



5820 South Kelly Avenue, Suite B
Portland, Oregon 97239
503.906.6577

January 9, 2025

Washington State Department of Ecology
Southwest Region Office
PO Box 47775
Olympia, Washington 98504-7775

Attention: Thomas Praisewater, Site Manager

Subject: Progress Report, Fourth Quarter 2024
NuStar Terminals Operations Partnership L.P. Vancouver Annex Terminal
Agreed Order No. DE 19602
Vancouver, Washington
File No. 19001-008-13

This letter provides GeoEngineers, Inc.'s (GeoEngineers') progress report for the Fourth Quarter 2024 activities associated with Agreed Order No. DE 19602 (the Order) at the NuStar Terminals Operations Partnership L.P. (NuStar) Vancouver Annex Terminal (the Site). This progress report has been prepared and submitted on behalf of NuStar. The Site is located at 5420 NW Fruit Valley Road in Vancouver, Washington.

The Order was signed into effect on May 10, 2023, and requires NuStar to implement a cleanup action plan. This progress report presents the following per the Order:

- A list of activities conducted during the Fourth Quarter 2024 to implement the requirements of the Order.
- A description of any deviations from required tasks not otherwise documented in project plans or amendment requests.
- A description of deviations from the Order scope of work and schedule during the current quarter and any planned deviations during the upcoming quarter. For any deviations in schedule, a plan will be included for recovering lost time and maintaining compliance with the schedule.
- Any raw data received during the Fourth Quarter, if not previously submitted to Ecology, along with a detailed description of the underlying samples collected.
- The list of deliverables for the upcoming year if different from the schedule.

Activities Completed During the Reporting Period

The following activities were completed during the reporting period:

- The Third Quarter 2024 Progress Letter was submitted to Ecology on October 14, 2024;
- A quarterly groundwater monitoring event was conducted on November 19 and 20, 2024; and
- As discussed below, a request for an extension to implement the Well MW-5 Area Pilot Study and submit the Engineering Design Report (EDR) was submitted to Ecology on October 17, 2024 and Ecology approved the extension request on October 30, 2024 via email.

Order Schedule, Deviations from the Order, and Responses

The Order requires implementation of a Cleanup Action Plan (CAP), which is in Appendix B of the Order, and the CAP contemplates groundwater recirculation systems in the well MW-5 and MW-6 areas. As discussed in the Third Quarter 2024 Progress Report, in January 2024, Ecology approved the request for extending the Engineering Design Report submittal date from January 16, 2024 to December 31, 2024 to allow for a pilot recirculation system to be implemented in the MW-5 area. However, installation of the pilot study recirculation system has been delayed due to unexpected construction complications also discussed in the Third Quarter 2024 Progress Report. Petrofix® injections are now being considered for the MW-5 area pilot study as a result of the promising groundwater monitoring results showing that the MW-11 Pilot Study has been effective at reducing petroleum hydrocarbon concentrations to below cleanup levels.

NuStar and GeoEngineers met with Ecology's Site Manager on September 12, 2024 during a site walk and discussed the complications with the proposed groundwater recirculation system and alternative approaches to clean up the MW-5 area including Petrofix injections. Ecology concurred that consideration of Petrofix injections for the MW-5 area is appropriate given the promising results from the MW-11 Area Pilot Study, uncertainty about the effectiveness of a groundwater recirculation system, and logistical difficulties of installing the system.

GeoEngineers submitted a request for an extension of Well MW-5 Area Pilot Study Implementation and Engineering Design Report submittal on October 17, 2024, which requested additional time to evaluate the results of the MW-11 Area Pilot Study, select and implement the remedial technology for the MW-5 Area Pilot Study (likely Petrofix injections), and extend the EDR submittal deadline. Ecology approved the request in an email from Thomas Praisewater on October 30, 2024, extending the EDR submittal date to December 31, 2026, and requiring submittal of a Revised MW-5 Area Pilot Study Plan by September 30, 2025.

Raw Data Submittals

Analytical data from the Fourth Quarter 2024 groundwater monitoring event are included in Attachment A. The data include the analytical results of groundwater samples collected from Site monitoring wells MW-1 through MW-12, MW-5D, MW-6D, MW-8D and MW-12D. The samples were submitted to Apex Laboratories (Apex), a Washington-certified analytical laboratory, for analysis of gasoline-range total petroleum hydrocarbons (TPH) by method NWTPHgx, diesel-range TPH by method NWTPHdx, and benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether and naphthalene by EPA Method 8260B. The data will be

included in the Annual 2024 Groundwater Monitoring report anticipated to be submitted to Ecology by the First Quarter of 2025.

