/21 17:52	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-36-202108 **Lab ID: 10574168004** Collected: 08/10/21 12:30 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	**1.7**	ug/L	1.0	0.12	1		08/13/21 22:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 22:00	100-41-4	
Toluene	**0.37J**	ug/L	1.0	0.11	1		08/13/21 22:00	108-88-3	
m&p-Xylene	**0.43J**	ug/L	2.0	0.18	1		08/13/21 22:00	179601-23-1	
o-Xylene	**0.34J**	ug/L	1.0	0.12	1		08/13/21 22:00	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%.	70-130		1		08/13/21 22:00	2199-69-1	
4-Bromofluorobenzene (S)	99	%.	75-125		1		08/13/21 22:00	460-00-4	
Toluene-d8 (S)	97	%.	75-125		1		08/13/21 22:00	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**96.0**	mg/L	5.0	1.8	1		08/24/21 12:31		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**47.9**	mg/L	1.2	0.34	1		08/19/21 04:12	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		08/11/21 20:40	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-Z1-202108 **Lab ID: 10574168005** Collected: 08/10/21 12:35 Received: 08/11/21 17:00 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	**3.2**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 02:26	68334-30-5	
Motor Oil Range SG	**0.34J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 02:26	64742-65-0	
Surrogates									
o-Terphenyl (S)	64	%.	50-150		1	08/12/21 15:36	08/18/21 02:26	84-15-1	
n-Triacontane (S)	64	%.	50-150		1	08/12/21 15:36	08/18/21 02:26		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**788**	ug/L	100	42.8	1		08/23/21 05:04		G+,G-, HS
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/23/21 05:04	98-08-8	
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	08/16/21 14:01	08/24/21 11:35		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**15.6**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:27	7440-38-2	
Manganese, Dissolved	**1820**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 22:31	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**1.3**	ug/L	0.038	0.0066	1	08/12/21 09:57	08/23/21 18:12	83-32-9	
Acenaphthylene	**0.081**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 18:12	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/12/21 09:57	08/23/21 18:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/12/21 09:57	08/23/21 18:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 18:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/12/21 09:57	08/23/21 18:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/12/21 09:57	08/23/21 18:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 18:12	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/12/21 09:57	08/23/21 18:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/12/21 09:57	08/23/21 18:12	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/12/21 09:57	08/23/21 18:12	206-44-0	
Fluorene	**1.4**	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 18:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/12/21 09:57	08/23/21 18:12	193-39-5	
1-Methylnaphthalene	**0.35**	ug/L	0.038	0.0064	1	08/12/21 09:57	08/23/21 18:12	90-12-0	
2-Methylnaphthalene	**0.047**	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 18:12	91-57-6	
Naphthalene	**0.90**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 18:12	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/12/21 09:57	08/23/21 18:12	85-01-8	
Pyrene	**0.046**	ug/L	0.038	0.0094	1	08/12/21 09:57	08/23/21 18:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%.	51-125		1	08/12/21 09:57	08/23/21 18:12	321-60-8	
p-Terphenyl-d14 (S)	75	%.	70-125		1	08/12/21 09:57	08/23/21 18:12	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-Z1-202108 **Lab ID: 10574168005** Collected: 08/10/21 12:35 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**2.0**	ug/L	1.0	0.12	1		08/13/21 22:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 22:17	100-41-4	
Toluene	**0.39J**	ug/L	1.0	0.11	1		08/13/21 22:17	108-88-3	
m&p-Xylene	**0.47J**	ug/L	2.0	0.18	1		08/13/21 22:17	179601-23-1	
o-Xylene	**0.33J**	ug/L	1.0	0.12	1		08/13/21 22:17	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/13/21 22:17	2199-69-1	
4-Bromofluorobenzene (S)	98	%.	75-125		1		08/13/21 22:17	460-00-4	
Toluene-d8 (S)	97	%.	75-125		1		08/13/21 22:17	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**105**	mg/L	5.0	1.8	1		08/24/21 12:36		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**38.7**	mg/L	1.2	0.34	1		08/19/21 04:29	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis								
Nitrate as N	**0.020J**	mg/L	0.10	0.018	1		08/11/21 20:41	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-26-202108 **Lab ID: 10574168006** Collected: 08/10/21 14:40 Received: 08/11/21 17:00 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	**4.0**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 02:37	68334-30-5	
Motor Oil Range SG	**0.29J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 02:37	64742-65-0	
Surrogates									
o-Terphenyl (S)	60	%.	50-150		1	08/12/21 15:36	08/18/21 02:37	84-15-1	
n-Triacontane (S)	59	%.	50-150		1	08/12/21 15:36	08/18/21 02:37		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/23/21 03:16		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/23/21 03:16	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**31300**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:36		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**1.4**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:34	7440-38-2	
Manganese, Dissolved	**98.2**	ug/L	0.50	0.20	1	08/16/21 14:25	08/18/21 22:34	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.0072J**	ug/L	0.040	0.0069	1	08/12/21 09:57	08/23/21 18:33	83-32-9	
Acenaphthylene	ND	ug/L	0.040	0.0061	1	08/12/21 09:57	08/23/21 18:33	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	08/12/21 09:57	08/23/21 18:33	120-12-7	
Benzo(a)anthracene	**0.014J**	ug/L	0.040	0.0090	1	08/12/21 09:57	08/23/21 18:33	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.040	0.0088	1	08/12/21 09:57	08/23/21 18:33	50-32-8	
Benzo(b)fluoranthene	**0.016J**	ug/L	0.040	0.0095	1	08/12/21 09:57	08/23/21 18:33	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.040	0.0081	1	08/12/21 09:57	08/23/21 18:33	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.040	0.0083	1	08/12/21 09:57	08/23/21 18:33	207-08-9	
Chrysene	ND	ug/L	0.040	0.0094	1	08/12/21 09:57	08/23/21 18:33	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	08/12/21 09:57	08/23/21 18:33	53-70-3	
Fluoranthene	**0.024J**	ug/L	0.040	0.014	1	08/12/21 09:57	08/23/21 18:33	206-44-0	
Fluorene	**0.0084J**	ug/L	0.040	0.0060	1	08/12/21 09:57	08/23/21 18:33	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.040	0.011	1	08/12/21 09:57	08/23/21 18:33	193-39-5	
1-Methylnaphthalene	**0.0089J**	ug/L	0.040	0.0067	1	08/12/21 09:57	08/23/21 18:33	90-12-0	
2-Methylnaphthalene	**0.010J**	ug/L	0.040	0.0083	1	08/12/21 09:57	08/23/21 18:33	91-57-6	
Naphthalene	**0.014J**	ug/L	0.040	0.0088	1	08/12/21 09:57	08/23/21 18:33	91-20-3	
Phenanthrene	**0.013J**	ug/L	0.040	0.012	1	08/12/21 09:57	08/23/21 18:33	85-01-8	
Pyrene	**0.032J**	ug/L	0.040	0.0099	1	08/12/21 09:57	08/23/21 18:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%.	51-125		1	08/12/21 09:57	08/23/21 18:33	321-60-8	
p-Terphenyl-d14 (S)	80	%.	70-125		1	08/12/21 09:57	08/23/21 18:33	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-26-202108 **Lab ID: 10574168006** Collected: 08/10/21 14:40 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/13/21 22:34	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/13/21 22:34	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/13/21 22:34	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/13/21 22:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/13/21 22:34	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%.	70-130		1		08/13/21 22:34	2199-69-1	
4-Bromofluorobenzene (S)	97	%.	75-125		1		08/13/21 22:34	460-00-4	
Toluene-d8 (S)	96	%.	75-125		1		08/13/21 22:34	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**24.5**	mg/L	5.0	1.8	1		08/24/21 12:41		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**23.3**	mg/L	1.2	0.34	1		08/19/21 04:45	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.14**	mg/L	0.10	0.018	1		08/11/21 20:42	14797-55-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-43-202108 **Lab ID: 10574168007** Collected: 08/10/21 16:15 Received: 08/11/21 17:00 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	**4.3**	mg/L	0.40	0.088	1	08/12/21 15:36	08/18/21 02:48	68334-30-5	
Motor Oil Range SG	**0.28J**	mg/L	0.40	0.12	1	08/12/21 15:36	08/18/21 02:48	64742-65-0	
Surrogates									
o-Terphenyl (S)	55	%.	50-150		1	08/12/21 15:36	08/18/21 02:48	84-15-1	
n-Triacontane (S)	55	%.	50-150		1	08/12/21 15:36	08/18/21 02:48		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**2840**	ug/L	500	214	5		08/23/21 06:25		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		5		08/23/21 06:25	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**93300**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:38		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**29.6**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:41	7440-38-2	
Manganese, Dissolved	**1840**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 22:44	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/12/21 09:57	08/23/21 18:53	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 18:53	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/12/21 09:57	08/23/21 18:53	120-12-7	
Benzo(a)anthracene	**0.021J**	ug/L	0.038	0.0086	1	08/12/21 09:57	08/23/21 18:53	56-55-3	
Benzo(a)pyrene	**0.029J**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 18:53	50-32-8	
Benzo(b)fluoranthene	**0.030J**	ug/L	0.038	0.0091	1	08/12/21 09:57	08/23/21 18:53	205-99-2	
Benzo(g,h,i)perylene	**0.015J**	ug/L	0.038	0.0077	1	08/12/21 09:57	08/23/21 18:53	191-24-2	
Benzo(k)fluoranthene	**0.010J**	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 18:53	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/12/21 09:57	08/23/21 18:53	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/12/21 09:57	08/23/21 18:53	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/12/21 09:57	08/23/21 18:53	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/12/21 09:57	08/23/21 18:53	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.015J**	ug/L	0.038	0.011	1	08/12/21 09:57	08/23/21 18:53	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0064	1	08/12/21 09:57	08/23/21 18:53	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/12/21 09:57	08/23/21 18:53	91-57-6	
Naphthalene	**0.36**	ug/L	0.038	0.0084	1	08/12/21 09:57	08/23/21 18:53	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/12/21 09:57	08/23/21 18:53	85-01-8	
Pyrene	**0.14**	ug/L	0.038	0.0094	1	08/12/21 09:57	08/23/21 18:53	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	71	%.	51-125		1	08/12/21 09:57	08/23/21 18:53	321-60-8	
p-Terphenyl-d14 (S)	63	%.	70-125		1	08/12/21 09:57	08/23/21 18:53	1718-51-0	S5

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574168

Sample: PEO-MW-43-202108 **Lab ID: 10574168007** Collected: 08/10/21 16:15 Received: 08/11/21 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	**1.4**	ug/L	1.0	0.12	1		08/13/21 22:51	71-43-2	
Ethylbenzene	**0.68J**	ug/L	1.0	0.069	1		08/13/21 22:51	100-41-4	
Toluene	**1.0**	ug/L	1.0	0.11	1		08/13/21 22:51	108-88-3	
m&p-Xylene	**4.6**	ug/L	2.0	0.18	1		08/13/21 22:51	179601-23-1	
o-Xylene	**0.85J**	ug/L	1.0	0.12	1		08/13/21 22:51	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/13/21 22:51	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/13/21 22:51	460-00-4	
Toluene-d8 (S)	98	%.	75-125		1		08/13/21 22:51	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**132**	mg/L	5.0	1.8	1		08/24/21 12:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**2.0**	mg/L	1.2	0.34	1		08/19/21 05:01	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.027J**	mg/L	0.10	0.018	1		08/11/21 20:43	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 765010 — Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx — Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168001, 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4077759 Matrix: Water
Associated Lab Samples: 10574168001, 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/22/21 19:35	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/22/21 19:35	

METHOD BLANK: 4077760 Matrix: Water
Associated Lab Samples: 10574168001, 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/23/21 01:27	
a,a,a-Trifluorotoluene (S)	%.	98	50-150		08/23/21 01:27	

LABORATORY CONTROL SAMPLE & LCSD: 4077761 4077762

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	945	968	94	97	75-127	2	20	
a,a,a-Trifluorotoluene (S)	%.				100	100	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4077763 4077764

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	1000	1000	1110	965	111	96	71-139	14	30	
a,a,a-Trifluorotoluene (S)	%.						101	99	50-150			

SAMPLE DUPLICATE: 4077801

Parameter	Units	10573839003 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	HS
a,a,a-Trifluorotoluene (S)	%.	97	97			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

SAMPLE DUPLICATE: 4077802

Parameter	Units	10574278002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	113	107	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	91	96			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 763560
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4071372 Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/18/21 21:32	
Manganese, Dissolved	ug/L	ND	0.50	0.20	08/18/21 21:32	

LABORATORY CONTROL SAMPLE: 4071373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	98.3	98	80-120	
Manganese, Dissolved	ug/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4071374 4071375

Parameter	Units	10574168002 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	0.13J	100	100	99.0	97.9	99	98	75-125	1	20	
Manganese, Dissolved	ug/L	0.71	100	100	101	101	100	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 763408
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168001, 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4069983 Matrix: Water
Associated Lab Samples: 10574168001, 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/13/21 20:53	
Ethylbenzene	ug/L	ND	1.0	0.069	08/13/21 20:53	
m&p-Xylene	ug/L	ND	2.0	0.18	08/13/21 20:53	
o-Xylene	ug/L	ND	1.0	0.12	08/13/21 20:53	
Toluene	ug/L	ND	1.0	0.11	08/13/21 20:53	
1,2-Dichlorobenzene-d4 (S)	%.	100	70-130		08/13/21 20:53	
4-Bromofluorobenzene (S)	%.	96	75-125		08/13/21 20:53	
Toluene-d8 (S)	%.	96	75-125		08/13/21 20:53	

LABORATORY CONTROL SAMPLE & LCSD: 4069984 4069986

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	18.9	17.8	94	89	73-125	6	20	
Ethylbenzene	ug/L	20	20.7	19.5	104	97	75-125	6	20	
m&p-Xylene	ug/L	40	42.1	39.9	105	100	75-125	5	20	
o-Xylene	ug/L	20	21.9	20.8	109	104	75-125	5	20	
Toluene	ug/L	20	18.5	17.5	92	87	75-125	6	20	
1,2-Dichlorobenzene-d4 (S)	%.				98	98	70-130			
4-Bromofluorobenzene (S)	%.				99	100	75-125			
Toluene-d8 (S)	%.				94	96	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4069987 4069988

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	17.9	19.6	89	98	60-125	9	30	
Ethylbenzene	ug/L	ND	20	20	19.5	21.1	97	105	61-125	8	30	
m&p-Xylene	ug/L	ND	40	40	40.4	43.1	101	108	62-125	6	30	
o-Xylene	ug/L	ND	20	20	20.4	21.7	102	109	60-127	6	30	
Toluene	ug/L	ND	20	20	17.2	19.1	86	95	61-125	11	30	
1,2-Dichlorobenzene-d4 (S)	%.						98	99	70-130			
4-Bromofluorobenzene (S)	%.						98	99	75-125			
Toluene-d8 (S)	%.						95	97	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 762997
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4067860 Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/20/21 10:31	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/20/21 10:31	
Acenaphthene	ug/L	ND	0.040	0.0069	08/20/21 10:31	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/20/21 10:31	
Anthracene	ug/L	ND	0.040	0.0054	08/20/21 10:31	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/20/21 10:31	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/20/21 10:31	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/20/21 10:31	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/20/21 10:31	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/20/21 10:31	
Chrysene	ug/L	ND	0.040	0.0094	08/20/21 10:31	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/20/21 10:31	
Fluoranthene	ug/L	ND	0.040	0.014	08/20/21 10:31	
Fluorene	ug/L	ND	0.040	0.0060	08/20/21 10:31	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/20/21 10:31	
Naphthalene	ug/L	ND	0.040	0.0088	08/20/21 10:31	
Phenanthrene	ug/L	ND	0.040	0.012	08/20/21 10:31	
Pyrene	ug/L	ND	0.040	0.0099	08/20/21 10:31	
2-Fluorobiphenyl (S)	%.	76	51-125		08/20/21 10:31	
p-Terphenyl-d14 (S)	%.	79	70-125		08/20/21 10:31	

LABORATORY CONTROL SAMPLE: 4067861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	1	0.81	81	34-125	
2-Methylnaphthalene	ug/L	1	0.71	71	34-125	
Acenaphthene	ug/L	1	0.73	73	35-125	
Acenaphthylene	ug/L	1	0.72	72	33-125	
Anthracene	ug/L	1	0.84	84	42-125	
Benzo(a)anthracene	ug/L	1	0.85	85	46-125	
Benzo(a)pyrene	ug/L	1	0.86	86	57-125	
Benzo(b)fluoranthene	ug/L	1	0.90	90	58-125	
Benzo(g,h,i)perylene	ug/L	1	0.75	75	55-125	
Benzo(k)fluoranthene	ug/L	1	0.93	93	55-125	
Chrysene	ug/L	1	0.89	89	56-125	
Dibenz(a,h)anthracene	ug/L	1	0.81	81	40-125	
Fluoranthene	ug/L	1	0.98	98	64-125	
Fluorene	ug/L	1	0.85	85	43-125	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.78	78	57-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

LABORATORY CONTROL SAMPLE: 4067861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	1	0.70	70	30-125	
Phenanthrene	ug/L	1	0.74	74	47-125	
Pyrene	ug/L	1	0.80	80	46-125	
2-Fluorobiphenyl (S)	%.			67	51-125	
p-Terphenyl-d14 (S)	%.			81	70-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4067862 4067863

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	ND	0.97	0.96	0.92	0.87	94	90	30-150	6	30	
2-Methylnaphthalene	ug/L	ND	0.97	0.96	0.77	0.71	79	74	30-150	7	30	
Acenaphthene	ug/L	ND	0.97	0.96	0.77	0.75	79	78	30-125	3	30	
Acenaphthylene	ug/L	ND	0.97	0.96	0.73	0.74	76	77	30-125	1	30	
Anthracene	ug/L	ND	0.97	0.96	0.88	0.87	90	90	42-125	1	30	
Benzo(a)anthracene	ug/L	ND	0.97	0.96	0.76	0.81	78	84	46-125	7	30	
Benzo(a)pyrene	ug/L	ND	0.97	0.96	0.85	0.88	87	91	53-125	3	30	
Benzo(b)fluoranthene	ug/L	ND	0.97	0.96	0.89	0.92	92	95	54-125	3	30	
Benzo(g,h,i)perylene	ug/L	ND	0.97	0.96	0.50	0.49	51	51	55-125	1	30	M1
Benzo(k)fluoranthene	ug/L	ND	0.97	0.96	0.95	0.98	98	102	55-125	3	30	
Chrysene	ug/L	ND	0.97	0.96	0.87	0.88	90	91	52-125	1	30	
Dibenz(a,h)anthracene	ug/L	ND	0.97	0.96	0.55	0.53	57	56	40-125	3	30	
Fluoranthene	ug/L	ND	0.97	0.96	0.96	0.97	99	100	61-125	1	30	
Fluorene	ug/L	ND	0.97	0.96	0.88	0.86	90	89	43-125	2	30	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.97	0.96	0.59	0.60	61	62	54-125	0	30	
Naphthalene	ug/L	ND	0.97	0.96	0.79	0.75	81	78	30-125	5	30	
Phenanthrene	ug/L	ND	0.97	0.96	0.86	0.73	88	75	44-125	16	30	
Pyrene	ug/L	ND	0.97	0.96	0.80	0.78	82	81	46-125	2	30	
2-Fluorobiphenyl (S)	%.						70	73	51-125			
p-Terphenyl-d14 (S)	%.						75	77	70-125			

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 763054 | 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: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4068272 Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/18/21 01:09	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/18/21 01:09	
n-Triacontane (S)	%.	51	50-150		08/18/21 01:09	
o-Terphenyl (S)	%.	64	50-150		08/18/21 01:09	

LABORATORY CONTROL SAMPLE: 4068273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.4	70	50-150	
Motor Oil Range SG	mg/L	2	1.5	73	50-150	
n-Triacontane (S)	%.			55	50-150	
o-Terphenyl (S)	%.			71	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4068274 4068275

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range SG	mg/L	ND	2	2	1.0	1.2	50	58	50-150	14	30	
Motor Oil Range SG	mg/L	ND	2	2	1.1	1.3	54	63	50-150	14	30	
n-Triacontane (S)	%.						51	62	50-150			
o-Terphenyl (S)	%.						60	68	50-150			

SAMPLE DUPLICATE: 4068704

Parameter	Units	10574168007 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	4.3	0.10J		30	
Motor Oil Range SG	mg/L	0.28J	ND		30	
n-Triacontane (S)	%.	55	53			
o-Terphenyl (S)	%.	55	53			

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 765636 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4080606 Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/24/21 11:19	

LABORATORY CONTROL SAMPLE & LCSD: 4080607 4080608

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	42.0	42.0	105	105	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4080609 4080610

Parameter	Units	10574214002 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	55.3	40	40	95.7	95.7	101	101	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4080611 4080612

Parameter	Units	10574168002 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	64.7	40	40	105	105	101	101	80-120	0	20	

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 763764 — 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: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4072104 — Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/18/21 20:12	

LABORATORY CONTROL SAMPLE: 4072105

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: 4072106 — 4072107

Parameter	Units	10573839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1.9	50	50	50.5	51.5	97	99	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072108 — 4072109

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	5.0	50	50	54.1	54.8	98	100	80-120	1	20	

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QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574168

QC Batch: 762936
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

METHOD BLANK: 4067718 Matrix: Water
Associated Lab Samples: 10574168002, 10574168003, 10574168004, 10574168005, 10574168006, 10574168007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/11/21 20:44	FS

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10574168

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.