Deliverable Submittals This Year

The following deliverables are anticipated to be submitted in 2025:

- Annual 2024 Groundwater Monitoring report in February 2025;
- Second Quarterly Progress Report by April 15, 2025 per the Order;
- Third Quarterly Progress Report by October 15, 2025; and
- A Revised MW-5 Area Pilot Study Plan by September 30, 2025.

Closing

If you have any questions about this progress report, please do not hesitate to call Amanda Spencer at 503.577.1535, Phil Cordell at 503.807.3835 or Victoria Wark with Evergreen Resources Management Operations at 210.918.2257.

Sincerely,
GeoEngineers, Inc.



Phil Cordell, LG
Senior Geologist

PRC:jm

Attachments:

Attachment A—Analytical Laboratory Reports Fourth Quarter 2024 Analytical Data

cc:

Victoria Wark, Evergreen Resources Management Operations (electronic deliverable)

Aaron Flett, Sunoco (electronic deliverable)

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Wednesday, December 11, 2024

Sam J. Russell
GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239

RE: A4K1487 - Sunoco Annex - 4Q24 GWM - 019001-008-13

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4K1487, which was received by the laboratory on 11/20/2024 at 3:32:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information			
<u>Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.</u>			
(See Cooler Receipt Form for details)			
Cooler #1	3.6	degC	Cooler #2
Cooler #3	2.6	degC	3.2 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Darrell Auvil, Client Services Manager

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**ANALYTICAL REPORT****Apex Laboratories, LLC**6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062**GeoEngineers - Portland**
5820 S Kelly Ave Unit B
Portland, OR 97239Project: **Sunoco Annex - 4Q24 GWM**
Project Number: **019001-008-13**
Project Manager: **Sam J. Russell****Report ID:**
A4K1487 - 12 11 24 1706**ANALYTICAL REPORT FOR SAMPLES****SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A4K1487-01	Water	11/20/24 09:59	11/20/24 15:32
MW-2	A4K1487-02	Water	11/20/24 08:50	11/20/24 15:32
MW-3	A4K1487-03	Water	11/19/24 10:38	11/20/24 15:32
MW-4	A4K1487-04	Water	11/19/24 09:32	11/20/24 15:32
MW-5	A4K1487-05	Water	11/20/24 08:11	11/20/24 15:32
MW-5 DUP	A4K1487-06	Water	11/20/24 08:11	11/20/24 15:32
MW-5D	A4K1487-07	Water	11/20/24 09:09	11/20/24 15:32
MW-6D	A4K1487-08	Water	11/20/24 12:29	11/20/24 15:32
MW-7	A4K1487-09	Water	11/19/24 09:45	11/20/24 15:32
MW-8	A4K1487-10	Water	11/19/24 11:22	11/20/24 15:32
MW-8D	A4K1487-11	Water	11/19/24 12:25	11/20/24 15:32
MW-9	A4K1487-12	Water	11/19/24 10:34	11/20/24 15:32
MW-10	A4K1487-13	Water	11/20/24 08:06	11/20/24 15:32
MW-11	A4K1487-14	Water	11/20/24 11:12	11/20/24 15:32
MW-11 DUP	A4K1487-15	Water	11/20/24 11:12	11/20/24 15:32
MW-12	A4K1487-16	Water	11/19/24 11:35	11/20/24 15:32
MW-12D	A4K1487-17	Water	11/19/24 12:41	11/20/24 15:32
MW-11	A4K1487-18	Water	11/20/24 11:12	11/20/24 15:32
MW-11 DUP	A4K1487-19	Water	11/20/24 11:12	11/20/24 15:32