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 10574168

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

FS	The sample was filtered in the laboratory prior to analysis.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10574168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574168002	**PEO-MW-28-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168003	**PEO-MW-29-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168004	**PEO-MW-36-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168005	**PEO-MW-Z1-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168006	**PEO-MW-26-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168007	**PEO-MW-43-202108**	EPA Mod. 3510C	763054	NWTPH-Dx	764200
10574168001	**TRIP BLANK-20210810**	NWTPH-Gx	765010		
10574168002	**PEO-MW-28-202108**	NWTPH-Gx	765010		
10574168003	**PEO-MW-29-202108**	NWTPH-Gx	765010		
10574168004	**PEO-MW-36-202108**	NWTPH-Gx	765010		
10574168005	**PEO-MW-Z1-202108**	NWTPH-Gx	765010		
10574168006	**PEO-MW-26-202108**	NWTPH-Gx	765010		
10574168007	**PEO-MW-43-202108**	NWTPH-Gx	765010		
10574168002	**PEO-MW-28-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168003	**PEO-MW-29-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168004	**PEO-MW-36-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168005	**PEO-MW-Z1-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168006	**PEO-MW-26-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168007	**PEO-MW-43-202108**	EPA 3010A	763561	EPA 6010D	763867
10574168002	**PEO-MW-28-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168003	**PEO-MW-29-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168004	**PEO-MW-36-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168005	**PEO-MW-Z1-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168006	**PEO-MW-26-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168007	**PEO-MW-43-202108**	EPA 3020A	763560	EPA 6020A	763850
10574168002	**PEO-MW-28-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168003	**PEO-MW-29-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168004	**PEO-MW-36-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168005	**PEO-MW-Z1-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168006	**PEO-MW-26-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168007	**PEO-MW-43-202108**	EPA Mod. 3510C	762997	EPA 8270 by SIM	764754
10574168001	**TRIP BLANK-20210810**	EPA 8260B	763408		
10574168002	**PEO-MW-28-202108**	EPA 8260B	763408		
10574168003	**PEO-MW-29-202108**	EPA 8260B	763408		
10574168004	**PEO-MW-36-202108**	EPA 8260B	763408		
10574168005	**PEO-MW-Z1-202108**	EPA 8260B	763408		
10574168006	**PEO-MW-26-202108**	EPA 8260B	763408		
10574168007	**PEO-MW-43-202108**	EPA 8260B	763408		
10574168002	**PEO-MW-28-202108**	SM 2320B	765636		
10574168003	**PEO-MW-29-202108**	SM 2320B	765636		
10574168004	**PEO-MW-36-202108**	SM 2320B	765636		
10574168005	**PEO-MW-Z1-202108**	SM 2320B	765636		
10574168006	**PEO-MW-26-202108**	SM 2320B	765636		
10574168007	**PEO-MW-43-202108**	SM 2320B	765636		
10574168002	**PEO-MW-28-202108**	EPA 300.0	763764		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10574168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574168003	**PEO-MW-29-202108**	EPA 300.0	763764		
10574168004	**PEO-MW-36-202108**	EPA 300.0	763764		
10574168005	**PEO-MW-Z1-202108**	EPA 300.0	763764		
10574168006	**PEO-MW-26-202108**	EPA 300.0	763764		
10574168007	**PEO-MW-43-202108**	EPA 300.0	763764		
10574168002	**PEO-MW-28-202108**	EPA 353.2	762936		
10574168003	**PEO-MW-29-202108**	EPA 353.2	762936		
10574168004	**PEO-MW-36-202108**	EPA 353.2	762936		
10574168005	**PEO-MW-Z1-202108**	EPA 353.2	762936		
10574168006	**PEO-MW-26-202108**	EPA 353.2	762936		
10574168007	**PEO-MW-43-202108**	EPA 353.2	762936		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Doc

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

WO# : 10574168

10574168

Section A Required Client Information:

Company:	ERM
Address:	1050 SW 6th Ave, Suite 1650
	Portland, OR 97204
Email To:	rita.cooper@erm.com
Phone: 207-329-6320	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Rita Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	0539066

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210809	GW	G	8/10/21	8:00				6	-	-	-	X	-	-	-	-		3	3	3	-	-	-	-	-	-	-	-	
2	PEO-MW-28-202108	GW	G	8/10/21	7:50				57	X	X	X	X	-	-	-	-		9	9	9	6	3	X	6	6	3	3	X	3	MS/MSD
3	PEO-MW-29-202108	GW	G	8/10/21	10:05				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
4	PEO-MW-36-202108	GW	G	8/10/21	12:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
5	PEO-MW-Z1-202108	GW	G	8/10/21	12:35				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
6	PEO-MW-26-202108	GW	G	8/10/21	14:40				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
7	PEO-MW-43-202108	GW	G	8/10/21	16:15				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
8																														
9																														
10																														
11																														
12																														

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	A. Johnson / ERM	8/10/21	17:00		8/11/21	1700	*	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 8/10/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

* 13.7, 14.6, 17.1, 14.8, 11.6, 13.2

*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.

Pace Analytical	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#: 10574168

PM: JMT Due Date: 08/25/21

CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: 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: _____ **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:** 13.7, 14.5, 17.0, 14.8, 11.6 °C 13.1

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

Correction Factor: 0.1 **Cooler Temp Corrected w/temp blank:** 13.8, 14.6, 17.1, 14.8, 11.6, 13.2 °C

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

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

Date/Initials of Person Examining Contents: KB 8/11/21

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?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No		8.
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests? JMB 8/12/21	☒ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** See Exception ☐ ENV-FRM-MIN4-0142
Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other _____				KB 8/11/21
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	12. Sample # ~~001-006~~
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes	☐ No	☐ N/A	☐ NaOH 001 3/3 ☒ HNO_3 002-005 2/2 ☑ H_2SO_4 001 3/3 002-005 2/2 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** See Exception ☐ ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll 221419 | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. See Exception ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☐ N/A	
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 318407

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

Person Contacted: Joe Casey Date/Time: 8/11/21

Comments/Resolution: emailed to notify coolers were received out of temp, OK to proceed with analysis.

Project Manager Review: Julia Busse **Date:** 8/12/21

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: KB

SCUR Exceptions: **Workorder #:**

Air Way bill # ~~Out of Temp Sample IDs~~	Container Type	# of Containers
027PDX750S6144	box 1	~~13.~~ KD38/11/21
	box 2	
	box 3	
	box 4	
	box 5	
	box 6	

PM Notified? ☒ Yes ☐ No

If yes, indicate who was contacted/date/time. If no, indicate reason why.

JMT 8/11/21 ~~AH~~ 1719

Multiple Cooler Project? ☐ Yes ☐ No

If you answered yes, fill out information to the left. KD38/11/21

No Temp Blank

Read Temp	Corrected Temp	Average Temp

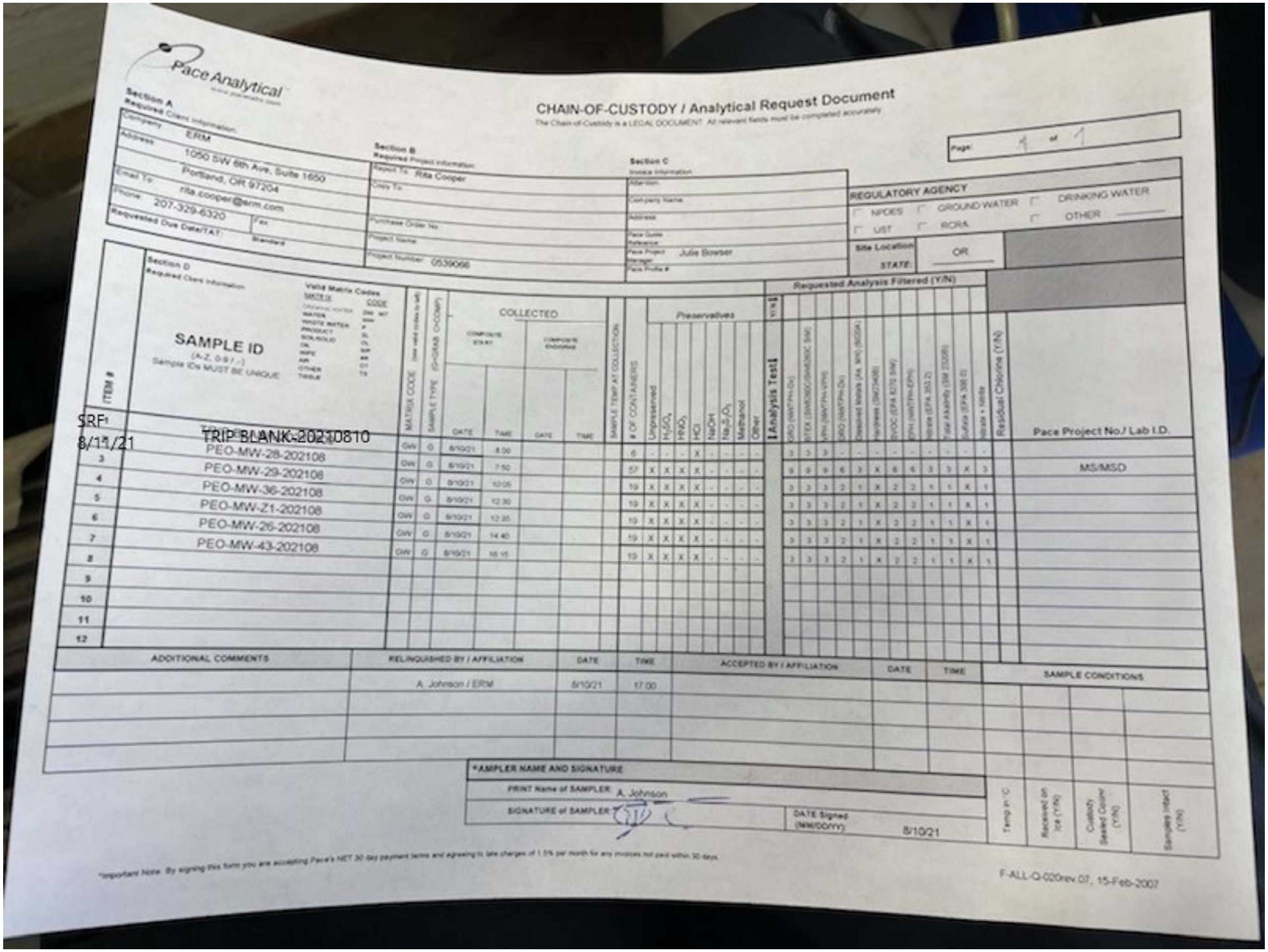
Tracking Number/Temperature

Issue Type: **Sample ID**	**Container Type**	**# of Containers**

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:



Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:
Company: ERM
Address: 1050 SW 6th Ave, Suite 1650, Portland, OR 97204
Email To: rita.cooper@erm.com
Phone: 207-329-6320 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:
Report To: Rita Cooper
Copy To:
Purchase Order No.:
Project Name:
Project Number: 0539066

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Julie Bowser
Pace Profile #:

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER
Site Location STATE: OR

Section D Required Client Information

Requested Analysis Filtered (Y/N)

Analysis columns: GRO (NWTPH-Gx); BTEX (SW8260/SW8260C SIM); VPH (NWTPH-VPH); DRO (NWTPH-Dx); Dissolved Metals (As, Mn) (6020A); Hardness (SM2340B); SVOC (EPA 8270 SIM); EPH (NWTPH-EPH); Nitrate (EPA 353.2); Total Alkalinity (SM 2320B); Sulfate (EPA 300.0); Nitrate + Nitrite

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	DATE	TIME	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	GRO	BTEX	VPH	DRO	Diss. Metals	Hardness	SVOC	EPH	Nitrate	Total Alkalinity	Sulfate	Nitrate + Nitrite	Pace Project No./Lab I.D.
SRF 8/11/21	TRIP BLANK-20210810	GW	G	8/10/21	8:00	6	-	-	-	X	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	
3	PEO-MW-28-202108	GW	G	8/10/21	7:50	57	X	X	X	X	-	-	-	-	9	9	9	6	3	X	6	6	3	3	X	3	MS/MSD
4	PEO-MW-29-202108	GW	G	8/10/21	10:05	19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1	
5	PEO-MW-36-202108	GW	G	8/10/21	12:30	19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1	
6	PEO-MW-Z1-202108	GW	G	8/10/21	12:35	19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1	
7	PEO-MW-26-202108	GW	G	8/10/21	14:40	19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1	
8	PEO-MW-43-202108	GW	G	8/10/21	16:15	19	X	X	X	X	-	-	-	-	3	3	3	2	1	X	2	2	1	1	X	1	
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	A. Johnson / ERM	8/10/21	17:00				

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: A. Johnson
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 8/10/21

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*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-Q-020rev.07, 15-Feb-2007

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: 10574168
Work Order Number: 2108191

August 27, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 7 sample(s) on 8/13/2021 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: *08/27/2021*

CLIENT: Pace Analytical Minnesota
Project: 10574168
Work Order: 2108191

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108191-001	TRIP BLANK-20210810	08/10/2021 8:00 AM	08/13/2021 10:09 AM
2108191-002	PEO-MW-28-202108	08/10/2021 7:50 AM	08/13/2021 10:09 AM
2108191-003	PEO-MW-29-202108	08/10/2021 10:05 AM	08/13/2021 10:09 AM
2108191-004	PEO-MW-36-202108	08/10/2021 12:30 PM	08/13/2021 10:09 AM
2108191-005	PEO-MW-Z1-202108	08/10/2021 12:35 PM	08/13/2021 10:09 AM
2108191-006	PEO-MW-26-202108	08/10/2021 2:40 PM	08/13/2021 10:09 AM
2108191-007	PEO-MW-43-202108	08/10/2021 4:15 PM	08/13/2021 10:09 AM

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

Original

Case Narrative

WO#: **2108191**
Date: **8/27/2021**

CLIENT: Pace Analytical Minnesota
Project: 10574168

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

Analytical Report

Work Order: **2108191**
Date Reported: **8/27/2021**

CLIENT: Pace Analytical Minnesota
Project: 10574168

Lab ID: 2108191-001 **Collection Date:** 8/10/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210810** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/17/2021 12:58:27 PM
Surr: 1,4-Difluorobenzene	81.1	65 - 140		%Rec	1	8/17/2021 12:58:27 PM
Surr: Bromofluorobenzene	99.7	65 - 140		%Rec	1	8/17/2021 12:58:27 PM

Lab ID: 2108191-002 **Collection Date:** 8/10/2021 7:50:00 AM
Client Sample ID: **PEO-MW-28-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/24/2021 2:45:29 PM
Surr: 1-Chlorooctadecane	73.7	60 - 140		%Rec	1	8/24/2021 2:45:29 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 3:27:43 AM
Surr: 1,4-Difluorobenzene	88.5	65 - 140		%Rec	1	8/24/2021 3:27:43 AM
Surr: Bromofluorobenzene	99.8	65 - 140		%Rec	1	8/24/2021 3:27:43 AM

CLIENT: Pace Analytical Minnesota
Project: 10574168

Lab ID: 2108191-003 **Collection Date:** 8/10/2021 10:05:00 AM
Client Sample ID: **PEO-MW-29-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	79.0	20.7		µg/L	1	8/25/2021 7:11:07 PM
Surr: 1-Chlorooctadecane	60.0	60 - 140		%Rec	1	8/25/2021 7:11:07 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	253	12.2		µg/L	1	8/24/2021 4:06:33 AM
Surr: 1,4-Difluorobenzene	101	65 - 140		%Rec	1	8/24/2021 4:06:33 AM
Surr: Bromofluorobenzene	104	65 - 140		%Rec	1	8/24/2021 4:06:33 AM

Lab ID: 2108191-004 **Collection Date:** 8/10/2021 12:30:00 PM
Client Sample ID: **PEO-MW-36-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	237	20.3		µg/L	1	8/25/2021 8:04:15 PM
Surr: 1-Chlorooctadecane	60.1	60 - 140		%Rec	1	8/25/2021 8:04:15 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	34.4	12.2		µg/L	1	8/24/2021 4:45:22 AM
Surr: 1,4-Difluorobenzene	95.4	65 - 140		%Rec	1	8/24/2021 4:45:22 AM
Surr: Bromofluorobenzene	98.8	65 - 140		%Rec	1	8/24/2021 4:45:22 AM

CLIENT: Pace Analytical Minnesota
Project: 10574168

Lab ID: 2108191-005 **Collection Date:** 8/10/2021 12:35:00 PM
Client Sample ID: **PEO-MW-Z1-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	33.6	20.6	J	µg/L	1	8/24/2021 7:11:46 PM
Surr: 1-Chlorooctadecane	72.7	60 - 140		%Rec	1	8/24/2021 7:11:46 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	61.3	12.2		µg/L	1	8/24/2021 5:24:14 AM
Surr: 1,4-Difluorobenzene	95.0	65 - 140		%Rec	1	8/24/2021 5:24:14 AM
Surr: Bromofluorobenzene	99.8	65 - 140		%Rec	1	8/24/2021 5:24:14 AM

Lab ID: 2108191-006 **Collection Date:** 8/10/2021 2:40:00 PM
Client Sample ID: **PEO-MW-26-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.4		µg/L	1	8/24/2021 8:04:55 PM
Surr: 1-Chlorooctadecane	75.0	60 - 140		%Rec	1	8/24/2021 8:04:55 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 6:03:10 AM
Surr: 1,4-Difluorobenzene	88.7	65 - 140		%Rec	1	8/24/2021 6:03:10 AM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/24/2021 6:03:10 AM

Analytical Report

Work Order: **2108191**
Date Reported: **8/27/2021**

CLIENT: Pace Analytical Minnesota
Project: 10574168

Lab ID: 2108191-007 **Collection Date:** 8/10/2021 4:15:00 PM
Client Sample ID: **PEO-MW-43-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33367		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	131	20.5		µg/L	1	8/24/2021 8:57:55 PM
Surr: 1-Chlorooctadecane	61.7	60 - 140		%Rec	1	8/24/2021 8:57:55 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33383		Analyst: CR
Aliphatic Hydrocarbon (C10-C12)	147	12.2		µg/L	1	8/24/2021 6:41:45 AM
Surr: 1,4-Difluorobenzene	99.4	65 - 140		%Rec	1	8/24/2021 6:41:45 AM
Surr: Bromofluorobenzene	109	65 - 140		%Rec	1	8/24/2021 6:41:45 AM

Work Order: 2108191
CLIENT: Pace Analytical Minnesota
Project: 10574168

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCS-33367**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **LCSW**	Batch ID: **33367**		Analysis Date: **8/20/2021**	SeqNo: **1407057**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	366	39.3	491.2	0	74.5	70	130				
Surr: 1-Chlorooctadecane	355		392.9		90.4	60	140				

Sample ID: **LCSD-33367**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **LCSW02**	Batch ID: **33367**		Analysis Date: **8/20/2021**	SeqNo: **1407058**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	371	39.3	491.2	0	75.4	70	130	365.8	1.30	20	
Surr: 1-Chlorooctadecane	393		393.0		100	60	140		0		

Sample ID: **MB-33367**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **MBLKW**	Batch ID: **33367**		Analysis Date: **8/24/2021**	SeqNo: **1407248**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	39.7		0	0						
Surr: 1-Chlorooctadecane	362		397.3		91.0	60	140				

Sample ID: **2108191-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/16/2021**	RunNo: **69438**
Client ID: **PEO-MW-28-202108**	Batch ID: **33367**		Analysis Date: **8/24/2021**	SeqNo: **1408555**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	381	39.4	493.0	0	77.4	70	130				
Surr: 1-Chlorooctadecane	343		394.4		87.0	60	140				

Work Order: 2108191
CLIENT: Pace Analytical Minnesota
Project: 10574168

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **2108191-002AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **8/16/2021** RunNo: **69438**
Client ID: **PEO-MW-28-202108** Batch ID: **33367** Analysis Date: **8/24/2021** SeqNo: **1408556**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	357	39.3	491.7	0	72.5	70	130	381.4	6.73	30	
Surr: 1-Chlorooctadecane	320		393.3		81.4	60	140		0		

Work Order: 2108191
CLIENT: Pace Analytical Minnesota
Project: 10574168

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33383**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/17/2021**		RunNo: **69449**			
Client ID: **LCSW**	Batch ID: **33383**					Analysis Date: **8/17/2021**		SeqNo: **1407971**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	203	25.0	200.0	0	102	70	130				
Surr: 1,4-Difluorobenzene	48.1		50.00		96.3	65	140				
Surr: Bromofluorobenzene	51.9		50.00		104	65	140				

Sample ID: **MB-33383**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/17/2021**		RunNo: **69449**			
Client ID: **MBLKW**	Batch ID: **33383**					Analysis Date: **8/17/2021**		SeqNo: **1407970**			
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	40.5		50.00		80.9	65	140				
Surr: Bromofluorobenzene	48.7		50.00		97.4	65	140				

Sample ID: **2108156-004BDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **8/17/2021**		RunNo: **69449**			
Client ID: **BATCH**	Batch ID: **33383**					Analysis Date: **8/17/2021**		SeqNo: **1407964**			
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	39.9		50.00		79.8	65	140		0		
Surr: Bromofluorobenzene	48.7		50.00		97.5	65	140		0		