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Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-1 (A4K1487-01)		Matrix: Water			Batch: 24L0068			
Diesel	0.236	---	0.0784	mg/L	1	12/03/24 22:12	NWTPH-Dx LL	F-11
Oil	ND	---	0.157	mg/L	1	12/03/24 22:12	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 73 %		Limits: 50-150 %	1	12/03/24 22:12	NWTPH-Dx LL	
MW-2 (A4K1487-02)		Matrix: Water			Batch: 24L0068			
Diesel	ND	---	0.0808	mg/L	1	12/03/24 22:33	NWTPH-Dx LL	
Oil	ND	---	0.162	mg/L	1	12/03/24 22:33	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 83 %		Limits: 50-150 %	1	12/03/24 22:33	NWTPH-Dx LL	
MW-3 (A4K1487-03)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0762	mg/L	1	12/02/24 23:23	NWTPH-Dx LL	
Oil	ND	---	0.152	mg/L	1	12/02/24 23:23	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 82 %		Limits: 50-150 %	1	12/02/24 23:23	NWTPH-Dx LL	
MW-4 (A4K1487-04)		Matrix: Water			Batch: 24L0001			PRES
Diesel	0.188	---	0.0777	mg/L	1	12/02/24 23:44	NWTPH-Dx LL	F-11
Oil	ND	---	0.155	mg/L	1	12/02/24 23:44	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 86 %		Limits: 50-150 %	1	12/02/24 23:44	NWTPH-Dx LL	
MW-5 (A4K1487-05)		Matrix: Water			Batch: 24L0068			
Diesel	1.64	---	0.0769	mg/L	1	12/03/24 22:53	NWTPH-Dx LL	F-18
Oil	ND	---	0.154	mg/L	1	12/03/24 22:53	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 86 %		Limits: 50-150 %	1	12/03/24 22:53	NWTPH-Dx LL	
MW-5 DUP (A4K1487-06)		Matrix: Water			Batch: 24L0068			
Diesel	1.49	---	0.0777	mg/L	1	12/03/24 23:14	NWTPH-Dx LL	F-18
Oil	ND	---	0.155	mg/L	1	12/03/24 23:14	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 72 %		Limits: 50-150 %	1	12/03/24 23:14	NWTPH-Dx LL	
MW-5D (A4K1487-07)		Matrix: Water			Batch: 24L0068			
Diesel	0.382	---	0.0800	mg/L	1	12/03/24 23:34	NWTPH-Dx LL	F-11
Oil	ND	---	0.160	mg/L	1	12/03/24 23:34	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 76 %		Limits: 50-150 %	1	12/03/24 23:34	NWTPH-Dx LL	

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Darrell Auvil, Client Services Manager



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ORELAP ID: OR100062GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-6D (A4K1487-08)		Matrix: Water			Batch: 24L0068			
Diesel	ND	---	0.0792	mg/L	1	12/03/24 23:55	NWTPH-Dx LL	
Oil	ND	---	0.158	mg/L	1	12/03/24 23:55	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 73 %		Limits: 50-150 %	1	12/03/24 23:55	NWTPH-Dx LL	
MW-7 (A4K1487-09)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0762	mg/L	1	12/03/24 00:04	NWTPH-Dx LL	
Oil	ND	---	0.152	mg/L	1	12/03/24 00:04	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 73 %		Limits: 50-150 %	1	12/03/24 00:04	NWTPH-Dx LL	
MW-8 (A4K1487-10)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0777	mg/L	1	12/03/24 00:25	NWTPH-Dx LL	
Oil	ND	---	0.155	mg/L	1	12/03/24 00:25	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 68 %		Limits: 50-150 %	1	12/03/24 00:25	NWTPH-Dx LL	
MW-8D (A4K1487-11)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0784	mg/L	1	12/03/24 00:45	NWTPH-Dx LL	
Oil	ND	---	0.157	mg/L	1	12/03/24 00:45	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 78 %		Limits: 50-150 %	1	12/03/24 00:45	NWTPH-Dx LL	
MW-9 (A4K1487-12)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0769	mg/L	1	12/03/24 01:06	NWTPH-Dx LL	
Oil	ND	---	0.154	mg/L	1	12/03/24 01:06	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 71 %		Limits: 50-150 %	1	12/03/24 01:06	NWTPH-Dx LL	
MW-10 (A4K1487-13)		Matrix: Water			Batch: 24L0068			
Diesel	ND	---	0.0800	mg/L	1	12/04/24 00:16	NWTPH-Dx LL	
Oil	ND	---	0.160	mg/L	1	12/04/24 00:16	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 75 %		Limits: 50-150 %	1	12/04/24 00:16	NWTPH-Dx LL	
MW-12 (A4K1487-16)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0800	mg/L	1	12/03/24 02:49	NWTPH-Dx LL	
Oil	ND	---	0.160	mg/L	1	12/03/24 02:49	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 77 %		Limits: 50-150 %	1	12/03/24 02:49	NWTPH-Dx LL	