Sample ID: **MB-33383B**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/24/2021**		RunNo: **69449**			
Client ID: **MBLKW**	Batch ID: **33383**					Analysis Date: **8/24/2021**		SeqNo: **1407984**			
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	43.9		50.00		87.8	65	140				
Surr: Bromofluorobenzene	49.5		50.00		99.1	65	140				

Work Order: 2108191
CLIENT: Pace Analytical Minnesota
Project: 10574168

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **2108191-002BMS** SampType: **MS** Units: **µg/L** Prep Date: **8/17/2021** RunNo: **69449**
Client ID: **PEO-MW-28-202108** Batch ID: **33383** Analysis Date: **8/24/2021** SeqNo: **1407975**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	193	25.0	200.0	0	96.4	70	130				
Surr: 1,4-Difluorobenzene	52.4		50.00		105	65	140				
Surr: Bromofluorobenzene	51.6		50.00		103	65	140				

Sample ID: **2108191-002BMSD** SampType: **MSD** Units: **µg/L** Prep Date: **8/17/2021** RunNo: **69449**
Client ID: **PEO-MW-28-202108** Batch ID: **33383** Analysis Date: **8/24/2021** SeqNo: **1407976**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	185	25.0	200.0	0	92.6	70	130	192.9	4.06	30	
Surr: 1,4-Difluorobenzene	53.7		50.00		107	65	140		0		
Surr: Bromofluorobenzene	52.4		50.00		105	65	140		0		

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108191**
Logged by:	**Clare Griggs**	Date Received:	**8/13/2021 10:09:27 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	3.6

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

Chain of Custody

PASI Minnesota Laboratory

210819

Pace Analytical®
www.pacelabs.com

Workorder: 10574168 **Workorder Name:** 0539066 **Results Requested By:** 8/25/2021

Report / Invoice To	Subcontract To
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. 10574168

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	Requested Analysis: NWTPH VPH (Aliphatics C10-C12)	Requested Analysis: NWTPH EPH (Aliphatics C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210810	8/10/2021 08:00	10574168001	Water	2	X		
2	PEO-MW-28-202108	8/10/2021 07:50	10574168002	Water	15	X	X	MS/MSD
3	PEO-MW-29-202108	8/10/2021 10:05	10574168003	Water	5	X	X	
4	PEO-MW-36-202108	8/10/2021 12:30	10574168004	Water	5	X	X	
5	PEO-MW-Z1-202108	8/10/2021 12:35	10574168005	Water	5	X	X	
6	PEO-MW-26-202108	8/10/2021 14:40	10574168006	Water	5	X	X	
7	PEO-MW-43-202108	8/10/2021 16:15	10574168007	Water	5	X	X	

Comments

Report to MDL, EQUIS EDD needed

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] Pace	8/12/21 1450	[signature]	8/13/21 10:09
2				
3				

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

September 14, 2021

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

RE: Project: 0539066
Pace Project No.: 10574278

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10574278

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, LLC
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SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10574278

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10574278001	**TRIP BLANK-20210811**	Water	08/11/21 08:00	08/13/21 17:15
10574278002	**PEO-MW-27-202108**	Water	08/11/21 08:20	08/13/21 17:15
10574278003	**PEO-MW-Z2-202108**	Water	08/11/21 08:25	08/13/21 17:15
10574278004	**PEO-MW-38-202108**	Water	08/11/21 10:30	08/13/21 17:15
10574278005	**PEO-MW-37-202108**	Water	08/11/21 11:45	08/13/21 17:15
10574278006	**PEO-MW-35-202108**	Water	08/11/21 13:30	08/13/21 17:15

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SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10574278

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10574278001	**TRIP BLANK-20210811**	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10574278002	**PEO-MW-27-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	2	PASI-M
10574278003	**PEO-MW-Z2-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	2	PASI-M
10574278004	**PEO-MW-38-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	2	PASI-M
10574278005	**PEO-MW-37-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M

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SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10574278

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	AR3	2	PASI-M
10574278006	**PEO-MW-35-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	2	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: TRIP BLANK-20210811 **Lab ID: 10574278001** Collected: 08/11/21 08:00 Received: 08/13/21 17:15 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		08/23/21 07:20		
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/23/21 07:20	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/18/21 21:50	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/18/21 21:50	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/18/21 21:50	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/18/21 21:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/18/21 21:50	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/18/21 21:50	2199-69-1	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/18/21 21:50	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/18/21 21:50	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-27-202108 **Lab ID: 10574278002** Collected: 08/11/21 08:20 Received: 08/13/21 17:15 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	**0.41**	mg/L	0.40	0.088	1	08/16/21 08:28	08/18/21 07:23	68334-30-5	L2
Motor Oil Range SG	ND	mg/L	0.40	0.12	1	08/16/21 08:28	08/18/21 07:23	64742-65-0	L2,P2
Surrogates									
o-Terphenyl (S)	60	%.	50-150		1	08/16/21 08:28	08/18/21 07:23	84-15-1	
n-Triacontane (S)	58	%.	50-150		1	08/16/21 08:28	08/18/21 07:23		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**113**	ug/L	100	42.8	1		08/23/21 02:22		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	91	%.	50-150		1		08/23/21 02:22	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**59700**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:40		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**37.5**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 22:55	7440-38-2	
Manganese, Dissolved	**1180**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 22:58	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.51**	ug/L	0.039	0.0067	1	08/16/21 11:46	08/31/21 21:34	83-32-9	
Acenaphthylene	**0.081**	ug/L	0.039	0.0059	1	08/16/21 11:46	08/31/21 21:34	208-96-8	
Anthracene	ND	ug/L	0.039	0.0052	1	08/16/21 11:46	08/31/21 21:34	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.039	0.0088	1	08/16/21 11:46	08/31/21 21:34	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.039	0.0086	1	08/16/21 11:46	08/31/21 21:34	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.039	0.0092	1	08/16/21 11:46	08/31/21 21:34	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.039	0.0079	1	08/16/21 11:46	08/31/21 21:34	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.039	0.0080	1	08/16/21 11:46	08/31/21 21:34	207-08-9	
Chrysene	ND	ug/L	0.039	0.0091	1	08/16/21 11:46	08/31/21 21:34	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.039	0.0077	1	08/16/21 11:46	08/31/21 21:34	53-70-3	
Fluoranthene	**0.045**	ug/L	0.039	0.014	1	08/16/21 11:46	08/31/21 21:34	206-44-0	
Fluorene	**0.63**	ug/L	0.039	0.0059	1	08/16/21 11:46	08/31/21 21:34	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.039	0.011	1	08/16/21 11:46	08/31/21 21:34	193-39-5	
1-Methylnaphthalene	**0.078**	ug/L	0.039	0.0065	1	08/16/21 11:46	08/31/21 21:34	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.039	0.0080	1	08/16/21 11:46	08/31/21 21:34	91-57-6	
Naphthalene	**0.14**	ug/L	0.039	0.0085	1	08/16/21 11:46	08/31/21 21:34	91-20-3	
Phenanthrene	ND	ug/L	0.039	0.012	1	08/16/21 11:46	08/31/21 21:34	85-01-8	
Pyrene	**0.037J**	ug/L	0.039	0.0096	1	08/16/21 11:46	08/31/21 21:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%.	51-125		1	08/16/21 11:46	08/31/21 21:34	321-60-8	
p-Terphenyl-d14 (S)	71	%.	70-125		1	08/16/21 11:46	08/31/21 21:34	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-27-202108 **Lab ID: 10574278002** Collected: 08/11/21 08:20 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/18/21 23:59	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/18/21 23:59	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/18/21 23:59	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/18/21 23:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/18/21 23:59	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/18/21 23:59	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/18/21 23:59	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/18/21 23:59	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**33.1**	mg/L	5.0	1.8	1		08/25/21 10:29		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**47.9**	mg/L	1.2	0.34	1		08/19/21 05:17	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		08/13/21 19:50	14797-55-8	FS,H3
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.018	1		08/13/21 19:50		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-Z2-202108 **Lab ID: 10574278003** Collected: 08/11/21 08:25 Received: 08/13/21 17:15 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	**0.61**	mg/L	0.40	0.12	1	08/24/21 18:20	08/26/21 23:55	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	08/24/21 18:20	08/26/21 23:55	64742-65-0	
Surrogates									
o-Terphenyl (S)	70	%.	50-150		1	08/24/21 18:20	08/26/21 23:55	84-15-1	
n-Triacontane (S)	73	%.	50-150		1	08/24/21 18:20	08/26/21 23:55		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**147**	ug/L	100	42.8	1		08/23/21 03:43		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%.	50-150		1		08/23/21 03:43	98-08-8	
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	08/16/21 14:01	08/24/21 11:41		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**37.9**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 23:02	7440-38-2	
Manganese, Dissolved	**1170**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 23:05	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.53**	ug/L	0.038	0.0066	1	08/16/21 11:46	08/31/21 21:54	83-32-9	
Acenaphthylene	**0.085**	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 21:54	208-96-8	
Anthracene	ND	ug/L	0.038	0.0052	1	08/16/21 11:46	08/31/21 21:54	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/16/21 11:46	08/31/21 21:54	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/16/21 11:46	08/31/21 21:54	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/16/21 11:46	08/31/21 21:54	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/16/21 11:46	08/31/21 21:54	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/16/21 11:46	08/31/21 21:54	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/16/21 11:46	08/31/21 21:54	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/16/21 11:46	08/31/21 21:54	53-70-3	
Fluoranthene	**0.048**	ug/L	0.038	0.014	1	08/16/21 11:46	08/31/21 21:54	206-44-0	
Fluorene	**0.64**	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 21:54	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/16/21 11:46	08/31/21 21:54	193-39-5	
1-Methylnaphthalene	**0.072**	ug/L	0.038	0.0065	1	08/16/21 11:46	08/31/21 21:54	90-12-0	
2-Methylnaphthalene	**0.034J**	ug/L	0.038	0.0080	1	08/16/21 11:46	08/31/21 21:54	91-57-6	
Naphthalene	**0.13**	ug/L	0.038	0.0085	1	08/16/21 11:46	08/31/21 21:54	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/16/21 11:46	08/31/21 21:54	85-01-8	
Pyrene	**0.040**	ug/L	0.038	0.0095	1	08/16/21 11:46	08/31/21 21:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%.	51-125		1	08/16/21 11:46	08/31/21 21:54	321-60-8	
p-Terphenyl-d14 (S)	71	%.	70-125		1	08/16/21 11:46	08/31/21 21:54	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-Z2-202108 **Lab ID: 10574278003** Collected: 08/11/21 08:25 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/19/21 00:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/19/21 00:17	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/19/21 00:17	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/19/21 00:17	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/19/21 00:17	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%.	70-130		1		08/19/21 00:17	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/19/21 00:17	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/19/21 00:17	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**31.6**	mg/L	5.0	1.8	1		08/25/21 10:42		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**49.1**	mg/L	1.2	0.34	1		08/19/21 06:05	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		08/13/21 19:51	14797-55-8	FS,H3
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.018	1		08/13/21 19:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-38-202108 **Lab ID: 10574278004** Collected: 08/11/21 10:30 Received: 08/13/21 17:15 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	**39.7**	mg/L	2.0	0.59	5	08/24/21 18:20	08/26/21 23:27	68334-30-5	
Motor Oil Range SG	**1.5J**	mg/L	2.0	0.92	5	08/24/21 18:20	08/26/21 23:27	64742-65-0	
Surrogates									
o-Terphenyl (S)	105	%.	50-150		5	08/24/21 18:20	08/26/21 23:27	84-15-1	
n-Triacontane (S)	65	%.	50-150		5	08/24/21 18:20	08/26/21 23:27		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**5760**	ug/L	500	214	5		08/23/21 05:58		G+,G-
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%.	50-150		5		08/23/21 05:58	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**136000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:43		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**39.9**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 23:09	7440-38-2	
Manganese, Dissolved	**2540**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 23:12	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/16/21 11:46	09/04/21 00:59	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/16/21 11:46	09/04/21 00:59	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/16/21 11:46	09/04/21 00:59	120-12-7	
Benzo(a)anthracene	**0.037J**	ug/L	0.038	0.0086	1	08/16/21 11:46	09/04/21 00:59	56-55-3	
Benzo(a)pyrene	**0.026J**	ug/L	0.038	0.0084	1	08/16/21 11:46	09/04/21 00:59	50-32-8	IC
Benzo(b)fluoranthene	**0.026J**	ug/L	0.038	0.0091	1	08/16/21 11:46	09/04/21 00:59	205-99-2	
Benzo(g,h,i)perylene	**0.014J**	ug/L	0.038	0.0077	1	08/16/21 11:46	09/04/21 00:59	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/16/21 11:46	09/04/21 00:59	207-08-9	
Chrysene	**0.067**	ug/L	0.038	0.0090	1	08/16/21 11:46	09/04/21 00:59	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/16/21 11:46	09/04/21 00:59	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/16/21 11:46	09/04/21 00:59	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/16/21 11:46	09/04/21 00:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.013J**	ug/L	0.038	0.011	1	08/16/21 11:46	09/04/21 00:59	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.038	0.0064	1	08/16/21 11:46	09/04/21 00:59	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/16/21 11:46	09/04/21 00:59	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0084	1	08/16/21 11:46	09/04/21 00:59	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/16/21 11:46	09/04/21 00:59	85-01-8	
Pyrene	**0.31**	ug/L	0.038	0.0094	1	08/16/21 11:46	09/04/21 00:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%.	51-125		1	08/16/21 11:46	09/04/21 00:59	321-60-8	C0,H4
p-Terphenyl-d14 (S)	72	%.	70-125		1	08/16/21 11:46	09/04/21 00:59	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-38-202108 **Lab ID: 10574278004** Collected: 08/11/21 10:30 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	**4.9**	ug/L	1.0	0.12	1		08/24/21 05:10	71-43-2	
Ethylbenzene	**1.2**	ug/L	1.0	0.069	1		08/24/21 05:10	100-41-4	
Toluene	**4.7**	ug/L	1.0	0.11	1		08/24/21 05:10	108-88-3	
m&p-Xylene	**5.5**	ug/L	2.0	0.18	1		08/24/21 05:10	179601-23-1	
o-Xylene	**2.8**	ug/L	1.0	0.12	1		08/24/21 05:10	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%.	70-130		1		08/24/21 05:10	2199-69-1	
4-Bromofluorobenzene (S)	106	%.	75-125		1		08/24/21 05:10	460-00-4	
Toluene-d8 (S)	104	%.	75-125		1		08/24/21 05:10	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**173**	mg/L	5.0	1.8	1		08/25/21 10:46		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**0.66J**	mg/L	1.2	0.34	1		08/19/21 06:21	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		08/13/21 19:52	14797-55-8	FS,H3
Nitrogen, NO2 plus NO3	**0.030J**	mg/L	0.10	0.018	1		08/13/21 19:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-37-202108 **Lab ID: 10574278005** Collected: 08/11/21 11:45 Received: 08/13/21 17:15 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	**0.15J**	mg/L	0.40	0.12	1	08/24/21 18:20	08/26/21 23:37	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	08/24/21 18:20	08/26/21 23:37	64742-65-0	
Surrogates									
o-Terphenyl (S)	74	%.	50-150		1	08/24/21 18:20	08/26/21 23:37	84-15-1	
n-Triacontane (S)	79	%.	50-150		1	08/24/21 18:20	08/26/21 23:37		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/23/21 04:37		
Surrogates									
a,a,a-Trifluorotoluene (S)	91	%.	50-150		1		08/23/21 04:37	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**69600**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:45		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**2.4**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 23:16	7440-38-2	
Manganese, Dissolved	**95.4**	ug/L	0.50	0.20	1	08/16/21 14:25	08/18/21 23:16	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.022J**	ug/L	0.038	0.0066	1	08/16/21 11:46	08/31/21 22:34	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 22:34	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/16/21 11:46	08/31/21 22:34	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/16/21 11:46	08/31/21 22:34	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/16/21 11:46	08/31/21 22:34	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/16/21 11:46	08/31/21 22:34	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/16/21 11:46	08/31/21 22:34	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/16/21 11:46	08/31/21 22:34	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/16/21 11:46	08/31/21 22:34	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/16/21 11:46	08/31/21 22:34	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/16/21 11:46	08/31/21 22:34	206-44-0	
Fluorene	**0.029J**	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 22:34	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/16/21 11:46	08/31/21 22:34	193-39-5	
1-Methylnaphthalene	**0.011J**	ug/L	0.038	0.0064	1	08/16/21 11:46	08/31/21 22:34	90-12-0	
2-Methylnaphthalene	**0.0090J**	ug/L	0.038	0.0079	1	08/16/21 11:46	08/31/21 22:34	91-57-6	
Naphthalene	**0.030J**	ug/L	0.038	0.0084	1	08/16/21 11:46	08/31/21 22:34	91-20-3	
Phenanthrene	**0.035J**	ug/L	0.038	0.012	1	08/16/21 11:46	08/31/21 22:34	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/16/21 11:46	08/31/21 22:34	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	68	%.	51-125		1	08/16/21 11:46	08/31/21 22:34	321-60-8	
p-Terphenyl-d14 (S)	74	%.	70-125		1	08/16/21 11:46	08/31/21 22:34	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-37-202108 **Lab ID: 10574278005** Collected: 08/11/21 11:45 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/19/21 00:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/19/21 00:36	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/19/21 00:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/19/21 00:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/19/21 00:36	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/19/21 00:36	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/19/21 00:36	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/19/21 00:36	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**89.8**	mg/L	5.0	1.8	1		08/25/21 10:53		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**32.5**	mg/L	1.2	0.34	1		08/19/21 06:37	14808-79-8	
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2								
	Pace Analytical Services - Minneapolis								
Nitrate as N	**0.042J**	mg/L	0.10	0.018	1		08/13/21 19:53	14797-55-8	FS,H3
Nitrogen, NO2 plus NO3	**0.042J**	mg/L	0.10	0.018	1		08/13/21 19:53		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-35-202108 **Lab ID: 10574278006** Collected: 08/11/21 13:30 Received: 08/13/21 17:15 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	0.40	0.12	1	08/24/21 18:20	08/26/21 23:46	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	0.18	1	08/24/21 18:20	08/26/21 23:46	64742-65-0	
Surrogates									
o-Terphenyl (S)	68	%.	50-150		1	08/24/21 18:20	08/26/21 23:46	84-15-1	
n-Triacontane (S)	57	%.	50-150		1	08/24/21 18:20	08/26/21 23:46		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	ND	ug/L	100	42.8	1		08/23/21 04:10		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/23/21 04:10	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**44700**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:46		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**13.2**	ug/L	0.50	0.083	1	08/16/21 14:25	08/18/21 23:23	7440-38-2	
Manganese, Dissolved	**801**	ug/L	10.0	4.0	20	08/16/21 14:25	08/18/21 23:26	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/16/21 11:46	08/31/21 22:54	83-32-9	
Acenaphthylene	ND	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 22:54	208-96-8	
Anthracene	**0.033J**	ug/L	0.038	0.0052	1	08/16/21 11:46	08/31/21 22:54	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0087	1	08/16/21 11:46	08/31/21 22:54	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0085	1	08/16/21 11:46	08/31/21 22:54	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0092	1	08/16/21 11:46	08/31/21 22:54	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0078	1	08/16/21 11:46	08/31/21 22:54	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0080	1	08/16/21 11:46	08/31/21 22:54	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/16/21 11:46	08/31/21 22:54	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/16/21 11:46	08/31/21 22:54	53-70-3	
Fluoranthene	**0.051**	ug/L	0.038	0.014	1	08/16/21 11:46	08/31/21 22:54	206-44-0	
Fluorene	**0.018J**	ug/L	0.038	0.0058	1	08/16/21 11:46	08/31/21 22:54	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/16/21 11:46	08/31/21 22:54	193-39-5	
1-Methylnaphthalene	**0.012J**	ug/L	0.038	0.0065	1	08/16/21 11:46	08/31/21 22:54	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0080	1	08/16/21 11:46	08/31/21 22:54	91-57-6	
Naphthalene	**0.028J**	ug/L	0.038	0.0085	1	08/16/21 11:46	08/31/21 22:54	91-20-3	
Phenanthrene	**0.040**	ug/L	0.038	0.012	1	08/16/21 11:46	08/31/21 22:54	85-01-8	
Pyrene	**0.054**	ug/L	0.038	0.0095	1	08/16/21 11:46	08/31/21 22:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%.	51-125		1	08/16/21 11:46	08/31/21 22:54	321-60-8	
p-Terphenyl-d14 (S)	70	%.	70-125		1	08/16/21 11:46	08/31/21 22:54	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574278

Sample: PEO-MW-35-202108 **Lab ID: 10574278006** Collected: 08/11/21 13:30 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B								
	Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/19/21 00:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/19/21 00:54	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/19/21 00:54	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/19/21 00:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/19/21 00:54	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/19/21 00:54	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/19/21 00:54	460-00-4	
Toluene-d8 (S)	103	%.	75-125		1		08/19/21 00:54	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**33.2**	mg/L	5.0	1.8	1		08/25/21 10:59		
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Minneapolis								
Sulfate	**34.9**	mg/L	1.2	0.34	1		08/19/21 06:53	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		08/13/21 19:54	14797-55-8	FS,H3
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.018	1		08/13/21 19:54		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 765010 — Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx — Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278001, 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4077759 Matrix: Water
Associated Lab Samples: 10574278001, 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/22/21 19:35	
a,a,a-Trifluorotoluene (S)	%.	96	50-150		08/22/21 19:35	