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ORELAP ID: OR100062

GeoEngineers - Portland

5820 S Kelly Ave Unit B
Portland, OR 97239

Project: **Sunoco Annex - 4Q24 GWM**

Project Number: **019001-008-13**

Project Manager: **Sam J. Russell**

Report ID:

A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12D (A4K1487-17)		Matrix: Water			Batch: 24L0001			
Diesel	ND	---	0.0825	mg/L	1	12/03/24 03:09	NWTPH-Dx LL	
Oil	ND	---	0.165	mg/L	1	12/03/24 03:09	NWTPH-Dx LL	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>12/03/24 03:09</i>	<i>NWTPH-Dx LL</i>	

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ORELAP ID: OR100062

GeoEngineers - Portland5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM

Project Number: 019001-008-13

Project Manager: Sam J. Russell

Report ID:

A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Dissolved Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-11 (A4K1487-18)				Matrix: Water		Batch: 24K0908		PRO
Diesel	ND	---	0.0808	mg/L	1	11/26/24 22:42	NWTPH-Dx (Diss)	
Oil	ND	---	0.162	mg/L	1	11/26/24 22:42	NWTPH-Dx (Diss)	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 61 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>11/26/24 22:42</i>	<i>NWTPH-Dx (Diss)</i>	
MW-11 DUP (A4K1487-19RE1)				Matrix: Water		Batch: 24L0068		A-01, H-02, PRO
Diesel	ND	---	0.0769	mg/L	1	12/04/24 00:36	NWTPH-Dx (Diss)	
Oil	ND	---	0.154	mg/L	1	12/04/24 00:36	NWTPH-Dx (Diss)	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>12/04/24 00:36</i>	<i>NWTPH-Dx (Diss)</i>	

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Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-1 (A4K1487-01)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 18:19	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	94 %	Limits: 50-150 %	1	11/22/24 18:19	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			101 %	50-150 %	1	11/22/24 18:19	NWTPH-Gx (MS)	
MW-2 (A4K1487-02)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 18:41	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	91 %	Limits: 50-150 %	1	11/22/24 18:41	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			100 %	50-150 %	1	11/22/24 18:41	NWTPH-Gx (MS)	
MW-3 (A4K1487-03)		Matrix: Water			Batch: 24K0751			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/21/24 16:33	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	97 %	Limits: 50-150 %	1	11/21/24 16:33	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			106 %	50-150 %	1	11/21/24 16:33	NWTPH-Gx (MS)	
MW-4 (A4K1487-04)		Matrix: Water			Batch: 24K0751			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/21/24 17:00	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	98 %	Limits: 50-150 %	1	11/21/24 17:00	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			105 %	50-150 %	1	11/21/24 17:00	NWTPH-Gx (MS)	
MW-5 (A4K1487-05)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	14.5	---	2.00	mg/L	20	11/22/24 22:03	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	94 %	Limits: 50-150 %	1	11/22/24 22:03	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			108 %	50-150 %	1	11/22/24 22:03	NWTPH-Gx (MS)	
MW-5 DUP (A4K1487-06)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	15.2	---	2.00	mg/L	20	11/22/24 22:26	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	94 %	Limits: 50-150 %	1	11/22/24 22:26	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			107 %	50-150 %	1	11/22/24 22:26	NWTPH-Gx (MS)	
MW-5D (A4K1487-07)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 13:47	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	93 %	Limits: 50-150 %	1	11/22/24 13:47	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			105 %	50-150 %	1	11/22/24 13:47	NWTPH-Gx (MS)	
MW-6D (A4K1487-08)		Matrix: Water			Batch: 24K0822			