METHOD BLANK: 4077760 Matrix: Water
Associated Lab Samples: 10574278001, 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/23/21 01:27	
a,a,a-Trifluorotoluene (S)	%.	98	50-150		08/23/21 01:27	

LABORATORY CONTROL SAMPLE & LCSD: 4077761 4077762

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	945	968	94	97	75-127	2	20	
a,a,a-Trifluorotoluene (S)	%.				100	100	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4077763 4077764

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	1000	1000	1110	965	111	96	71-139	14	30	
a,a,a-Trifluorotoluene (S)	%.						101	99	50-150			

SAMPLE DUPLICATE: 4077801

Parameter	Units	10573839003 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	HS
a,a,a-Trifluorotoluene (S)	%.	97	97			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

SAMPLE DUPLICATE: 4077802

Parameter	Units	10574278002 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	113	107	6	30	G+
a,a,a-Trifluorotoluene (S)	%.	91	96			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 763560
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4071372 Matrix: Water
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/18/21 21:32	
Manganese, Dissolved	ug/L	ND	0.50	0.20	08/18/21 21:32	

LABORATORY CONTROL SAMPLE: 4071373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	98.3	98	80-120	
Manganese, Dissolved	ug/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4071374 4071375

Parameter	Units	10574168002 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	0.13J	100	100	99.0	97.9	99	98	75-125	1	20	
Manganese, Dissolved	ug/L	0.71	100	100	101	101	100	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 764466 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278001, 10574278002, 10574278003, 10574278005, 10574278006

METHOD BLANK: 4074895 Matrix: Water
Associated Lab Samples: 10574278001, 10574278002, 10574278003, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/18/21 20:54	
Ethylbenzene	ug/L	ND	1.0	0.069	08/18/21 20:54	
m&p-Xylene	ug/L	ND	2.0	0.18	08/18/21 20:54	
o-Xylene	ug/L	ND	1.0	0.12	08/18/21 20:54	
Toluene	ug/L	ND	1.0	0.11	08/18/21 20:54	
1,2-Dichlorobenzene-d4 (S)	%.	101	70-130		08/18/21 20:54	
4-Bromofluorobenzene (S)	%.	101	75-125		08/18/21 20:54	
Toluene-d8 (S)	%.	103	75-125		08/18/21 20:54	

LABORATORY CONTROL SAMPLE & LCSD: 4074896 4074897

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	21.2	21.0	106	105	73-125	1	20	
Ethylbenzene	ug/L	20	19.3	19.2	96	96	75-125	0	20	
m&p-Xylene	ug/L	40	40.9	40.8	102	102	75-125	0	20	
o-Xylene	ug/L	20	20.7	20.7	104	103	75-125	0	20	
Toluene	ug/L	20	20.5	20.0	102	100	75-125	2	20	
1,2-Dichlorobenzene-d4 (S)	%.				101	99	70-130			
4-Bromofluorobenzene (S)	%.				103	102	75-125			
Toluene-d8 (S)	%.				101	101	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 765400
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574278004

METHOD BLANK: 4079705 Matrix: Water
Associated Lab Samples: 10574278004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/23/21 22:47	
Ethylbenzene	ug/L	ND	1.0	0.069	08/23/21 22:47	
m&p-Xylene	ug/L	ND	2.0	0.18	08/23/21 22:47	
o-Xylene	ug/L	ND	1.0	0.12	08/23/21 22:47	
Toluene	ug/L	ND	1.0	0.11	08/23/21 22:47	
1,2-Dichlorobenzene-d4 (S)	%.	101	70-130		08/23/21 22:47	
4-Bromofluorobenzene (S)	%.	104	75-125		08/23/21 22:47	
Toluene-d8 (S)	%.	103	75-125		08/23/21 22:47	

LABORATORY CONTROL SAMPLE & LCSD: 4079706 4079707

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	21.4	21.0	107	105	73-125	2	20	
Ethylbenzene	ug/L	20	19.3	18.8	97	94	75-125	3	20	
m&p-Xylene	ug/L	40	41.0	40.0	103	100	75-125	2	20	
o-Xylene	ug/L	20	21.0	20.6	105	103	75-125	2	20	
Toluene	ug/L	20	20.6	20.0	103	100	75-125	3	20	
1,2-Dichlorobenzene-d4 (S)	%.				101	101	70-130			
4-Bromofluorobenzene (S)	%.				104	105	75-125			
Toluene-d8 (S)	%.				101	102	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 763668
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4071715 Matrix: Water
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/31/21 16:11	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/31/21 16:11	
Acenaphthene	ug/L	ND	0.040	0.0069	08/31/21 16:11	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/31/21 16:11	
Anthracene	ug/L	ND	0.040	0.0054	08/31/21 16:11	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/31/21 16:11	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/31/21 16:11	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/31/21 16:11	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/31/21 16:11	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/31/21 16:11	
Chrysene	ug/L	ND	0.040	0.0094	08/31/21 16:11	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/31/21 16:11	
Fluoranthene	ug/L	ND	0.040	0.014	08/31/21 16:11	
Fluorene	ug/L	ND	0.040	0.0060	08/31/21 16:11	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/31/21 16:11	
Naphthalene	ug/L	ND	0.040	0.0088	08/31/21 16:11	
Phenanthrene	ug/L	ND	0.040	0.012	08/31/21 16:11	
Pyrene	ug/L	ND	0.040	0.0099	08/31/21 16:11	
2-Fluorobiphenyl (S)	%.	74	51-125		08/31/21 16:11	
p-Terphenyl-d14 (S)	%.	82	70-125		08/31/21 16:11	

LABORATORY CONTROL SAMPLE & LCSD: 4071716 4071717

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	0.81	79	81	34-125	2	20	
2-Methylnaphthalene	ug/L	1	0.78	0.79	78	79	34-125	2	20	
Acenaphthene	ug/L	1	0.82	0.78	82	78	35-125	5	20	
Acenaphthylene	ug/L	1	0.81	0.77	81	77	33-125	5	20	
Anthracene	ug/L	1	0.86	0.81	86	81	42-125	6	20	
Benzo(a)anthracene	ug/L	1	0.84	0.79	84	79	46-125	7	20	
Benzo(a)pyrene	ug/L	1	0.88	0.80	88	80	57-125	9	20	
Benzo(b)fluoranthene	ug/L	1	0.89	0.83	89	83	58-125	7	20	
Benzo(g,h,i)perylene	ug/L	1	0.68	0.59	68	59	55-125	14	20	
Benzo(k)fluoranthene	ug/L	1	0.91	0.84	91	84	55-125	8	20	
Chrysene	ug/L	1	0.90	0.83	90	83	56-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.60	0.52	60	52	40-125	14	20	
Fluoranthene	ug/L	1	0.85	0.80	85	80	64-125	7	20	
Fluorene	ug/L	1	0.85	0.79	85	79	43-125	8	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.80	0.74	80	74	57-125	8	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

LABORATORY CONTROL SAMPLE & LCSD: 4071716 4071717

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.81	0.83	81	83	30-125	3	20	
Phenanthrene	ug/L	1	0.88	0.83	88	83	47-125	6	20	
Pyrene	ug/L	1	0.91	0.85	91	85	46-125	6	20	
2-Fluorobiphenyl (S)	%.				77	75	51-125			
p-Terphenyl-d14 (S)	%.				86	79	70-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 763601
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10574278002

METHOD BLANK: 4071456 Matrix: Water
Associated Lab Samples: 10574278002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.088	08/18/21 06:39	
Motor Oil Range SG	mg/L	ND	0.40	0.12	08/18/21 06:39	
n-Triacontane (S)	%.	68	50-150		08/18/21 06:39	
o-Terphenyl (S)	%.	62	50-150		08/18/21 06:39	

LABORATORY CONTROL SAMPLE & LCSD: 4071457 4071458

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	1.4	0.90	69	45	50-150	42	20	L2,R1
Motor Oil Range SG	mg/L	2	1.6	0.96	81	48	50-150	51	20	L2,R1
n-Triacontane (S)	%.				71	43	50-150			S0
o-Terphenyl (S)	%.				72	40	50-150			S0

SAMPLE DUPLICATE: 4071459

Parameter	Units	10574278002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	0.41	0.51	21	30	
Motor Oil Range SG	mg/L	ND	ND		30	P2
n-Triacontane (S)	%.	58	74			
o-Terphenyl (S)	%.	60	70			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 765804
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4081403 Matrix: Water
Associated Lab Samples: 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	08/26/21 22:31	
Motor Oil Range SG	mg/L	ND	0.40	0.18	08/26/21 22:31	
n-Triacontane (S)	%.	67	50-150		08/26/21 22:31	
o-Terphenyl (S)	%.	72	50-150		08/26/21 22:31	

LABORATORY CONTROL SAMPLE & LCSD: 4081404 4081405

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	1.8	94	90	50-150	5	20	
Motor Oil Range SG	mg/L	2	1.9	1.7	94	87	50-150	7	20	
n-Triacontane (S)	%.				77	76	50-150			
o-Terphenyl (S)	%.				79	71	50-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 765939 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4082039 — Matrix: Water
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/25/21 10:17	

LABORATORY CONTROL SAMPLE & LCSD: 4082040 4082041

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	105	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4082042 4082043

Parameter	Units	10574278002 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	33.1	40	40	72.2	72.8	98	99	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4082044 4082045

Parameter	Units	10574740001 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	161	40	40	201	202	100	103	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 763764 | 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: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4072104 Matrix: Water
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/18/21 20:12	

LABORATORY CONTROL SAMPLE: 4072105

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: 4072106 4072107

Parameter	Units	10573839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1.9	50	50	50.5	51.5	97	99	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072108 4072109

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	5.0	50	50	54.1	54.8	98	100	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574278

QC Batch: 763509
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

METHOD BLANK: 4070935 Matrix: Water
Associated Lab Samples: 10574278002, 10574278003, 10574278004, 10574278005, 10574278006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/13/21 19:45	FS

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10574278

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: 10574278

[1]	The samples were received outside of required temperature range. Analysis was completed upon client approval.
[2]	Nitrate + Nitrite reported on this workorder due to shipping delays and nitrates arriving out of hold.

BATCH QUALIFIERS

Batch: 764466

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

Batch: 765400

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

Batch: 767259

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

ANALYTE QUALIFIERS

C0	Result confirmed by second analysis.
FS	The sample was filtered in the laboratory prior to analysis.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
H3	Sample was received or analysis requested beyond the recognized method holding time.

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10574278

ANALYTE QUALIFIERS

H4	Sample re-extracted and analyzed outside of EPA method holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10574278

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574278002	**PEO-MW-27-202108**	EPA Mod. 3510C	763601	NWTPH-Dx	764202
10574278003	**PEO-MW-Z2-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574278004	**PEO-MW-38-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574278005	**PEO-MW-37-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574278006	**PEO-MW-35-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574278001	**TRIP BLANK-20210811**	NWTPH-Gx	765010		
10574278002	**PEO-MW-27-202108**	NWTPH-Gx	765010		
10574278003	**PEO-MW-Z2-202108**	NWTPH-Gx	765010		
10574278004	**PEO-MW-38-202108**	NWTPH-Gx	765010		
10574278005	**PEO-MW-37-202108**	NWTPH-Gx	765010		
10574278006	**PEO-MW-35-202108**	NWTPH-Gx	765010		
10574278002	**PEO-MW-27-202108**	EPA 3010A	763561	EPA 6010D	763867
10574278003	**PEO-MW-Z2-202108**	EPA 3010A	763561	EPA 6010D	763867
10574278004	**PEO-MW-38-202108**	EPA 3010A	763561	EPA 6010D	763867
10574278005	**PEO-MW-37-202108**	EPA 3010A	763561	EPA 6010D	763867
10574278006	**PEO-MW-35-202108**	EPA 3010A	763561	EPA 6010D	763867
10574278002	**PEO-MW-27-202108**	EPA 3020A	763560	EPA 6020A	763850
10574278003	**PEO-MW-Z2-202108**	EPA 3020A	763560	EPA 6020A	763850
10574278004	**PEO-MW-38-202108**	EPA 3020A	763560	EPA 6020A	763850
10574278005	**PEO-MW-37-202108**	EPA 3020A	763560	EPA 6020A	763850
10574278006	**PEO-MW-35-202108**	EPA 3020A	763560	EPA 6020A	763850
10574278002	**PEO-MW-27-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574278003	**PEO-MW-Z2-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574278004	**PEO-MW-38-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574278005	**PEO-MW-37-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574278006	**PEO-MW-35-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574278001	**TRIP BLANK-20210811**	EPA 8260B	764466		
10574278002	**PEO-MW-27-202108**	EPA 8260B	764466		
10574278003	**PEO-MW-Z2-202108**	EPA 8260B	764466		
10574278004	**PEO-MW-38-202108**	EPA 8260B	765400		
10574278005	**PEO-MW-37-202108**	EPA 8260B	764466		
10574278006	**PEO-MW-35-202108**	EPA 8260B	764466		
10574278002	**PEO-MW-27-202108**	SM 2320B	765939		
10574278003	**PEO-MW-Z2-202108**	SM 2320B	765939		
10574278004	**PEO-MW-38-202108**	SM 2320B	765939		
10574278005	**PEO-MW-37-202108**	SM 2320B	765939		
10574278006	**PEO-MW-35-202108**	SM 2320B	765939		
10574278002	**PEO-MW-27-202108**	EPA 300.0	763764		
10574278003	**PEO-MW-Z2-202108**	EPA 300.0	763764		
10574278004	**PEO-MW-38-202108**	EPA 300.0	763764		
10574278005	**PEO-MW-37-202108**	EPA 300.0	763764		
10574278006	**PEO-MW-35-202108**	EPA 300.0	763764		
10574278002	**PEO-MW-27-202108**	EPA 353.2	763509		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10574278

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574278003	**PEO-MW-Z2-202108**	EPA 353.2	763509		
10574278004	**PEO-MW-38-202108**	EPA 353.2	763509		
10574278005	**PEO-MW-37-202108**	EPA 353.2	763509		
10574278006	**PEO-MW-35-202108**	EPA 353.2	763509		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:

Company:	ERM
Address:	1050 SW 6th Ave, Suite 1650
	Portland, OR 97204
Email To:	rita.cooper@erm.com
Phone: 207-329-6320	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Rita Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	0539066

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210811	GW	G	8/11/21	8:00				6	-	-	-	X	-	-	-	-		3	3	3	-	-	-	-	-	-	-	-	
2	PEO-MW-27-202108	GW	G	8/11/21	8:20				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
3	PEO-MW-Z2-202108	GW	G	8/11/21	8:25				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
4	PEO-MW-38-202108	GW	G	8/11/21	10:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
5	PEO-MW-37-202108	GW	G	8/11/21	11:45				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
6	PEO-MW-35-202108	GW	G	8/11/21	13:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1	
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	A. Johnson / ERM	8/11/21	17:00	TJ PACE	8-13-21	1400	21.1	Y	N/	Y
							20.0			
							19.8			

WO#: 10574278

10574278

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnson

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 8/11/21

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	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#: 10574278

PM: JMT Due Date: 08/26/21

CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 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: _____ **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:** 21.6 20.5 19.9 °C

Correction Factor: -0.1/-0.5 **Cooler Temp Corrected w/temp blank:** 21.1 20.0 19.8 °C

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

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

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

Date/Initials of Person Examining Contents: 8-13-21

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?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☐ Yes	☑ No		4.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☑ Nitrate ☑ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No		8.
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests? JMB 8/16/21	☒ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	12. Sample # 2-6 1 1 1
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☑ Yes	☐ No	☐ N/A	☐ NaOH ☑ HNO_3 ☑ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐ ENV-FRM-MIN4-0142
				Res. Chlorine: 0-6 Roll 221419 / 0-6 Strip / 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. **See Exception** ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☐ N/A	
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 318754

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

Person Contacted: Joe Casey Date/Time: 8/13/21

Comments/Resolution: emailed to indicate samples were received out of temp and we will continue with analysis. Nitrates were received out of hold and we are to proceed with analysis and to report nitrate + nitrite as well.

Project Manager Review: Julie Busse **Date:** 8/16/21

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: _____

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: 0539066
Work Order Number: 2108268

September 08, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 6 sample(s) on 8/19/2021 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: *09/08/2021*

CLIENT: Pace Analytical Minnesota
Project: 0539066
Work Order: 2108268

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108268-001	TRIP BLANK-20210811	08/11/2021 8:00 AM	08/19/2021 10:22 AM
2108268-002	PEO-MW-27-202108	08/11/2021 8:20 AM	08/19/2021 10:22 AM
2108268-003	PEO-MW-Z2-202108	08/11/2021 8:25 AM	08/19/2021 10:22 AM
2108268-004	PEO-MW-38-202108	08/11/2021 10:30 AM	08/19/2021 10:22 AM
2108268-005	PEO-MW-37-202108	08/11/2021 11:45 AM	08/19/2021 10:22 AM
2108268-006	PEO-MW-35-202108	08/11/2021 1:30 PM	08/19/2021 10:22 AM

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

Original

Case Narrative

WO#: **2108268**
Date: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

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

Analytical Report

Work Order: **2108268**
Date Reported: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

Lab ID: 2108268-001 **Collection Date:** 8/11/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210811** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 7:32:08 PM
Surr: 1,4-Difluorobenzene	84.0	65 - 140		%Rec	1	8/24/2021 7:32:08 PM
Surr: Bromofluorobenzene	97.5	65 - 140		%Rec	1	8/24/2021 7:32:08 PM

Lab ID: 2108268-002 **Collection Date:** 8/11/2021 8:20:00 AM
Client Sample ID: **PEO-MW-27-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/30/2021 3:12:42 PM
Surr: 1-Chlorooctadecane	112	60 - 140		%Rec	1	8/30/2021 3:12:42 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 10:46:03 PM
Surr: 1,4-Difluorobenzene	88.4	65 - 140		%Rec	1	8/24/2021 10:46:03 PM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/24/2021 10:46:03 PM

Analytical Report

Work Order: **2108268**
Date Reported: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

Lab ID: 2108268-003 **Collection Date:** 8/11/2021 8:25:00 AM
Client Sample ID: **PEO-MW-Z2-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.7		µg/L	1	8/30/2021 4:58:40 PM
Surr: 1-Chlorooctadecane	95.7	60 - 140		%Rec	1	8/30/2021 4:58:40 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 11:24:59 PM
Surr: 1,4-Difluorobenzene	88.4	65 - 140		%Rec	1	8/24/2021 11:24:59 PM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/24/2021 11:24:59 PM

Lab ID: 2108268-004 **Collection Date:** 8/11/2021 10:30:00 AM
Client Sample ID: **PEO-MW-38-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	2,670	20.7		µg/L	1	8/30/2021 5:51:34 PM
Surr: 1-Chlorooctadecane	93.9	60 - 140		%Rec	1	8/30/2021 5:51:34 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	343	12.2		µg/L	1	8/25/2021 12:03:51 AM
Surr: 1,4-Difluorobenzene	103	65 - 140		%Rec	1	8/25/2021 12:03:51 AM
Surr: Bromofluorobenzene	111	65 - 140		%Rec	1	8/25/2021 12:03:51 AM

Analytical Report

Work Order: **2108268**
Date Reported: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

Lab ID: 2108268-005 **Collection Date:** 8/11/2021 11:45:00 AM
Client Sample ID: **PEO-MW-37-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	439	20.7		µg/L	1	8/30/2021 6:44:34 PM
Surr: 1-Chlorooctadecane	91.9	60 - 140		%Rec	1	8/30/2021 6:44:34 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/25/2021 1:21:27 AM
Surr: 1,4-Difluorobenzene	87.9	65 - 140		%Rec	1	8/25/2021 1:21:27 AM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/25/2021 1:21:27 AM

Lab ID: 2108268-006 **Collection Date:** 8/11/2021 1:30:00 PM
Client Sample ID: **PEO-MW-35-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	ND	20.6		µg/L	1	8/30/2021 7:37:29 PM
Surr: 1-Chlorooctadecane	106	60 - 140		%Rec	1	8/30/2021 7:37:29 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/25/2021 2:00:08 AM
Surr: 1,4-Difluorobenzene	87.4	65 - 140		%Rec	1	8/25/2021 2:00:08 AM
Surr: Bromofluorobenzene	99.3	65 - 140		%Rec	1	8/25/2021 2:00:08 AM

Date: *9/8/2021*

Work Order: 2108268
CLIENT: Pace Analytical Minnesota
Project: 0539066

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33477**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **MBLKW**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410621**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Surr: 1-Chlorooctadecane	453		400.0		113	60	140				

Sample ID: **LCS-33477**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **LCSW**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410622**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	362	39.6	494.9	0	73.1	70	130				
Surr: 1-Chlorooctadecane	422		395.9		106	60	140				

Sample ID: **LCSD-33477**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **LCSW02**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410623**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	383	39.5	493.4	0	77.7	70	130	361.8	5.80	20	
Surr: 1-Chlorooctadecane	459		394.7		116	60	140		0		

Sample ID: **2108268-002AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **PEO-MW-27-202108**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410625**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	416	39.9	498.4	0	83.5	70	130				
Surr: 1-Chlorooctadecane	439		398.7		110	60	140				

Work Order: 2108268
CLIENT: Pace Analytical Minnesota
Project: 0539066

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33481**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **LCSW**	Batch ID: **33481**		Analysis Date: **8/24/2021**	SeqNo: **1408779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	200	25.0	200.0	0	100	70	130				
Surr: 1,4-Difluorobenzene	54.2		50.00		108	65	140				
Surr: Bromofluorobenzene	52.5		50.00		105	65	140				

Sample ID: **MB-33481**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **MBLKW**	Batch ID: **33481**		Analysis Date: **8/24/2021**	SeqNo: **1408777**

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	42.9		50.00		85.7	65	140				
Surr: Bromofluorobenzene	48.9		50.00		97.7	65	140				

Sample ID: **2108268-004BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **PEO-MW-38-202108**	Batch ID: **33481**		Analysis Date: **8/25/2021**	SeqNo: **1408767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	327	25.0		0	0			343.2	4.77	25	
Surr: 1,4-Difluorobenzene	50.5		50.00		101	65	140		0		
Surr: Bromofluorobenzene	54.8		50.00		110	65	140		0		

Sample ID: **2108269-002BMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **BATCH**	Batch ID: **33481**		Analysis Date: **8/25/2021**	SeqNo: **1408772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	127	25.0	200.0	0	63.6	70	130				S
Surr: 1,4-Difluorobenzene	54.5		50.00		109	65	140				
Surr: Bromofluorobenzene	53.1		50.00		106	65	140				

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108268**
Logged by:	**Clare Griggs**	Date Received:	**8/19/2021 10:22:00 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:	Julie Bowser	Date:	8/19/2021
By Whom:	Gabrielle Coeuille	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	Did not receive 1L Amber volume for any of the samples listed on the COC.		
Client Instructions:	Client will send volume. should arrive 8/23-8/24		

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	1.0

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

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108268**
Logged by:	**Clare Griggs**	Date Received:	**8/19/2021 10:22:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

EPH volume received on 8/24/21 at 10:13am.

Item Information

Item #	Temp ºC
Sample	2.1

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

Chain of Custody

21082608

PASI Minnesota Laboratory

Pace Analytical www.pacelabs.com

Workorder: 10574278 Workorder Name: 0539066 Results Requested By: 8/30/2021

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. 10574278

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	NWTPH VPH (C10-C12)	NWTPH EPH (C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210811	8/11/2021 08:00	10574278001	Water	2	X		
2	PEO-MW-27-202108	8/11/2021 08:20	10574278002	Water	5	X	X	
3	PEO-MW-Z2-202108	8/11/2021 08:25	10574278003	Water	5	X	X	
4	PEO-MW-38-202108	8/11/2021 10:30	10574278004	Water	5	X	X	
5	PEO-MW-37-202108	8/11/2021 11:45	10574278005	Water	5	X	X	
6	PEO-MW-35-202108	8/11/2021 13:30	10574278006	Water	5	X	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1	Aaron / Pace	8/17/21 1700	Justine Martz	8/17 10:22
2				
3				

Comments

Report to MDL, EQUIS EDD needed

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

EPH volume for wo#2108268

Chain of Custody

PASI Minnesota Laboratory

~~2108335~~ 2108268 edit 8/24/21 -CG

Pace Analytical® www.pacelabs.com

Workorder: 10574278 **Workorder Name:** 0539066 **Results Requested By:** 8/30/2021

Report / Invoice To	Subcontract To	
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. 10574278

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL AG1H	Requested Analysis: NWTPH EPH (C10-C12)	LAB USE ONLY
1							
2	PEO-MW-27-202108	8/11/2021 08:20	10574278002	Water	2	X	
3	PEO-MW-Z2-202108	8/11/2021 08:25	10574278003	Water	2	X	
4	PEO-MW-38-202108	8/11/2021 10:30	10574278004	Water	2	X	
5	PEO-MW-37-202108	8/11/2021 11:45	10574278005	Water	2	X	
6	PEO-MW-35-202108	8/11/2021 13:30	10574278006	Water	2	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] Pace	8/21/21 1540	Justin Martz [signature]	8/24 10:20
2				
3				

Comments

Report to MDL, EQUIS EDD needed

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

September 14, 2021

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

RE: Project: 0539066
Pace Project No.: 10574546

Dear Joe Casey:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 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 Analytical Services - Minneapolis

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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 0539066
Pace Project No.: 10574546

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, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 0539066
Pace Project No.: 10574546

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10574546001	**TRIP BLANK-20210812**	Water	08/12/21 08:00	08/13/21 17:15
10574546002	**PEO-MW-02-202108**	Water	08/12/21 07:50	08/13/21 17:15
10574546003	**PEO-MW-34-202108**	Water	08/12/21 10:40	08/13/21 17:15
10574546004	**PEO-MW-11-202108**	Water	08/12/21 13:30	08/13/21 17:15

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 0539066
Pace Project No.: 10574546

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10574546001	**TRIP BLANK-20210812**	NWTPH-Gx	NS1	2	PASI-M
		EPA 8260B	NMB	8	PASI-M
10574546002	**PEO-MW-02-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574546003	**PEO-MW-34-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M
10574546004	**PEO-MW-11-202108**	NWTPH-Dx	TT2	4	PASI-M
		NWTPH-Gx	NS1	2	PASI-M
		EPA 6010D	IP	1	PASI-M
		EPA 6020A	BWB	2	PASI-M
		EPA 8270 by SIM	XV1	20	PASI-M
		EPA 8260B	NMB	8	PASI-M
		SM 2320B	AB3	1	PASI-M
		EPA 300.0	KEO	1	PASI-M
		EPA 353.2	AR3	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: TRIP BLANK-20210812 **Lab ID: 10574546001** Collected: 08/12/21 08:00 Received: 08/13/21 17:15 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		08/25/21 06:22		
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/25/21 06:22	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	ND	ug/L	1.0	0.12	1		08/17/21 12:15	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/17/21 12:15	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		08/17/21 12:15	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.18	1		08/17/21 12:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/17/21 12:15	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	102	%.	70-130		1		08/17/21 12:15	2199-69-1	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/17/21 12:15	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/17/21 12:15	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-02-202108 **Lab ID: 10574546002** Collected: 08/12/21 07:50 Received: 08/13/21 17:15 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	**111**	mg/L	4.0	1.2	10	08/24/21 18:20	08/26/21 22:59	68334-30-5	
Motor Oil Range SG	**6.4**	mg/L	4.0	1.8	10	08/24/21 18:20	08/26/21 22:59	64742-65-0	
Surrogates									
o-Terphenyl (S)	0	%.	50-150		10	08/24/21 18:20	08/26/21 22:59	84-15-1	S4
n-Triacontane (S)	0	%.	50-150		10	08/24/21 18:20	08/26/21 22:59		S4
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**690**	ug/L	100	42.8	1		08/25/21 05:28		G+
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	50-150		1		08/25/21 05:28	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**256000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:51		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**137**	ug/L	2.5	0.41	5	08/16/21 14:25	08/18/21 23:37	7440-38-2	
Manganese, Dissolved	**3200**	ug/L	50.0	19.9	100	08/16/21 14:25	08/18/21 23:40	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.040	0.0069	1	08/16/21 11:46	09/03/21 23:18	83-32-9	
Acenaphthylene	**2.3**	ug/L	0.040	0.0061	1	08/16/21 11:46	09/03/21 23:18	208-96-8	
Anthracene	ND	ug/L	0.040	0.0054	1	08/16/21 11:46	09/03/21 23:18	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.040	0.0090	1	08/16/21 11:46	09/03/21 23:18	56-55-3	
Benzo(a)pyrene	**0.12**	ug/L	0.040	0.0088	1	08/16/21 11:46	09/03/21 23:18	50-32-8	IC
Benzo(b)fluoranthene	**0.12**	ug/L	0.040	0.0095	1	08/16/21 11:46	09/03/21 23:18	205-99-2	
Benzo(g,h,i)perylene	**0.12**	ug/L	0.040	0.0081	1	08/16/21 11:46	09/03/21 23:18	191-24-2	
Benzo(k)fluoranthene	**0.046**	ug/L	0.040	0.0083	1	08/16/21 11:46	09/03/21 23:18	207-08-9	
Chrysene	**0.19**	ug/L	0.040	0.0094	1	08/16/21 11:46	09/03/21 23:18	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.040	0.0080	1	08/16/21 11:46	09/03/21 23:18	53-70-3	
Fluoranthene	ND	ug/L	0.040	0.014	1	08/16/21 11:46	09/03/21 23:18	206-44-0	
Fluorene	ND	ug/L	0.040	0.0060	1	08/16/21 11:46	09/03/21 23:18	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.11**	ug/L	0.040	0.011	1	08/16/21 11:46	09/03/21 23:18	193-39-5	
1-Methylnaphthalene	ND	ug/L	0.040	0.0067	1	08/16/21 11:46	09/03/21 23:18	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.040	0.0083	1	08/16/21 11:46	09/03/21 23:18	91-57-6	
Naphthalene	ND	ug/L	0.040	0.0088	1	08/16/21 11:46	09/03/21 23:18	91-20-3	
Phenanthrene	ND	ug/L	0.040	0.012	1	08/16/21 11:46	09/03/21 23:18	85-01-8	
Pyrene	ND	ug/L	0.040	0.0099	1	08/16/21 11:46	09/03/21 23:18	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%.	51-125		1	08/16/21 11:46	09/03/21 23:18	321-60-8	C1,H4
p-Terphenyl-d14 (S)	76	%.	70-125		1	08/16/21 11:46	09/03/21 23:18	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-02-202108 **Lab ID: 10574546002** Collected: 08/12/21 07:50 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**0.59J**	ug/L	1.0	0.12	1		08/17/21 12:33	71-43-2	
Ethylbenzene	**0.074J**	ug/L	1.0	0.069	1		08/17/21 12:33	100-41-4	
Toluene	**0.35J**	ug/L	1.0	0.11	1		08/17/21 12:33	108-88-3	
m&p-Xylene	**0.25J**	ug/L	2.0	0.18	1		08/17/21 12:33	179601-23-1	
o-Xylene	**0.13J**	ug/L	1.0	0.12	1		08/17/21 12:33	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/17/21 12:33	2199-69-1	
4-Bromofluorobenzene (S)	102	%.	75-125		1		08/17/21 12:33	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1		08/17/21 12:33	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**360**	mg/L	5.0	1.8	1		08/26/21 15:46		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**3.4**	mg/L	1.2	0.34	1		08/19/21 07:09	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		08/13/21 19:48	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-34-202108 **Lab ID: 10574546003** Collected: 08/12/21 10:40 Received: 08/13/21 17:15 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	**9.1**	mg/L	0.40	0.12	1	08/24/21 18:20	08/26/21 23:09	68334-30-5	
Motor Oil Range SG	**0.71**	mg/L	0.40	0.18	1	08/24/21 18:20	08/26/21 23:09	64742-65-0	
Surrogates									
o-Terphenyl (S)	64	%.	50-150		1	08/24/21 18:20	08/26/21 23:09	84-15-1	
n-Triacontane (S)	57	%.	50-150		1	08/24/21 18:20	08/26/21 23:09		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**261**	ug/L	100	42.8	1		08/25/21 04:06		G+,HS
Surrogates									
a,a,a-Trifluorotoluene (S)	95	%.	50-150		1		08/25/21 04:06	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**117000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:53		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**9.6**	ug/L	2.5	0.41	5	08/16/21 14:25	08/18/21 23:43	7440-38-2	
Manganese, Dissolved	**2210**	ug/L	50.0	19.9	100	08/16/21 14:25	08/18/21 23:47	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	**0.36**	ug/L	0.043	0.0075	1	08/16/21 11:46	09/03/21 23:38	83-32-9	
Acenaphthylene	ND	ug/L	0.043	0.0066	1	08/16/21 11:46	09/03/21 23:38	208-96-8	
Anthracene	ND	ug/L	0.043	0.0058	1	08/16/21 11:46	09/03/21 23:38	120-12-7	
Benzo(a)anthracene	**0.037J**	ug/L	0.043	0.0098	1	08/16/21 11:46	09/03/21 23:38	56-55-3	
Benzo(a)pyrene	**0.10**	ug/L	0.043	0.0096	1	08/16/21 11:46	09/03/21 23:38	50-32-8	IC
Benzo(b)fluoranthene	**0.10**	ug/L	0.043	0.010	1	08/16/21 11:46	09/03/21 23:38	205-99-2	
Benzo(g,h,i)perylene	**0.13**	ug/L	0.043	0.0088	1	08/16/21 11:46	09/03/21 23:38	191-24-2	
Benzo(k)fluoranthene	**0.031J**	ug/L	0.043	0.0090	1	08/16/21 11:46	09/03/21 23:38	207-08-9	
Chrysene	**0.14**	ug/L	0.043	0.010	1	08/16/21 11:46	09/03/21 23:38	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	0.0086	1	08/16/21 11:46	09/03/21 23:38	53-70-3	
Fluoranthene	ND	ug/L	0.043	0.015	1	08/16/21 11:46	09/03/21 23:38	206-44-0	
Fluorene	ND	ug/L	0.043	0.0066	1	08/16/21 11:46	09/03/21 23:38	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.11**	ug/L	0.043	0.012	1	08/16/21 11:46	09/03/21 23:38	193-39-5	
1-Methylnaphthalene	**0.15**	ug/L	0.043	0.0073	1	08/16/21 11:46	09/03/21 23:38	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.043	0.0090	1	08/16/21 11:46	09/03/21 23:38	91-57-6	
Naphthalene	**0.055**	ug/L	0.043	0.0096	1	08/16/21 11:46	09/03/21 23:38	91-20-3	
Phenanthrene	ND	ug/L	0.043	0.013	1	08/16/21 11:46	09/03/21 23:38	85-01-8	
Pyrene	**0.26**	ug/L	0.043	0.011	1	08/16/21 11:46	09/03/21 23:38	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%.	51-125		1	08/16/21 11:46	09/03/21 23:38	321-60-8	C1,H4
p-Terphenyl-d14 (S)	75	%.	70-125		1	08/16/21 11:46	09/03/21 23:38	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-34-202108 **Lab ID: 10574546003** Collected: 08/12/21 10:40 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**0.59J**	ug/L	1.0	0.12	1		08/17/21 12:51	71-43-2	
Ethylbenzene	**0.14J**	ug/L	1.0	0.069	1		08/17/21 12:51	100-41-4	
Toluene	**0.78J**	ug/L	1.0	0.11	1		08/17/21 12:51	108-88-3	
m&p-Xylene	**0.27J**	ug/L	2.0	0.18	1		08/17/21 12:51	179601-23-1	
o-Xylene	**0.13J**	ug/L	1.0	0.12	1		08/17/21 12:51	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%.	70-130		1		08/17/21 12:51	2199-69-1	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/17/21 12:51	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1		08/17/21 12:51	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**158**	mg/L	5.0	1.8	1		08/26/21 13:53		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**4.8**	mg/L	1.2	0.34	1		08/19/21 07:25	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		08/13/21 19:44	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-11-202108 **Lab ID: 10574546004** Collected: 08/12/21 13:30 Received: 08/13/21 17:15 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	**24.9**	mg/L	0.80	0.24	2	08/24/21 18:20	08/26/21 23:18	68334-30-5	
Motor Oil Range SG	**0.94**	mg/L	0.80	0.37	2	08/24/21 18:20	08/26/21 23:18	64742-65-0	
Surrogates									
o-Terphenyl (S)	77	%.	50-150		2	08/24/21 18:20	08/26/21 23:18	84-15-1	
n-Triacontane (S)	114	%.	50-150		2	08/24/21 18:20	08/26/21 23:18		
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Pace Analytical Services - Minneapolis								
TPH as Gas	**956**	ug/L	100	42.8	1		08/25/21 05:01		G+,G-, HS
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	50-150		1		08/25/21 05:01	98-08-8	
6010D MET ICP, Dissolved	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Minneapolis								
Total Hardness by 2340B, Dissolved	**346000**	ug/L	3300	76.7	1	08/16/21 14:01	08/24/21 11:55		
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020A Pace Analytical Services - Minneapolis								
Arsenic, Dissolved	**44.3**	ug/L	2.5	0.41	5	08/16/21 14:25	08/18/21 23:50	7440-38-2	
Manganese, Dissolved	**4560**	ug/L	50.0	19.9	100	08/16/21 14:25	08/18/21 23:54	7439-96-5	
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA Mod. 3510C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/L	0.038	0.0066	1	08/16/21 11:46	09/03/21 23:58	83-32-9	
Acenaphthylene	**4.5**	ug/L	0.038	0.0058	1	08/16/21 11:46	09/03/21 23:58	208-96-8	
Anthracene	ND	ug/L	0.038	0.0051	1	08/16/21 11:46	09/03/21 23:58	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.038	0.0086	1	08/16/21 11:46	09/03/21 23:58	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.038	0.0084	1	08/16/21 11:46	09/03/21 23:58	50-32-8	IC
Benzo(b)fluoranthene	ND	ug/L	0.038	0.0091	1	08/16/21 11:46	09/03/21 23:58	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.038	0.0077	1	08/16/21 11:46	09/03/21 23:58	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.038	0.0079	1	08/16/21 11:46	09/03/21 23:58	207-08-9	
Chrysene	ND	ug/L	0.038	0.0090	1	08/16/21 11:46	09/03/21 23:58	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.038	0.0076	1	08/16/21 11:46	09/03/21 23:58	53-70-3	
Fluoranthene	ND	ug/L	0.038	0.013	1	08/16/21 11:46	09/03/21 23:58	206-44-0	
Fluorene	ND	ug/L	0.038	0.0058	1	08/16/21 11:46	09/03/21 23:58	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.038	0.011	1	08/16/21 11:46	09/03/21 23:58	193-39-5	
1-Methylnaphthalene	**0.61**	ug/L	0.038	0.0064	1	08/16/21 11:46	09/03/21 23:58	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.038	0.0079	1	08/16/21 11:46	09/03/21 23:58	91-57-6	
Naphthalene	ND	ug/L	0.038	0.0084	1	08/16/21 11:46	09/03/21 23:58	91-20-3	
Phenanthrene	ND	ug/L	0.038	0.012	1	08/16/21 11:46	09/03/21 23:58	85-01-8	
Pyrene	ND	ug/L	0.038	0.0094	1	08/16/21 11:46	09/03/21 23:58	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%.	51-125		1	08/16/21 11:46	09/03/21 23:58	321-60-8	C1,H4
p-Terphenyl-d14 (S)	66	%.	70-125		1	08/16/21 11:46	09/03/21 23:58	1718-51-0	S5

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 0539066
Pace Project No.: 10574546

Sample: PEO-MW-11-202108 **Lab ID: 10574546004** Collected: 08/12/21 13:30 Received: 08/13/21 17:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis								
Benzene	**0.44J**	ug/L	1.0	0.12	1		08/17/21 13:09	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.069	1		08/17/21 13:09	100-41-4	
Toluene	**0.31J**	ug/L	1.0	0.11	1		08/17/21 13:09	108-88-3	
m&p-Xylene	**0.24J**	ug/L	2.0	0.18	1		08/17/21 13:09	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.12	1		08/17/21 13:09	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%.	70-130		1		08/17/21 13:09	2199-69-1	
4-Bromofluorobenzene (S)	104	%.	75-125		1		08/17/21 13:09	460-00-4	
Toluene-d8 (S)	103	%.	75-125		1		08/17/21 13:09	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis								
Alkalinity, Total as CaCO3	**415**	mg/L	5.0	1.8	1		08/26/21 14:00		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis								
Sulfate	**1.4**	mg/L	1.2	0.34	1		08/19/21 07:41	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		08/13/21 19:49	14797-55-8	FS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 765744 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546001, 10574546002, 10574546003, 10574546004

METHOD BLANK: 4081194 Matrix: Water
Associated Lab Samples: 10574546001, 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	42.8	08/25/21 02:44	
a,a,a-Trifluorotoluene (S)	%.	95	50-150		08/25/21 02:44	

LABORATORY CONTROL SAMPLE & LCSD: 4081196 4081197

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	977	985	98	98	75-127	1	20	
a,a,a-Trifluorotoluene (S)	%.				100	99	50-150			

SAMPLE DUPLICATE: 4081490

Parameter	Units	10574546003 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	261	215	20	30	G+,HS
a,a,a-Trifluorotoluene (S)	%.	95	96			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 763560
QC Batch Method: EPA 3020A
Analysis Method: EPA 6020A
Analysis Description: 6020A Water Dissolved UPD4
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4071372 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	0.083	08/18/21 21:32	
Manganese, Dissolved	ug/L	ND	0.50	0.20	08/18/21 21:32	

LABORATORY CONTROL SAMPLE: 4071373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	98.3	98	80-120	
Manganese, Dissolved	ug/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4071374 4071375

Parameter	Units	10574168002 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	0.13J	100	100	99.0	97.9	99	98	75-125	1	20	
Manganese, Dissolved	ug/L	0.71	100	100	101	101	100	100	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 763974
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV UST-WATER
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546001, 10574546002, 10574546003, 10574546004