Apex Laboratories

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Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-6D (A4K1487-08)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 14:10	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	94 %	Limits: 50-150 %	1	11/22/24 14:10	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			106 %	50-150 %	1	11/22/24 14:10	NWTPH-Gx (MS)	
MW-7 (A4K1487-09)		Matrix: Water			Batch: 24K0751			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/21/24 17:28	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	97 %	Limits: 50-150 %	1	11/21/24 17:28	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			105 %	50-150 %	1	11/21/24 17:28	NWTPH-Gx (MS)	
MW-8 (A4K1487-10)		Matrix: Water			Batch: 24K0751			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/21/24 17:56	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	96 %	Limits: 50-150 %	1	11/21/24 17:56	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			103 %	50-150 %	1	11/21/24 17:56	NWTPH-Gx (MS)	
MW-8D (A4K1487-11)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 14:32	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	93 %	Limits: 50-150 %	1	11/22/24 14:32	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			106 %	50-150 %	1	11/22/24 14:32	NWTPH-Gx (MS)	
MW-9 (A4K1487-12)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 14:55	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	93 %	Limits: 50-150 %	1	11/22/24 14:55	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			106 %	50-150 %	1	11/22/24 14:55	NWTPH-Gx (MS)	
MW-10 (A4K1487-13)		Matrix: Water			Batch: 24K0822			
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 15:18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	92 %	Limits: 50-150 %	1	11/22/24 15:18	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			107 %	50-150 %	1	11/22/24 15:18	NWTPH-Gx (MS)	
MW-11 (A4K1487-14)		Matrix: Water			Batch: 24K0822			R-04
Gasoline Range Organics	ND	---	0.500	mg/L	5	11/22/24 16:26	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		Recovery:	89 %	Limits: 50-150 %	1	11/22/24 16:26	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			109 %	50-150 %	1	11/22/24 16:26	NWTPH-Gx (MS)	
MW-11 DUP (A4K1487-15)		Matrix: Water			Batch: 24K0822			R-04

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-11 DUP (A4K1487-15)				Matrix: Water		Batch: 24K0822		R-04
Gasoline Range Organics	ND	---	0.500	mg/L	5	11/22/24 16:48	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 89 %	Limits: 50-150 %	1	11/22/24 16:48	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			109 %	50-150 %	1	11/22/24 16:48	NWTPH-Gx (MS)	
MW-12 (A4K1487-16)				Matrix: Water		Batch: 24K0822		
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 15:40	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 91 %	Limits: 50-150 %	1	11/22/24 15:40	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			104 %	50-150 %	1	11/22/24 15:40	NWTPH-Gx (MS)	
MW-12D (A4K1487-17)				Matrix: Water		Batch: 24K0822		
Gasoline Range Organics	ND	---	0.100	mg/L	1	11/22/24 16:03	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			Recovery: 92 %	Limits: 50-150 %	1	11/22/24 16:03	NWTPH-Gx (MS)	
1,4-Difluorobenzene (Sur)			106 %	50-150 %	1	11/22/24 16:03	NWTPH-Gx (MS)	

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Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-1 (A4K1487-01)		Matrix: Water			Batch: 24K0822			
Toluene	ND	---	1.00	ug/L	1	11/22/24 18:19	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 18:19	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 18:19	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 18:19	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 18:19	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	101 %	Limits:	80-120 %	1	11/22/24 18:19	EPA 8260D
Toluene-d8 (Surr)			98 %		80-120 %	1	11/22/24 18:19	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/22/24 18:19	EPA 8260D
MW-1 (A4K1487-01RE1)		Matrix: Water			Batch: 24K0873			
Benzene	ND	---	0.200	ug/L	1	11/25/24 13:35	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	104 %	Limits:	80-120 %	1	11/25/24 13:35	EPA 8260D
Toluene-d8 (Surr)			101 %		80-120 %	1	11/25/24 13:35	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/25/24 13:35	EPA 8260D
MW-2 (A4K1487-02)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 18:41	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 18:41	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 18:41	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 18:41	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 18:41	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 18:41	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	100 %	Limits:	80-120 %	1	11/22/24 18:41	EPA 8260D
Toluene-d8 (Surr)			99 %		80-120 %	1	11/22/24 18:41	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/22/24 18:41	EPA 8260D
MW-3 (A4K1487-03)		Matrix: Water			Batch: 24K0751			
Benzene	ND	---	0.200	ug/L	1	11/21/24 16:33	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/21/24 16:33	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/21/24 16:33	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/21/24 16:33	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/21/24 16:33	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/21/24 16:33	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	102 %	Limits:	80-120 %	1	11/21/24 16:33	EPA 8260D

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland5820 S Kelly Ave Unit B
Portland, OR 97239Project: **Sunoco Annex - 4Q24 GWM**Project Number: **019001-008-13**Project Manager: **Sam J. Russell****Report ID:****A4K1487 - 12 11 24 1706**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-3 (A4K1487-03)		Matrix: Water			Batch: 24K0751			
Surrogate: Toluene-d8 (Surr)		Recovery: 103 %	Limits: 80-120 %	1	11/21/24 16:33	EPA 8260D		
4-Bromofluorobenzene (Surr)		105 %	80-120 %	1	11/21/24 16:33	EPA 8260D		
MW-4 (A4K1487-04)		Matrix: Water			Batch: 24K0751			
Benzene	ND	---	0.200	ug/L	1	11/21/24 17:00	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/21/24 17:00	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/21/24 17:00	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/21/24 17:00	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/21/24 17:00	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/21/24 17:00	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 104 %	Limits: 80-120 %	1	11/21/24 17:00	EPA 8260D		
Toluene-d8 (Surr)		103 %	80-120 %	1	11/21/24 17:00	EPA 8260D		
4-Bromofluorobenzene (Surr)		105 %	80-120 %	1	11/21/24 17:00	EPA 8260D		
MW-5 (A4K1487-05)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	4.00	ug/L	20	11/22/24 22:03	EPA 8260D	
Toluene	ND	---	20.0	ug/L	20	11/22/24 22:03	EPA 8260D	
Ethylbenzene	147	---	10.0	ug/L	20	11/22/24 22:03	EPA 8260D	
Xylenes, total	208	---	30.0	ug/L	20	11/22/24 22:03	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	20.0	ug/L	20	11/22/24 22:03	EPA 8260D	
Naphthalene	1820	---	100	ug/L	20	11/22/24 22:03	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 107 %	Limits: 80-120 %	1	11/22/24 22:03	EPA 8260D		
Toluene-d8 (Surr)		100 %	80-120 %	1	11/22/24 22:03	EPA 8260D		
4-Bromofluorobenzene (Surr)		96 %	80-120 %	1	11/22/24 22:03	EPA 8260D		
MW-5 DUP (A4K1487-06)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	4.00	ug/L	20	11/22/24 22:26	EPA 8260D	
Toluene	ND	---	20.0	ug/L	20	11/22/24 22:26	EPA 8260D	
Ethylbenzene	144	---	10.0	ug/L	20	11/22/24 22:26	EPA 8260D	
Xylenes, total	228	---	30.0	ug/L	20	11/22/24 22:26	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	20.0	ug/L	20	11/22/24 22:26	EPA 8260D	
Naphthalene	1920	---	100	ug/L	20	11/22/24 22:26	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery: 105 %	Limits: 80-120 %	1	11/22/24 22:26	EPA 8260D		
Toluene-d8 (Surr)		100 %	80-120 %	1	11/22/24 22:26	EPA 8260D		
4-Bromofluorobenzene (Surr)		98 %	80-120 %	1	11/22/24 22:26	EPA 8260D		

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-5 DUP (A4K1487-06)				Matrix: Water		Batch: 24K0822		
MW-5D (A4K1487-07)				Matrix: Water		Batch: 24K0822		
Benzene	ND	---	0.200	ug/L	1	11/22/24 13:47	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 13:47	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 13:47	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 13:47	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 13:47	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 13:47	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	106 %	Limits:	80-120 %	1	11/22/24 13:47	EPA 8260D
Toluene-d8 (Surr)			98 %		80-120 %	1	11/22/24 13:47	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/22/24 13:47	EPA 8260D
MW-6D (A4K1487-08)				Matrix: Water		Batch: 24K0822		
Benzene	ND	---	0.200	ug/L	1	11/22/24 14:10	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 14:10	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 14:10	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 14:10	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 14:10	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 14:10	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	105 %	Limits:	80-120 %	1	11/22/24 14:10	EPA 8260D
Toluene-d8 (Surr)			101 %		80-120 %	1	11/22/24 14:10	EPA 8260D
4-Bromofluorobenzene (Surr)			101 %		80-120 %	1	11/22/24 14:10	EPA 8260D
MW-7 (A4K1487-09)				Matrix: Water		Batch: 24K0751		
Benzene	ND	---	0.200	ug/L	1	11/21/24 17:28	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/21/24 17:28	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/21/24 17:28	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/21/24 17:28	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/21/24 17:28	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/21/24 17:28	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	102 %	Limits:	80-120 %	1	11/21/24 17:28	EPA 8260D
Toluene-d8 (Surr)			103 %		80-120 %	1	11/21/24 17:28	EPA 8260D
4-Bromofluorobenzene (Surr)			103 %		80-120 %	1	11/21/24 17:28	EPA 8260D