METHOD BLANK: 4072937 Matrix: Water
Associated Lab Samples: 10574546001, 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.12	08/17/21 10:28	
Ethylbenzene	ug/L	ND	1.0	0.069	08/17/21 10:28	
m&p-Xylene	ug/L	ND	2.0	0.18	08/17/21 10:28	
o-Xylene	ug/L	ND	1.0	0.12	08/17/21 10:28	
Toluene	ug/L	ND	1.0	0.11	08/17/21 10:28	
1,2-Dichlorobenzene-d4 (S)	%.	101	70-130		08/17/21 10:28	
4-Bromofluorobenzene (S)	%.	101	75-125		08/17/21 10:28	
Toluene-d8 (S)	%.	102	75-125		08/17/21 10:28	

LABORATORY CONTROL SAMPLE & LCSD: 4072938 4072939

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/L	20	21.2	20.6	106	103	73-125	3	20	
Ethylbenzene	ug/L	20	19.6	19.1	98	95	75-125	3	20	
m&p-Xylene	ug/L	40	41.8	40.2	104	101	75-125	4	20	
o-Xylene	ug/L	20	21.1	20.3	106	102	75-125	4	20	
Toluene	ug/L	20	20.4	19.9	102	99	75-125	2	20	
1,2-Dichlorobenzene-d4 (S)	%.				99	101	70-130			
4-Bromofluorobenzene (S)	%.				102	101	75-125			
Toluene-d8 (S)	%.				100	101	75-125			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 763668
QC Batch Method: EPA Mod. 3510C
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4071715 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	0.0067	08/31/21 16:11	
2-Methylnaphthalene	ug/L	ND	0.040	0.0083	08/31/21 16:11	
Acenaphthene	ug/L	ND	0.040	0.0069	08/31/21 16:11	
Acenaphthylene	ug/L	ND	0.040	0.0061	08/31/21 16:11	
Anthracene	ug/L	ND	0.040	0.0054	08/31/21 16:11	
Benzo(a)anthracene	ug/L	ND	0.040	0.0090	08/31/21 16:11	
Benzo(a)pyrene	ug/L	ND	0.040	0.0088	08/31/21 16:11	
Benzo(b)fluoranthene	ug/L	ND	0.040	0.0095	08/31/21 16:11	
Benzo(g,h,i)perylene	ug/L	ND	0.040	0.0081	08/31/21 16:11	
Benzo(k)fluoranthene	ug/L	ND	0.040	0.0083	08/31/21 16:11	
Chrysene	ug/L	ND	0.040	0.0094	08/31/21 16:11	
Dibenz(a,h)anthracene	ug/L	ND	0.040	0.0080	08/31/21 16:11	
Fluoranthene	ug/L	ND	0.040	0.014	08/31/21 16:11	
Fluorene	ug/L	ND	0.040	0.0060	08/31/21 16:11	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	0.011	08/31/21 16:11	
Naphthalene	ug/L	ND	0.040	0.0088	08/31/21 16:11	
Phenanthrene	ug/L	ND	0.040	0.012	08/31/21 16:11	
Pyrene	ug/L	ND	0.040	0.0099	08/31/21 16:11	
2-Fluorobiphenyl (S)	%.	74	51-125		08/31/21 16:11	
p-Terphenyl-d14 (S)	%.	82	70-125		08/31/21 16:11	

LABORATORY CONTROL SAMPLE & LCSD: 4071716 4071717

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	0.81	79	81	34-125	2	20	
2-Methylnaphthalene	ug/L	1	0.78	0.79	78	79	34-125	2	20	
Acenaphthene	ug/L	1	0.82	0.78	82	78	35-125	5	20	
Acenaphthylene	ug/L	1	0.81	0.77	81	77	33-125	5	20	
Anthracene	ug/L	1	0.86	0.81	86	81	42-125	6	20	
Benzo(a)anthracene	ug/L	1	0.84	0.79	84	79	46-125	7	20	
Benzo(a)pyrene	ug/L	1	0.88	0.80	88	80	57-125	9	20	
Benzo(b)fluoranthene	ug/L	1	0.89	0.83	89	83	58-125	7	20	
Benzo(g,h,i)perylene	ug/L	1	0.68	0.59	68	59	55-125	14	20	
Benzo(k)fluoranthene	ug/L	1	0.91	0.84	91	84	55-125	8	20	
Chrysene	ug/L	1	0.90	0.83	90	83	56-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.60	0.52	60	52	40-125	14	20	
Fluoranthene	ug/L	1	0.85	0.80	85	80	64-125	7	20	
Fluorene	ug/L	1	0.85	0.79	85	79	43-125	8	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.80	0.74	80	74	57-125	8	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

LABORATORY CONTROL SAMPLE & LCSD: 4071716 4071717

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	1	0.81	0.83	81	83	30-125	3	20	
Phenanthrene	ug/L	1	0.88	0.83	88	83	47-125	6	20	
Pyrene	ug/L	1	0.91	0.85	91	85	46-125	6	20	
2-Fluorobiphenyl (S)	%.				77	75	51-125			
p-Terphenyl-d14 (S)	%.				86	79	70-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 765804
QC Batch Method: EPA Mod. 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV SG
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4081403 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	0.12	08/26/21 22:31	
Motor Oil Range SG	mg/L	ND	0.40	0.18	08/26/21 22:31	
n-Triacontane (S)	%.	67	50-150		08/26/21 22:31	
o-Terphenyl (S)	%.	72	50-150		08/26/21 22:31	

LABORATORY CONTROL SAMPLE & LCSD: 4081404 4081405

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	1.8	94	90	50-150	5	20	
Motor Oil Range SG	mg/L	2	1.9	1.7	94	87	50-150	7	20	
n-Triacontane (S)	%.				77	76	50-150			
o-Terphenyl (S)	%.				79	71	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

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 766349 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4083794 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	1.8	08/26/21 13:07	

LABORATORY CONTROL SAMPLE & LCSD: 4083795 4083796

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	42.3	42.2	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4083797 4083798

Parameter	Units	10574386001 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	307	40	40	338	345	79	95	80-120	2	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4083799 4083800

Parameter	Units	10574564001 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	75.8	40	40	116	116	100	101	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 763764
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4072104 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.2	0.34	08/18/21 20:12	

LABORATORY CONTROL SAMPLE: 4072105

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: 4072106 4072107

Parameter	Units	10573839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1.9	50	50	50.5	51.5	97	99	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4072108 4072109

Parameter	Units	10574168002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	5.0	50	50	54.1	54.8	98	100	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 0539066
Pace Project No.: 10574546

QC Batch: 763509
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10574546002, 10574546003, 10574546004

METHOD BLANK: 4070935 Matrix: Water
Associated Lab Samples: 10574546002, 10574546003, 10574546004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	ND	0.10	0.018	08/13/21 19:45	FS

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10574546

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: 10574546

[1]	The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: 763974

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

Batch: 767259

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

ANALYTE QUALIFIERS

C1	Result could not be confirmed by second analysis.
FS	The sample was filtered in the laboratory prior to analysis.
G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.
H4	Sample re-extracted and analyzed outside of EPA method holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 0539066
Pace Project No.: 10574546

ANALYTE QUALIFIERS

P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0539066
Pace Project No.: 10574546

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10574546002	**PEO-MW-02-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574546003	**PEO-MW-34-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574546004	**PEO-MW-11-202108**	EPA Mod. 3510C	765804	NWTPH-Dx	766128
10574546001	**TRIP BLANK-20210812**	NWTPH-Gx	765744		
10574546002	**PEO-MW-02-202108**	NWTPH-Gx	765744		
10574546003	**PEO-MW-34-202108**	NWTPH-Gx	765744		
10574546004	**PEO-MW-11-202108**	NWTPH-Gx	765744		
10574546002	**PEO-MW-02-202108**	EPA 3010A	763561	EPA 6010D	763867
10574546003	**PEO-MW-34-202108**	EPA 3010A	763561	EPA 6010D	763867
10574546004	**PEO-MW-11-202108**	EPA 3010A	763561	EPA 6010D	763867
10574546002	**PEO-MW-02-202108**	EPA 3020A	763560	EPA 6020A	763850
10574546003	**PEO-MW-34-202108**	EPA 3020A	763560	EPA 6020A	763850
10574546004	**PEO-MW-11-202108**	EPA 3020A	763560	EPA 6020A	763850
10574546002	**PEO-MW-02-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574546003	**PEO-MW-34-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574546004	**PEO-MW-11-202108**	EPA Mod. 3510C	763668	EPA 8270 by SIM	767259
10574546001	**TRIP BLANK-20210812**	EPA 8260B	763974		
10574546002	**PEO-MW-02-202108**	EPA 8260B	763974		
10574546003	**PEO-MW-34-202108**	EPA 8260B	763974		
10574546004	**PEO-MW-11-202108**	EPA 8260B	763974		
10574546002	**PEO-MW-02-202108**	SM 2320B	766349		
10574546003	**PEO-MW-34-202108**	SM 2320B	766349		
10574546004	**PEO-MW-11-202108**	SM 2320B	766349		
10574546002	**PEO-MW-02-202108**	EPA 300.0	763764		
10574546003	**PEO-MW-34-202108**	EPA 300.0	763764		
10574546004	**PEO-MW-11-202108**	EPA 300.0	763764		
10574546002	**PEO-MW-02-202108**	EPA 353.2	763509		
10574546003	**PEO-MW-34-202108**	EPA 353.2	763509		
10574546004	**PEO-MW-11-202108**	EPA 353.2	763509		

Pace Analytical
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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.

WO# : 10574546

10574546

Section A Required Client Information:

Company:	ERM
Address:	1050 SW 6th Ave, Suite 1650
	Portland, OR 97204
Email To:	rita.cooper@erm.com
Phone: 207-329-6320	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Rita Cooper
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	0539066

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW WT
WATER	WW
WASTE WATER	P
PRODUCT	SL
SOIL/SOLID	OL
OIL	WP
WIPE	AR
AIR	OT
OTHER	TS
TISSUE	

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: GRO (NWTPH-Gx)	BTEX (SW8260C/SW8260C SIM)	VPH (NWTPH-VPH)	DRO (NWTPH-Dx)	Dissolved Metals (As, MN) (6020A)	Hardness (SM2340B)	SVOC (EPA 8270 SIM)	EPH (NWTPH-EPH)	Nitrate (EPA 353.2)	Total Alkalinity (SM 2320B)	Sulfate (EPA 300.0)	Nitrate + Nitrite	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TRIP BLANK-20210812	GW	G	8/12/21	8:00				6	-	-	-	X	-	-	-	-		3	3	3	-	-	-	-	-	-	-	-		
2	PEO-MW-02-202108	GW	G	8/12/21	7:50				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		
3	PEO-MW-34-202108	GW	G	8/12/21	10:40				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		
4	PEO-MW-11-202108	GW	G	8/12/21	13:30				19	X	X	X	X	-	-	-	-		3	3	3	2	1	X	2	2	1	1	X	1		
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	A. Johnson / ERM	8/12/21	17:00	[signature]	8/13/21	07:15	19.3	Y	N	Y
							6.4			
							7.0			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: A. Johnson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 8/12/21

*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.

Pace Analytical®	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#: 10574546
PM: JMT Due Date: 08/30/21
CLIENT: ERM-Oregon

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: _____ 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: _____ **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:** 14.3, 6.4, 7.0 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 14.3, 6.4, 7.0 °C

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

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

Date/Initials of Person Examining Contents: MK 8-13-21

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		8.
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests? JMB 8/16/21	☒ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** ☐ See Exception ENV-FRM-MIN4-0142
Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other _____				
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☒ Yes	☐ No	☐ N/A	☐ NaOH ☒ HNO3 ☒ H2SO4 ☐ Zinc Acetate 1-3½ 1-3
Exceptions: VOA, Coliform, TOC/DOC ~~Oil and Grease~~, DRO/8015 (water) and Dioxin/PFAS JMB 8/16/21	☒ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** ☐ See Exception ENV-FRM-MIN4-0142
				Res. Chlorine: 0-6 Roll 221419 | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. ☐ See Exception ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☒ Yes	☐ No	☐ N/A	
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14. 6 water trip blanks
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): _____

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

erson Contacted: Joe Casey Date/Time: 8/13/21

mments/Resolution: emailed to indicate samples were received out of temp and we will continue with analysis.

Project Manager Review: Julie Bauer **Date:** 8/16/21

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 ncorrect preservative, out of temp, incorrect containers).

Labeled by: MK 2

Pace Analytical®	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-02	7	0	2	9	Y
PEO-MW-34	9	0	0	9	Y
PEO-MW-11	8	0	1	9	Y

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: 0539066
Work Order Number: 2108269

September 08, 2021

Attention Julie Bowser:

Fremont Analytical, Inc. received 4 sample(s) on 8/19/2021 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: *09/08/2021*

CLIENT: Pace Analytical Minnesota
Project: 0539066
Work Order: 2108269

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2108269-001	TRIP BLANK-20210812	08/12/2021 8:00 AM	08/19/2021 10:22 AM
2108269-002	PEO-MW-02-202108	08/12/2021 7:50 AM	08/19/2021 10:22 AM
2108269-003	PEO-MW-34-202108	08/12/2021 10:40 AM	08/19/2021 10:22 AM
2108269-004	PEO-MW-11-202108	08/12/2021 1:30 PM	08/19/2021 10:22 AM

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

Original

Case Narrative

WO#: **2108269**

Date: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

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

Analytical Report

Work Order: **2108269**
Date Reported: **9/8/2021**

CLIENT: Pace Analytical Minnesota
Project: 0539066

Lab ID: 2108269-001 **Collection Date:** 8/12/2021 8:00:00 AM
Client Sample ID: **TRIP BLANK-20210812** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/24/2021 8:10:53 PM
Surr: 1,4-Difluorobenzene	85.4	65 - 140		%Rec	1	8/24/2021 8:10:53 PM
Surr: Bromofluorobenzene	97.1	65 - 140		%Rec	1	8/24/2021 8:10:53 PM

Lab ID: 2108269-002 **Collection Date:** 8/12/2021 7:50:00 AM
Client Sample ID: **PEO-MW-02-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	8,000	20.7		µg/L	1	8/30/2021 8:30:28 PM
Surr: 1-Chlorooctadecane	110	60 - 140		%Rec	1	8/30/2021 8:30:28 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/25/2021 2:38:53 AM
Surr: 1,4-Difluorobenzene	87.6	65 - 140		%Rec	1	8/25/2021 2:38:53 AM
Surr: Bromofluorobenzene	102	65 - 140		%Rec	1	8/25/2021 2:38:53 AM

CLIENT: Pace Analytical Minnesota
Project: 0539066

Lab ID: 2108269-003 **Collection Date:** 8/12/2021 10:40:00 AM
Client Sample ID: **PEO-MW-34-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	35.8	20.6	J	µg/L	1	8/30/2021 9:23:18 PM
Surr: 1-Chlorooctadecane	65.8	60 - 140		%Rec	1	8/30/2021 9:23:18 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	ND	12.2		µg/L	1	8/25/2021 3:17:36 AM
Surr: 1,4-Difluorobenzene	87.7	65 - 140		%Rec	1	8/25/2021 3:17:36 AM
Surr: Bromofluorobenzene	101	65 - 140		%Rec	1	8/25/2021 3:17:36 AM

Lab ID: 2108269-004 **Collection Date:** 8/12/2021 1:30:00 PM
Client Sample ID: **PEO-MW-11-202108** **Matrix:** Water

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 33477		Analyst: MM
Aliphatic Hydrocarbon (C10-C12)	645	20.5		µg/L	1	8/30/2021 10:16:27 PM
Surr: 1-Chlorooctadecane	74.8	60 - 140		%Rec	1	8/30/2021 10:16:27 PM
Volatile Petroleum Hydrocarbons by NWVPH				Batch ID: 33481		Analyst: SLA
Aliphatic Hydrocarbon (C10-C12)	44.3	12.2		µg/L	1	8/25/2021 3:56:28 AM
Surr: 1,4-Difluorobenzene	90.2	65 - 140		%Rec	1	8/25/2021 3:56:28 AM
Surr: Bromofluorobenzene	109	65 - 140		%Rec	1	8/25/2021 3:56:28 AM

Work Order: 2108269
CLIENT: Pace Analytical Minnesota
Project: 0539066

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-33477**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **MBLKW**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410621**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Surr: 1-Chlorooctadecane	453		400.0		113	60	140				

Sample ID: **LCS-33477**	SampType: **LCS**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **LCSW**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410622**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	362	39.6	494.9	0	73.1	70	130				
Surr: 1-Chlorooctadecane	422		395.9		106	60	140				

Sample ID: **LCSD-33477**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **LCSW02**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410623**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	383	39.5	493.4	0	77.7	70	130	361.8	5.80	20	
Surr: 1-Chlorooctadecane	459		394.7		116	60	140		0		

Sample ID: **2108268-002AMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **8/24/2021**			RunNo: **69593**		
Client ID: **BATCH**	Batch ID: **33477**					Analysis Date: **8/30/2021**			SeqNo: **1410625**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	416	39.9	498.4	0	83.5	70	130				
Surr: 1-Chlorooctadecane	439		398.7		110	60	140				

Work Order: 2108269
CLIENT: Pace Analytical Minnesota
Project: 0539066

QC SUMMARY REPORT

Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: **LCS-33481**	SampType: **LCS**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **LCSW**	Batch ID: **33481**		Analysis Date: **8/24/2021**	SeqNo: **1408779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	200	25.0	200.0	0	100	70	130				
Surr: 1,4-Difluorobenzene	54.2		50.00		108	65	140				
Surr: Bromofluorobenzene	52.5		50.00		105	65	140				

Sample ID: **MB-33481**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **MBLKW**	Batch ID: **33481**		Analysis Date: **8/24/2021**	SeqNo: **1408777**

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	42.9		50.00		85.7	65	140				
Surr: Bromofluorobenzene	48.9		50.00		97.7	65	140				

Sample ID: **2108268-004BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **BATCH**	Batch ID: **33481**		Analysis Date: **8/25/2021**	SeqNo: **1408767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	327	25.0		0	0			343.2	4.77	25	
Surr: 1,4-Difluorobenzene	50.5		50.00		101	65	140		0		
Surr: Bromofluorobenzene	54.8		50.00		110	65	140		0		

Sample ID: **2108269-002BMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **8/24/2021**	RunNo: **69510**
Client ID: **PEO-MW-02-202108**	Batch ID: **33481**		Analysis Date: **8/25/2021**	SeqNo: **1408772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	127	25.0	200.0	0	63.6	70	130				S
Surr: 1,4-Difluorobenzene	54.5		50.00		109	65	140				
Surr: Bromofluorobenzene	53.1		50.00		106	65	140				

NOTES:
S - Outlying spike recoveries were associated with this sample.

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108269**
Logged by:	**Clare Griggs**	Date Received:	**8/19/2021 10:22:00 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:	Julie Bowser	Date:	8/19/2021
By Whom:	Gabrielle Coeuille	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	Did not receive 1L Amber volume for any of the samples listed on the COC.		
Client Instructions:	Client will send volume. should arrive 8/23-8/24		

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	1.0

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

Sample Log-In Check List

Client Name:	**PACEMI**	Work Order Number:	**2108269**
Logged by:	**Clare Griggs**	Date Received:	**8/19/2021 10:22:00 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: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

EPH volume received on 8/24/21 at 10:13am.

Item Information

Item #	Temp ºC
Sample	2.6

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

Chain of Custody

PASI Minnesota Laboratory

21082169

Pace Analytical®
www.pacelabs.com

Workorder: 10574546 **Workorder Name:** 0539066 **Results Requested By:** 8/30/2021

Report / Invoice To	Subcontract To
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. 10574546

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL VG9H + AG1H	NWTPH VPH (C10-C12)	NWTPH EPH (C10-C12)	LAB USE ONLY
1	TRIP BLANK-20210812	8/12/2021 08:00	10574546001	Water	2	X		
2	PEO-MW-02-202108	8/12/2021 07:50	10574546002	Water	5	X	X	
3	PEO-MW-34-202108	8/12/2021 10:40	10574546003	Water	5	X	X	
4	PEO-MW-11-202108	8/12/2021 13:30	10574546004	Water	5	X	X	
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Pace	8/17/21 1700		8/19 10:22
2				
3				

Comments: Report to MDL, EQUIS EDD needed

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

edit 8/24/21 -CG

Chain of Custody

PASI Minnesota Laboratory

EPH Volume for wo#2108269

2108269

~~2108334~~

Pace Analytical® www.pacelabs.com

Workorder: 10574546 **Workorder Name:** 0539066 **Results Requested By:** 8/30/2021

Report / Invoice To	Subcontract To
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. 10574546

State of Sample Origin: OR

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL AG1H	Requested Analysis: NWTPH EPH (C10-C12)	LAB USE ONLY
1							
2	PEO-MW-02-202108	8/12/2021 07:50	10574546002	Water	2	X	
3	PEO-MW-34-202108	8/12/2021 10:40	10574546003	Water	2	X	
4	PEO-MW-11-202108	8/12/2021 13:30	10574546004	Water	2	X	
5							

Transfers	Released By	Date/Time	Received By	Date/Time
1	Pace	8/12/21 1540	[signature]	8/24 10:13
2				
3				

Comments: Report to MDL, EQUIS EDD needed

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

Attachment B – Q1 2021 GW SCM
Groundwater Tables

Table Q3-1
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)	Sitewide Monitoring Point	Water Level Monitoring Point[1]	Transducer Installed	Quarterly Monitoring[2]
				Top	Bottom	ft-NAVD88				
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 measurment collected monthly
[2] = Groundwater analytical samples
NAVD88 = North America Vertical Datum 1988

Table Q3-2
Groundwater Elevations - July 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	7/13/2021	21.51	-	ND	-	9.67
MW-03	Shallow	31.67	7/13/2021	20.74	-	ND	-	10.93
MW-06	Shallow	31.23	7/13/2021	21.04	-	ND	-	10.19
MW-07	Decommissioned 1/14/2021							
MW-08	Shallow	30.93	7/13/2021	21.66	-	ND	-	9.27
MW-11	Shallow	31.06	7/13/2021	20.67	-	ND	-	10.39
MW-18	Shallow	30.87	7/13/2021	21.21	-	ND	-	9.66
MW-19	Shallow	31.70	7/13/2021	21.78	-	ND	-	9.92
MW-21	Shallow	31.36	7/13/2021	15.13	-	ND	-	16.23
MW-24A	Shallow	32.35	7/13/2021	19.24	-	ND	-	13.11
MW-25	Shallow	31.78	7/13/2021	21.65	-	ND	-	10.13
MW-26	Deep	31.89	7/13/2021	23.37	-	ND	-	8.52
MW-27	Deep	31.46	7/13/2021	22.44	-	ND	-	9.02
MW-28	Shallow	31.26	7/13/2021	21.49	-	ND	-	9.77
MW-29	Shallow	31.90	7/13/2021	21.86	-	ND	-	10.04
MW-30	Shallow	31.05	7/13/2021	21.57	-	ND	-	9.48
MW-31	Shallow	30.77	7/13/2021	21.24	-	ND	-	9.53
MW-32	Deep	31.08	7/13/2021	21.28	-	ND	-	9.80
MW-33	Deep	30.88	7/13/2021	21.61	-	ND	-	9.27
MW-34	Shallow	30.72	7/13/2021	20.29	-	ND	-	10.43
MW-35	Deep	30.83	7/13/2021	22.25	-	ND	-	8.58
MW-36	Shallow	30.16	7/13/2021	20.75	-	ND	-	9.41
MW-37	Deep	31.27	7/13/2021	22.79	-	ND	-	8.48
MW-38	Shallow	31.54	7/13/2021	20.30	-	ND	-	11.24
MW-39	Shallow	31.08	7/13/2021	21.88	21.74	0.14	0.02	9.31
MW-40	Deep	31.71	7/13/2021	22.75	-	ND	-	8.96
MW-41	Shallow	31.32	7/13/2021	17.96	-	ND	-	13.36
MW-42	Deep	31.94	7/13/2021	23.00	-	ND	-	8.94
MW-43	Shallow	31.39	7/13/2021	21.88	-	ND	-	9.51
MW-44	Shallow	30.98	7/13/2021	21.27	-	ND	-	9.71
MW-45	Shallow	31.70	7/13/2021	22.68	-	ND	-	9.02

Notes:
MW-44 and MW-45 surveyed June 2, 2021
– = 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 Q3-3
Groundwater Elevations - August 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	8/2/2021	22.20	-	ND	-	8.98
MW-03	Shallow	31.67	8/2/2021	21.65	-	ND	-	10.02
MW-06	Shallow	31.23	8/2/2021	22.15	-	ND	-	9.08
MW-07	Shallow	Decommissioned 1/14/2021						
MW-08	Shallow	30.93	8/2/2021	22.56	-	ND	-	8.37
MW-11	Shallow	31.06	8/2/2021	25.85	-	ND	-	5.21
MW-18	Shallow	30.87	8/2/2021	22.04	-	ND	-	8.83
MW-19	Shallow	31.70	8/2/2021	22.78	-	ND	-	8.92
MW-21	Shallow	31.36	8/3/2021	15.41	-	ND	-	15.95
MW-24A	Shallow	32.35	8/2/2021	19.47	-	ND	-	12.88
MW-25	Shallow	31.78	8/2/2021	24.04	-	ND	-	7.74
MW-26	Deep	31.89	8/2/2021	25.46	-	ND	-	6.43
MW-27	Deep	31.46	8/2/2021	25.15	-	ND	-	6.31
MW-28	Shallow	31.26	8/2/2021	23.68	-	ND	-	7.58
MW-29	Shallow	31.90	8/2/2021	23.76	-	ND	-	8.14
MW-30	Shallow	31.05	8/2/2021	22.63	-	ND	-	8.42
MW-31	Shallow	30.77	8/2/2021	22.38	-	ND	-	8.39
MW-32	Deep	31.08	8/2/2021	23.61	-	ND	-	7.47
MW-33	Deep	30.88	8/2/2021	24.18	-	ND	-	6.70
MW-34	Shallow	30.72	8/2/2021	27.30	-	ND	-	3.42
MW-35	Deep	30.83	8/2/2021	24.45	-	ND	-	6.38
MW-36	Shallow	30.16	8/2/2021	23.33	-	ND	-	6.83
MW-37	Deep	31.27	8/2/2021	24.84	-	ND	-	6.43
MW-38	Shallow	31.54	8/2/2021	21.37	-	ND	-	10.17
MW-39	Shallow	31.08	8/2/2021	22.82	22.27	0.55	0.09	8.70
MW-40	Deep	31.71	8/2/2021	25.25	-	ND	-	6.46
MW-41	Shallow	31.32	8/2/2021	18.24	-	ND	-	13.08
MW-42	Deep	31.94	8/2/2021	25.90	-	ND	-	6.04
MW-43	Shallow	31.39	8/2/2021	24.34	-	ND	-	7.05
MW-44	Shallow	30.98	8/2/2021	22.40	-	ND	-	8.58
MW-45	Shallow	31.70	8/2/2021	24.84	-	ND	-	6.86

Notes:
MW-44 and MW-45 surveyed June 2, 2021
– = 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 Q3-4
Groundwater Elevations - September 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	9/15/2021	23.24	-	ND	-	7.94
MW-03	Shallow	31.67	9/15/2021	23.34	-	ND	-	8.33
MW-06	Shallow	31.23	9/15/2021	22.99	-	ND	-	8.24
MW-07	Decommissioned 1/14/2021							
MW-08	Shallow	30.93	9/15/2021	23.55	-	ND	-	7.38
MW-11	Shallow	31.06	9/15/2021	23.67	-	ND	-	7.39
MW-18	Shallow	30.87	9/15/2021	23.49	-	ND	-	7.38
MW-19	Shallow	31.70	9/15/2021	23.63	-	ND	-	8.07
MW-21	Shallow	31.36	9/15/2021	15.91	-	ND	-	15.45
MW-24A	Shallow	32.35	9/15/2021	19.93	-	ND	-	12.42
MW-25	Shallow	31.78	9/15/2021	24.75	-	ND	-	7.03
MW-26	Deep	31.89	9/15/2021	27.30	-	ND	-	4.59
MW-27	Deep	31.46	9/15/2021	26.30	-	ND	-	5.16
MW-28	Shallow	31.26	9/15/2021	24.25	-	ND	-	7.01
MW-29	Shallow	31.90	9/15/2021	24.42	-	ND	-	7.48
MW-30	Shallow	31.05	9/15/2021	23.47	-	ND	-	7.58
MW-31	Shallow	30.77	9/15/2021	23.40	-	ND	-	7.37
MW-32	Deep	31.08	9/15/2021	24.26	-	ND	-	6.82
MW-33	Deep	30.88	9/15/2021	25.16	-	ND	-	5.72
MW-34	Shallow	30.72	9/15/2021	22.74	-	ND	-	7.98
MW-35	Deep	30.83	9/15/2021	25.71	-	ND	-	5.12
MW-36	Shallow	30.16	9/15/2021	23.71	-	ND	-	6.45
MW-37	Deep	31.27	9/15/2021	26.38	-	ND	-	4.89
MW-38	Shallow	31.54	9/15/2021	22.50	-	ND	-	9.04
MW-39	Shallow	31.08	9/15/2021	24.61	24.59	0.02	0.00	6.49
MW-40	Deep	31.71	9/15/2021	26.32	-	ND	-	5.39
MW-41	Shallow	31.32	9/15/2021	18.76	-	ND	-	12.56
MW-42	Deep	31.94	9/15/2021	26.75	-	ND	-	5.19
MW-43	Shallow	31.39	9/15/2021	25.00	24.54	0.46	0.08	6.76
MW-44	Shallow	30.98	9/15/2021	23.16	-	ND	-	7.82
MW-45	Shallow	31.70	9/15/2021	22.99	-	ND	-	8.71

Notes:
MW-44 and MW-45 surveyed June 2, 2021
– = 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 Q2-5
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
Transducer Position	TOC Elev Adj. (ft above NAVD88)	30.93	31.06	30.87	31.36	31.46	31.26	31.05	31.08	30.88	30.72	30.83	30.16	31.71	31.32	31.94
	Datalogger depth (ft BTOC)	26.91	26.25[1]	27.00	18.05	39.87	28.12	28.00	38.14	39.31	27.90	39.83	29.92	39.84	27.35	39.04
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

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 technical connectivity issues. Calibration completed in January 2021.

Table Q2-6
Horizontal and Vertical Gradients - Barrier Wall
Premier Edible Oils
Portland, Oregon

Well Identification	Measuring Point (Top of Casing)	Screen Interval (ft bgs)		Groundwater Elevation ft-NAVD88			Gradient[1,2] ft/ft		
	ft-NAVD88	Top	Bottom	7/13/2021	8/2/2021	9/15/2021	7/13/2021	8/2/2021	9/15/2021
Shallow Horizontal Gradient									
MW-30	31.05	13.00	28.00	9.48	8.42	7.58	-0.0015	0.0009	0.0062
MW-31	30.77	13.00	28.00	9.53	8.39	7.37			
MW-30	31.05	13.00	28.00	9.48	8.42	7.58	-0.0041	-0.0094	0.0046
MW-18	30.87	12.00	27.00	9.66	8.83	7.38			
MW-34	30.72	13.00	28.00	10.43	3.42	7.98	0.0366	-0.1223	0.0549
MW-36	30.16	15.00	30.00	9.41	6.83	6.45			
MW-38	31.54	13.00	27.00	11.24	10.17	9.04	0.0805	0.0614	0.1067
MW-39	31.08	15.00	30.00	9.31	8.70	6.49			
MW-29	31.90	13.00	28.00	10.04	8.14	7.48	0.0102	0.0209	0.0139
MW-43	31.39	15.00	30.00	9.51	7.05	6.76			
MW-41	31.32	13.00	27.00	13.36	13.08	12.56	0.0089	0.0071	0.0050
MW-24A	32.35	12.00	27.00	13.11	12.88	12.42			
						Average Shallow Horizontal Gradient	**0.0218**	**-0.0069**	**0.0319**
Deep Horizontal Gradient									
MW-32	31.08	35.00	40.00	9.80	7.47	6.82	0.0060	0.0088	0.0126
MW-33	30.88	35.00	40.00	9.27	6.70	5.72			
MW-35	30.83	35.00	40.00	8.58	6.38	5.12	-0.0110	0.0017	-0.0010
MW-27	31.46	35.00	40.00	9.02	6.31	5.16			
MW-37	31.27	35.00	40.00	8.48	6.43	4.89	-0.0084	0.0019	-0.0042
MW-27	31.46	35.00	40.00	9.02	6.31	5.16			
MW-37	31.27	35.00	40.00	8.48	6.43	4.89	-0.0006	0.0000	0.0043
MW-26	31.89	34.00	39.00	8.52	6.43	4.59			
MW-40	31.71	35.00	40.00	8.96	6.46	5.39	0.0006	0.0131	0.0062
MW-42	31.94	35.00	40.00	8.94	6.04	5.19			
						Average Deep Horizontal Gradient	**-0.0027**	**0.0051**	**0.0036**
Vertical Gradients[3]									
MW-32	31.08	35.00	40.00	9.80	7.47	6.82	0.0457	-0.1357	-0.1086
MW-30	31.05	13.00	28.00	9.48	8.42	7.58			
MW-35	30.83	35.00	40.00	8.58	6.38	5.12	-0.2643	0.4229	-0.4086
MW-34	30.72	13.00	28.00	10.43	3.42	7.98			
MW-37	31.27	35.00	40.00	8.48	6.43	4.89	-0.3450	-0.4675	-0.5188
MW-38	31.54	13.00	27.00	11.24	10.17	9.04			
MW-40	31.71	35.00	40.00	8.96	6.46	5.39	-0.5500	-0.8275	-0.8963
MW-41	31.32	13.00	27.00	13.36	13.08	12.56			
						Average Vertical Gradient	**-0.2784**	**-0.2520**	**-0.4830**

Notes:
NAVD88 = North America Vertical Datum 1988
[1] *= Positive horizonatal 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 Q3-7
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	8/12/2021	22.50	-	ND	-	8.68
MW-03	Shallow	31.67	8/4/2021	21.77	-	ND	-	9.90
MW-06	Shallow	31.23	8/5/2021	22.26	-	ND	-	8.97
MW-07	Shallow	Decommissioned 1/14/2021						
MW-08	Shallow	30.93	8/9/2021	22.25	-	ND	-	8.68
MW-11	Shallow	31.06	8/12/2021	22.16	-	ND	-	8.90
MW-18	Shallow	30.87	8/5/2021	22.28	-	ND	-	8.59
MW-19	Shallow	31.70	8/5/2021	22.95	-	ND	-	8.75
MW-21	Shallow	31.36	8/4/2021	15.45	-	ND	-	15.91
MW-24A	Shallow	32.35	8/4/2021	19.49	-	ND	-	12.86
MW-25	Shallow	31.78	8/4/2021	23.77	-	ND	-	8.01
MW-26	Deep	31.89	8/10/2021	24.35	-	ND	-	7.54
MW-27	Deep	31.46	8/11/2021	21.95	-	ND	-	9.51
MW-28	Shallow	31.26	8/10/2021	22.93	-	ND	-	8.33
MW-29	Shallow	31.90	8/10/2021	22.98	-	ND	-	8.92
MW-30	Shallow	31.05	8/9/2021	22.45	-	ND	-	8.60
MW-31	Shallow	30.77	8/5/2021	22.40	-	ND	-	8.37
MW-32	Deep	31.08	8/3/2021	23.76	-	ND	-	7.32
MW-33	Deep	30.88	8/3/2021	23.37	-	ND	-	7.51
MW-34	Shallow	30.72	8/12/2021	21.61	-	ND	-	9.11
MW-35	Deep	30.83	8/11/2021	22.48	-	ND	-	8.35
MW-36	Shallow	30.16	8/10/2021	21.67	-	ND	-	8.49
MW-37	Deep	31.27	8/11/2021	22.35	-	ND	-	8.92
MW-38	Shallow	31.54	8/11/2021	21.15	-	ND	-	10.39
MW-39	Shallow	31.08	8/3/2021	24.09	23.60	0.49	0.08	7.38
MW-40	Deep	31.71	8/9/2021	24.28	-	ND	-	7.43
MW-41	Shallow	31.32	8/9/2021	18.31	-	ND	-	13.01
MW-42	Deep	31.94	8/4/2021	24.74	-	ND	-	7.20
MW-43	Shallow	31.39	8/10/2021	23.45	-	ND	-	7.94
MW-44	Shallow	30.98	8/5/2021	22.35	-	ND	-	8.63
MW-45	Shallow	31.70	8/9/2021	24.20	-	ND	-	7.50

Notes:
** = Not Surveyed*
– = 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 Q2-8
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
Total Recovered		**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Notes:
– = not applicable
** = approximate value*

Table Q3-9
Groundwater Field Parameters - August 2021
Premier Edible Oils, 10400 N Burgard Way
Portland OR

Monitoring Well	Date	pH	Specific Conductance µS/cm	Temperature °C	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU
MW-02	8/12/2021	6.49	894	33.59	-101.5	0.25	
MW-03	8/4/2021	6.19	108	18.15	134.2	1.73	18
MW-06	8/5/2021	6.42	151	15.74	-38.1	0.37	9.7
MW-07	Decommissioned 1/14/2021						
MW-08	8/9/2021	5.41	204	20.67	130.1	0.24	3.63
MW-11	8/12/2021	6.57	1,013	32.78	-60.2	0.21	25.2
MW-18	8/5/2021	6.35	505	20.51	-81.1	0.66	35.8
MW-19	8/5/2021	6.42	250	17.05	114.1	0.9	18.3
MW-21	8/4/2021	6.27	97	16.87	46.9	1.45	10.3
MW-24A	8/4/2021	6	139	17.24	55.3	5.13	318
MW-25	8/4/2021	6.22	124	18.03	147.9	6.94	28.5
MW-26	8/10/2021	6.35	113	25.83	110.9	1.78	36.3
MW-27	8/11/2021	6.61	237	26.59	-46.1	0.16	
MW-28	8/10/2021	6.25	135	18.47	193.8	5.84	3.59
MW-29	8/10/2021	6.32	620	22.27	-31.7	0.21	
MW-30	8/9/2021	6.37	636	22.02	-16.1	0.25	
MW-31	8/5/2021	6.25	369	20.91	119.2	7.87	25.1
MW-32	8/3/2021	10.29	241	22.96	27.9	0.63	10.9
MW-33	8/3/2021	8.79	241	23.2	-110.2	0.111	3.49
MW-34	8/12/2021	6.3	522	32.18	-96.91	0.19	191
MW-35	8/11/2021	6.74	217	30.05	-72.5	0.2	40.2
MW-36	8/10/2021	6.18	373	28.42	-49.7	0.16	43.7
MW-37	8/11/2021	8.88	203	24.84	30.9	0.34	626
MW-38	8/11/2021	6.23	529	25.14	-20.2	0.36	22.3
MW-39	Not collected due to presence of LNAPL						
MW-40	8/9/2021	6.79	216	17.88	-21.3	0.18	7.74
MW-41	8/9/2021	6.36	126	17.34	104	0.21	19.1
MW-42	8/4/2021	7.18	252	17.84	-90.1	0.42	7.64
MW-43	8/10/2021	6.36	470	27.82	-82.3	0.17	
MW-44	8/5/2021	6.5	173	17.88	47.6	0.63	73.9
MW-45	8/9/2021	5.14	164	20.54	174.4	2.5	8.85

Notes:
-- = not analyzed
°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
µS/cm = microsiemens per centimeter
Empty cells = Not measured.

Table Q3-10
Groundwater Analytical Data - Petroleum Related Compounds
Premier Edible Oils, 10400 N Burgard Way
Portland OR

Method		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	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
Well	Sample Date										
MW-02	8/12/2021	**0.59 J**	**0.074 J**	**0.25 J**	**0.13 J**	**0.35 J**	**6,400 J**	**111,000 J**	**690 J**	**8,000 J**	**R**
MW-03	8/4/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 120*	*< 88*	*< 42.8*	*< 20.4*	*< 12.2*
MW-06	8/5/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	**0.35 J**	*< 120 UJ*	**1,200 J**	**4,420 J**	**806 J**	**666 J**
MW-08	8/9/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	**560 J+**	**430 J+**	**R**	*< 20.2*	*< 12.2*
MW-11	8/12/2021	**0.44 J**	*< 0.069 UJ*	**0.24 J**	*< 0.12 UJ*	**0.31 J**	**940 J**	**24,900 J**	**956 J-**	**645 J**	**44.3 J**
MW-18	8/5/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	**240 J**	**1,800 J**	**287 J**	*< 20.7 UJ*	*< 12.2 UJ*
MW-19	8/5/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 120 UJ*	*< 88 UJ*	**139 J**	*< 20.4 UJ*	*< 12.2 UJ*
MW-21	8/4/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 120*	*< 88*	*< 42.8*	**22.2 j**	*< 12.2 UJ*
MW-24A	8/4/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 120*	*< 88*	*< 42.8*	*< 20.6*	*< 12.2*
MW-25	8/4/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 120*	**120 j**	*< 42.8*	*< 20.3*	*< 12.2*
MW-26	8/10/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	**290 J**	**4,000 J**	*< 42.8 UJ*	*< 20.4 UJ*	*< 12.2 UJ*
MW-27	8/11/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	**R**	*< 120 UJ*	**410 J**	**113 J**	*< 20.6 UJ*	*< 12.2 UJ*
MW-27 Dup	8/11/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	**R**	*< 180 UJ*	**610 J**	**147 J**	*< 20.7 UJ*	*< 12.2 UJ*
MW-28	8/10/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 130 UJ*	*< 89 UJ*	*< 42.8 UJ*	*< 20.6 UJ*	*< 12.2 UJ*
MW-29	8/10/2021	**1.3 J**	**1.6 J**	**6.1 J**	**1.0 J**	**2.4 J**	**200 J**	**3,600 J**	**3,850 J**	**79.0 J**	**253 J**
MW-30	8/9/2021	**0.69 j**	**0.21 j**	**0.22 j**	**0.47 j**	**0.41 j**	**380 j**	**7,800 J**	**797 J-**	**22.7 j**	**82.7**
MW-31	8/5/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 120 UJ*	**780 J**	*< 42.8 UJ*	*< 20.5 UJ*	*< 12.2 UJ*
MW-32	8/3/2021	**0.23 J**	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 430 UJ*	**200 J**	**210 J**	*< 20.4 UJ*	*< 12.2 UJ*
MW-33	8/3/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 120 UJ*	**130 J**	**54.4 J**	*< 20.5 UJ*	*< 12.2 UJ*
MW-34	8/12/2021	**0.59 J**	**0.14 J**	**0.27 J**	**0.13 J**	**0.78 J**	**710 J**	**9,100 J**	**261 J-**	**35.8 J**	**R**
MW-35	8/11/2021	**R**	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 180 UJ*	**420 J**	*< 42.8 UJ*	*< 20.6 UJ*	*< 12.2 UJ*
MW-36	8/10/2021	**1.7 J**	**R**	**0.43 J**	**0.34 J**	**0.37 J**	**250 J**	**2,900 J**	**1,120 J**	**237 J**	**34.4 J**
MW-36 Dup	8/10/2021	**2.0 J**	**R**	**0.47 J**	**0.33 J**	**0.39 J**	**340 J**	**3,200 J**	**788 J-**	**33.6 J**	**61.3 J**
MW-37	8/11/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 180 UJ*	**150 J**	**R**	**439 J**	*< 12.2 UJ*
MW-38	8/11/2021	**4.9 J**	**1.2 J**	**5.5 J**	**2.8 J**	**4.7 J**	**1,500 J**	**39,700 J**	**5,760 J**	**2,670 J**	**343 J**
MW-40	8/9/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	**460 J+**	*< 400 U*	*< 42.8*	*< 20.5*	*< 12.2*
MW-41	8/9/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 410 U*	*< 410 U*	*< 42.8*	*< 20.6*	*< 12.2*
MW-42	8/4/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	*< 120*	*< 88*	*< 42.8*	*< 20.6*	*< 12.2*
MW-43	8/10/2021	**1.4 J**	**0.68 J**	**4.6 J**	**0.85 J**	**1.0 J**	**280 J**	**4,300 J**	**2,840 J**	**131 J**	**147 J**
MW-44	8/5/2021	*< 0.12 UJ*	*< 0.069 UJ*	*< 0.18 UJ*	*< 0.12 UJ*	*< 0.11 UJ*	*< 120 UJ*	**130 J**	*< 42.8 UJ*	*< 20.6 UJ*	*< 12.2 UJ*
MW-45	8/9/2021	*< 0.12*	*< 0.069*	*< 0.18*	*< 0.12*	*< 0.11*	**550 J+**	*< 400 U*	*< 42.8*	*< 20.5*	*< 12.2*

Notes:
1. Groudnwater Cleanup Levels as defined in Table 17 of the Portland Harbor Superfund Site Record of Decision
2. 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.
3. 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.
4. 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 Q3-11
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	8/12/2021	**137**	**3,200**	*< 0.0067 UJ*	*< 0.0083 UJ*	*< 0.0069 UJ*	**2.3 J**	*< 0.0054 UJ*
MW-03	8/4/2021	**0.27 j**	**32.8**	*< 0.0064*	*< 0.0079*	*< 0.0066*	*< 0.0058*	*< 0.0051*
MW-06	8/5/2021	**7.2**	**576**	**22.3 J-**	**26.4 J-**	**1.5 J-**	**0.44 J-**	*< 0.0051 UJ*
MW-08	8/9/2021	**1.0**	**740**	*< 0.0063 UJ*	*< 0.0078 UJ*	*< 0.0065 UJ*	*< 0.0057 UJ*	*< 0.0051 UJ*
MW-11	8/12/2021	**44.3**	**4,560**	**0.61 J-**	*< 0.0079 UJ*	*< 0.0066 UJ*	**4.5 J-**	*< 0.0051 UJ*
MW-18	8/5/2021	**6.6**	**2,180**	**0.074 J-**	**0.076 J-**	*< 0.0065 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-19	8/5/2021	**0.39 j**	**1,060**	**0.031 J**	**0.038 J**	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-21	8/4/2021	**0.45 j**	**126**	**0.0067 j**	**0.0098 j**	*< 0.0066*	*< 0.0058*	*< 0.0052*
MW-24A	8/4/2021	**1.0**	**481**	**0.017 j**	**0.013 j**	*< 0.0068*	*< 0.0060*	*< 0.0053*
MW-25	8/4/2021	**0.20 j**	**6.7 J+**	*< 0.0065*	**0.051**	*< 0.0066*	*< 0.0058*	*< 0.0052*
MW-26	8/10/2021	**1.4**	**98.2**	**0.0089 J**	**0.010 J**	**0.0072 J**	*< 0.0061 UJ*	*< 0.0054 UJ*
MW-27	8/11/2021	**37.5**	**1,180**	**0.078 J**	*< 0.0080 UJ*	**0.51 J**	**0.081 J**	*< 0.0052 UJ*
MW-27 Dup	8/11/2021	**37.9**	**1,170**	**0.072 J**	**0.034 J**	**0.53 J**	**0.085 J**	*< 0.0052 UJ*
MW-28	8/10/2021	**0.13 j**	**0.71**	*< 0.0064 UJ*	*< 0.0079 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-29	8/10/2021	**42.6**	**3,390**	**1.1 J**	**0.18 J**	**1.5 J**	**0.12 J**	*< 0.0051 UJ*
MW-30	8/9/2021	**16.2**	**4,450**	*< 0.0064 UJ*	*< 0.0079 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-31	8/5/2021	**0.29 j**	**241**	*< 0.0065 UJ*	*< 0.0080 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0052 UJ*
MW-32	8/3/2021	**8.4**	**1.1**	*< 0.0065 UJ*	*< 0.0080 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0052 UJ*
MW-33	8/3/2021	**8.3**	**380**	*< 0.0065 UJ*	*< 0.0080 UJ*	**0.049 J-**	*< 0.0058 UJ*	*< 0.0052 UJ*
MW-34	8/12/2021	**9.6**	**2,210**	**0.15 J**	*< 0.0090 UJ*	**0.36 J**	*< 0.0066 UJ*	*< 0.0058 UJ*
MW-35	8/11/2021	**13.2**	**801**	**0.012 J**	*< 0.0080 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	**0.033 J**
MW-36	8/10/2021	**16.3**	**1,770**	**0.30 J**	**0.048 J**	**1.2 J**	**0.060 J**	*< 0.0051 UJ*
MW-36 Dup	8/10/2021	**15.6**	**1,820**	**0.35 J**	**0.047 J**	**1.3 J**	**0.081 J**	*< 0.0051 UJ*
MW-37	8/11/2021	**2.4**	**95.4**	**0.011 J**	**0.0090 J**	**0.022 J**	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-38	8/11/2021	**39.9**	**2,540**	*< 0.0064 UJ*	*< 0.0079 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-40	8/9/2021	**3.5**	**988**	**0.0087 J-**	**0.0092 J-**	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-41	8/9/2021	**0.82**	**442**	**0.013 J-**	**0.013 J-**	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.038 UJ*
MW-42	8/4/2021	**4.5**	**611**	**0.010 j**	**0.012 j**	*< 0.0068*	*< 0.0060*	*< 0.0053*
MW-43	8/10/2021	**29.6**	**1,840**	*< 0.0064 UJ*	*< 0.0079 UJ*	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-44	8/5/2021	**1.9**	**306**	**0.019 J**	**0.016 J**	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*
MW-45	8/9/2021	*< 0.083*	**286**	**0.018 J-**	**0.022 J-**	*< 0.0066 UJ*	*< 0.0058 UJ*	*< 0.0051 UJ*

Notes:
1. Groudnwater 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.
EPA 6020A analyses performed by PACE.
EPA 8270 BY SIM analyses performed by PACE.

Table Q3-11
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	8/12/2021	*< 0.0090 UJ*	**0.12 J**	**0.12 J**	**0.12 J**	**0.046 J**
MW-03	8/4/2021	*< 0.0086*	*< 0.0084*	*< 0.0091*	*< 0.0077*	*< 0.0079*
MW-06	8/5/2021	**0.013 J-**	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-08	8/9/2021	*< 0.0085 UJ*	*< 0.0083 UJ*	*< 0.0090 UJ*	*< 0.0077 UJ*	*< 0.0078 UJ*
MW-11	8/12/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-18	8/5/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0090 UJ*	*< 0.0077 UJ*	*< 0.0078 UJ*
MW-19	8/5/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-21	8/4/2021	*< 0.0087*	*< 0.0085*	*< 0.0092*	*< 0.0078*	*< 0.0080*
MW-24A	8/4/2021	*< 0.0089*	*< 0.0087*	*< 0.0093*	*< 0.0080*	*< 0.0081*
MW-25	8/4/2021	*< 0.0087*	*< 0.0085*	*< 0.0092*	*< 0.0078*	*< 0.0080*
MW-26	8/10/2021	**0.014 J**	*< 0.0088 UJ*	**0.016 J**	*< 0.0081 UJ*	*< 0.0083 UJ*
MW-27	8/11/2021	*< 0.0088 UJ*	*< 0.0086 UJ*	*< 0.0092 UJ*	*< 0.0079 UJ*	*< 0.0080 UJ*
MW-27 Dup	8/11/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0092 UJ*	*< 0.0078 UJ*	*< 0.0080 UJ*
MW-28	8/10/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-29	8/10/2021	**0.019 J**	**0.0092 J**	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-30	8/9/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-31	8/5/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0092 UJ*	*< 0.0078 UJ*	*< 0.0080 UJ*
MW-32	8/3/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0092 UJ*	*< 0.0078 UJ*	*< 0.0080 UJ*
MW-33	8/3/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0092 UJ*	*< 0.0078 UJ*	*< 0.0080 UJ*
MW-34	8/12/2021	**0.037 J**	**0.10 J**	**0.10 J**	**0.13 J**	**0.031 J**
MW-35	8/11/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0092 UJ*	*< 0.0078 UJ*	*< 0.0080 UJ*
MW-36	8/10/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-36 Dup	8/10/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-37	8/11/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0091 UJ*	*< 0.0078 UJ*	*< 0.0079 UJ*
MW-38	8/11/2021	**0.037 J**	**0.026 J**	**0.026 J**	**0.014 J**	*< 0.0079 UJ*
MW-40	8/9/2021	*< 0.0087 UJ*	*< 0.0085 UJ*	*< 0.0091 UJ*	*< 0.0078 UJ*	*< 0.0079 UJ*
MW-41	8/9/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-42	8/4/2021	**0.011 j**	*< 0.0088*	*< 0.0094*	*< 0.0080*	*< 0.0082*
MW-43	8/10/2021	**0.021 J-**	**0.029 J-**	**0.030 J-**	**0.015 J-**	**0.010 J-**
MW-44	8/5/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*
MW-45	8/9/2021	*< 0.0086 UJ*	*< 0.0084 UJ*	*< 0.0091 UJ*	*< 0.0077 UJ*	*< 0.0079 UJ*

Notes:
1. Groudnwater 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 Per

Qualifiers - Organics
j = The result is an estimated concentration, detected between t
J+ = The concentration of the sample is considered to be biase
J- = The concentration of the sample is considered to be biased
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.
EPA 6020A analyses performed by PACE.
EPA 8270 BY SIM analyses performed by PACE.

Table Q3-11
Groundwater Analytical Data - Semi-volatile
Premier Edible Oils, 10400 N Burgard Way
Portland, Oregon

Method 0 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	8/12/2021	**0.19 J**	*< 0.0080 UJ*	*< 0.014 UJ*	*< 0.0060 UJ*	**0.11 J**
MW-03	8/4/2021	*< 0.0090*	*< 0.0076*	*< 0.013*	*< 0.0058*	*< 0.011*
MW-06	8/5/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	**0.060 J-**	**3.9 J-**	*< 0.011 UJ*
MW-08	8/9/2021	*< 0.0089 UJ*	*< 0.0075 UJ*	*< 0.013 UJ*	*< 0.0057 UJ*	*< 0.011 UJ*
MW-11	8/12/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-18	8/5/2021	*< 0.0089 UJ*	*< 0.0075 UJ*	*< 0.013 UJ*	*< 0.0057 UJ*	*< 0.011 UJ*
MW-19	8/5/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	**0.015 J**	*< 0.011 UJ*
MW-21	8/4/2021	*< 0.0090*	*< 0.0076*	*< 0.014*	*< 0.0058*	*< 0.011*
MW-24A	8/4/2021	*< 0.0092*	*< 0.0078*	*< 0.014*	*< 0.0059*	*< 0.011*
MW-25	8/4/2021	*< 0.0090*	*< 0.0076*	*< 0.014*	*< 0.0058*	*< 0.011*
MW-26	8/10/2021	*< 0.0094 UJ*	*< 0.0080 UJ*	**0.024 J**	**0.0084 J**	*< 0.011 UJ*
MW-27	8/11/2021	*< 0.0091 UJ*	*< 0.0077 UJ*	**0.045 J**	**0.63 J**	*< 0.011 UJ*
MW-27 Dup	8/11/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	**0.048 J**	**0.64 J**	*< 0.011 UJ*
MW-28	8/10/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-29	8/10/2021	**0.015 J**	*< 0.0076 UJ*	**0.11 J**	**1.8 J**	*< 0.011 UJ*
MW-30	8/9/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-31	8/5/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.014 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-32	8/3/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.014 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-33	8/3/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.014 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-34	8/12/2021	**0.14 J**	*< 0.0086 UJ*	*< 0.015 UJ*	*< 0.0066 UJ*	**0.11 J**
MW-35	8/11/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	**0.051 J**	**0.018 J**	*< 0.011 UJ*
MW-36	8/10/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	**1.1 J**	*< 0.011 UJ*
MW-36 Dup	8/10/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	**1.4 J**	*< 0.011 UJ*
MW-37	8/11/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	**0.029 J**	*< 0.011 UJ*
MW-38	8/11/2021	**0.067 J**	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	**0.013 J**
MW-40	8/9/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-41	8/9/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-42	8/4/2021	*< 0.0093*	*< 0.0079*	*< 0.014*	*< 0.0060*	*< 0.011*
MW-43	8/10/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	**0.015 J-**
MW-44	8/5/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*
MW-45	8/9/2021	*< 0.0090 UJ*	*< 0.0076 UJ*	*< 0.013 UJ*	*< 0.0058 UJ*	*< 0.011 UJ*

Notes:
1. Groudnwater 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 Per

Qualifiers - Organics
j = The result is an estimated concentration, detected between t
J+ = The concentration of the sample is considered to be biase
J- = The concentration of the sample is considered to be biased
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.
EPA 6020A analyses performed by PACE.
EPA 8270 BY SIM analyses performed by PACE.

Table Q3-11
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 TEQ (ND=0)
Unit		µg/L	µg/L	µg/L	µg/L
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	8/12/2021	*< 0.0088 UJ*	*< 0.012 UJ*	*< 0.0099 UJ*	**0.14**
MW-03	8/4/2021	**0.098**	*< 0.012*	*< 0.0094*	*< 0.011 U*
MW-06	8/5/2021	**3.6 J-**	**1.6 J-**	**0.056 J-**	**0.0013**
MW-08	8/9/2021	*< 0.0083 UJ*	*< 0.012 UJ*	*< 0.0093 UJ*	*< 0.011 U*
MW-11	8/12/2021	*< 0.0084 UJ*	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-18	8/5/2021	**0.10 J-**	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-19	8/5/2021	**0.0091 J**	**0.025 J**	**0.013 J**	*< 0.011 U*
MW-21	8/4/2021	*< 0.0085*	*< 0.012*	*< 0.0095*	*< 0.011 U*
MW-24A	8/4/2021	*< 0.0086*	*< 0.012*	*< 0.0097*	*< 0.011 U*
MW-25	8/4/2021	*< 0.0085*	*< 0.012*	**0.025 j**	*< 0.011 U*
MW-26	8/10/2021	**0.014 J**	**0.013 J**	**0.032 J**	**0.0030**
MW-27	8/11/2021	**0.14 J**	*< 0.012 UJ*	**0.037 J**	*< 0.011 U*
MW-27 Dup	8/11/2021	**0.13 J**	*< 0.012 UJ*	**0.040 J**	*< 0.011 U*
MW-28	8/10/2021	*< 0.0084 UJ*	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-29	8/10/2021	**2.0 J**	**0.50 J**	**0.10 J**	**0.011**
MW-30	8/9/2021	*< 0.0084 UJ*	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-31	8/5/2021	**0.032 J-**	*< 0.012 UJ*	*< 0.0095 UJ*	*< 0.011 U*
MW-32	8/3/2021	**0.044 J-**	*< 0.012 UJ*	*< 0.0095 UJ*	*< 0.011 U*
MW-33	8/3/2021	**0.050 J-**	*< 0.012 UJ*	*< 0.0095 UJ*	*< 0.011 U*
MW-34	8/12/2021	**0.055 J**	*< 0.013 UJ*	**0.26 J**	**0.13**
MW-35	8/11/2021	**0.028 J**	**0.040 J**	**0.054 J**	*< 0.011 U*
MW-36	8/10/2021	**0.66 J**	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-36 Dup	8/10/2021	**0.90 J**	*< 0.012 UJ*	**0.046 J**	*< 0.011 U*
MW-37	8/11/2021	**0.030 J**	**0.035 J**	*< 0.0094 UJ*	*< 0.011 U*
MW-38	8/11/2021	*< 0.0084 UJ*	*< 0.012 UJ*	**0.31 J**	**0.034**
MW-40	8/9/2021	**0.0095 J-**	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-41	8/9/2021	**0.011 J-**	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-42	8/4/2021	*< 0.0087*	*< 0.012*	*< 0.0098*	**0.0011**
MW-43	8/10/2021	**0.36 J-**	*< 0.012 UJ*	**0.14 J-**	**0.036**
MW-44	8/5/2021	*< 0.0084 UJ*	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*
MW-45	8/9/2021	**0.015 J-**	*< 0.012 UJ*	*< 0.0094 UJ*	*< 0.011 U*

Notes:
1. Groudnwater 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 Per

Qualifiers - Organics
j = The result is an estimated concentration, detected between t
J+ = The concentration of the sample is considered to be biase
J- = The concentration of the sample is considered to be biased
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.
EPA 6020A analyses performed by PACE.
EPA 8270 BY SIM analyses performed by PACE.

Table Q3-12
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	8/12/2021	*< 18 UJ*	**3,400 J-**	**360,000 J-**	**256,000**
MW-03	8/4/2021	**42 j**	**3,200**	**59,200**	**44,500**
MW-06	8/5/2021	**31 J-**	**460 J-**	**55,800 J-**	**30,200**
MW-08	8/9/2021	**34 j**	**66,600**	**17,800**	**54,400**
MW-11	8/12/2021	*< 18 UJ*	**1,400 J-**	**415,000 J-**	**346,000**
MW-18	8/5/2021	**33 J-**	**32,300 J-**	**180,000 J-**	**178,000**
MW-19	8/5/2021	**1,000 J-**	**9,800 J-**	**144,000 J-**	**103,000**
MW-21	8/4/2021	**95 j**	**2,600**	**53,900**	**43,900**
MW-24A	8/4/2021	**40 j**	**1,400**	**64,200**	**48,700**
MW-25	8/4/2021	**300**	**19,400**	**54,300**	**52,900**
MW-26	8/10/2021	**140 J-**	**23,300 J-**	**24,500 J-**	**31,300**
MW-27	8/11/2021	**R**	**47,900 J-**	**33,100 J-**	**59,700**
MW-27 Dup	8/11/2021	**R**	**49,100 J-**	**31,600 J-**	**57,900**
MW-28	8/10/2021	**1,700 J-**	**5,000 J-**	**64,700 J-**	**55,300**
MW-29	8/10/2021	**30 J-**	**460 J-**	**244,000 J-**	**191,000**
MW-30	8/9/2021	**50 j**	**51,900**	**225,000**	**235,000**
MW-31	8/5/2021	**R**	**88,100 J-**	**115,000 J-**	**151,000**
MW-32	8/3/2021	**990 J-**	**25,900 J-**	**106,000 J-**	**103,000**
MW-33	8/3/2021	*< 18 UJ*	**38,200 J-**	**82,900 J-**	**87,200**
MW-34	8/12/2021	*< 18 UJ*	**4,800 J-**	**158,000 J-**	**117,000**
MW-35	8/11/2021	**R**	**34,900 J-**	**33,200 J-**	**44,700**
MW-36	8/10/2021	*< 18 UJ*	**47,900 J-**	**96,000 J-**	**110,000**
MW-36 Dup	8/10/2021	**20 J-**	**38,700 J-**	**105,000 J-**	**113,000**
MW-37	8/11/2021	**42 J-**	**32,500 J-**	**89,800 J-**	**69,600**
MW-38	8/11/2021	**R**	**660 J-**	**173,000 J-**	**136,000**
MW-40	8/9/2021	**33 j**	**73,900**	**24,800**	**75,700**
MW-41	8/9/2021	**37 j**	**1,900**	**58,900**	**45,100**
MW-42	8/4/2021	**44 j**	**55,100**	**78,700**	**105,000**
MW-43	8/10/2021	**27 J-**	**2,000 J-**	**132,000 J-**	**93,300**
MW-44	8/5/2021	**46 J-**	**17,500 J-**	**84,000 J-**	**69,200**
MW-45	8/9/2021	**210**	**65,600**	**2,800 j**	**58,000**

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
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.
EPA 300.0 analyses performed by PACE.
EPA 353.2 analyses performed by PACE.
SM2320B analyses performed by PACE.
SM2340B analyses performed by PACE.