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5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-8 (A4K1487-10)		Matrix: Water			Batch: 24K0751			
Benzene	ND	---	0.200	ug/L	1	11/21/24 17:56	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/21/24 17:56	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/21/24 17:56	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/21/24 17:56	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/21/24 17:56	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/21/24 17:56	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	104 %	Limits:	80-120 %	1	11/21/24 17:56	EPA 8260D
Toluene-d8 (Surr)			102 %		80-120 %	1	11/21/24 17:56	EPA 8260D
4-Bromofluorobenzene (Surr)			104 %		80-120 %	1	11/21/24 17:56	EPA 8260D
MW-8D (A4K1487-11)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 14:32	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 14:32	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 14:32	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 14:32	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 14:32	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 14:32	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	104 %	Limits:	80-120 %	1	11/22/24 14:32	EPA 8260D
Toluene-d8 (Surr)			99 %		80-120 %	1	11/22/24 14:32	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/22/24 14:32	EPA 8260D
MW-9 (A4K1487-12)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 14:55	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 14:55	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 14:55	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 14:55	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 14:55	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 14:55	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	105 %	Limits:	80-120 %	1	11/22/24 14:55	EPA 8260D
Toluene-d8 (Surr)			100 %		80-120 %	1	11/22/24 14:55	EPA 8260D
4-Bromofluorobenzene (Surr)			100 %		80-120 %	1	11/22/24 14:55	EPA 8260D
MW-10 (A4K1487-13)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 15:18	EPA 8260D	

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ANALYTICAL REPORT

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Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-10 (A4K1487-13)		Matrix: Water			Batch: 24K0822			
Toluene	ND	---	1.00	ug/L	1	11/22/24 15:18	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 15:18	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 15:18	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 15:18	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 15:18	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	104 %	Limits:	80-120 %	1	11/22/24 15:18	EPA 8260D
Toluene-d8 (Surr)			100 %		80-120 %	1	11/22/24 15:18	EPA 8260D
4-Bromofluorobenzene (Surr)			101 %		80-120 %	1	11/22/24 15:18	EPA 8260D
MW-11 (A4K1487-14)		Matrix: Water			Batch: 24K0822			R-04
Benzene	ND	---	1.00	ug/L	5	11/22/24 16:26	EPA 8260D	
Toluene	ND	---	5.00	ug/L	5	11/22/24 16:26	EPA 8260D	
Ethylbenzene	ND	---	2.50	ug/L	5	11/22/24 16:26	EPA 8260D	
Xylenes, total	ND	---	7.50	ug/L	5	11/22/24 16:26	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	ug/L	5	11/22/24 16:26	EPA 8260D	
Naphthalene	ND	---	25.0	ug/L	5	11/22/24 16:26	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	105 %	Limits:	80-120 %	1	11/22/24 16:26	EPA 8260D
Toluene-d8 (Surr)			101 %		80-120 %	1	11/22/24 16:26	EPA 8260D
4-Bromofluorobenzene (Surr)			107 %		80-120 %	1	11/22/24 16:26	EPA 8260D
MW-11 DUP (A4K1487-15)		Matrix: Water			Batch: 24K0822			R-04
Benzene	ND	---	1.00	ug/L	5	11/22/24 16:48	EPA 8260D	
Toluene	ND	---	5.00	ug/L	5	11/22/24 16:48	EPA 8260D	
Ethylbenzene	ND	---	2.50	ug/L	5	11/22/24 16:48	EPA 8260D	
Xylenes, total	ND	---	7.50	ug/L	5	11/22/24 16:48	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	ug/L	5	11/22/24 16:48	EPA 8260D	
Naphthalene	ND	---	25.0	ug/L	5	11/22/24 16:48	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	104 %	Limits:	80-120 %	1	11/22/24 16:48	EPA 8260D
Toluene-d8 (Surr)			100 %		80-120 %	1	11/22/24 16:48	EPA 8260D
4-Bromofluorobenzene (Surr)			107 %		80-120 %	1	11/22/24 16:48	EPA 8260D
MW-12 (A4K1487-16)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 15:40	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 15:40	EPA 8260D	

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12 (A4K1487-16)		Matrix: Water			Batch: 24K0822			
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 15:40	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 15:40	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 15:40	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 15:40	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	102 %	Limits:	80-120 %	1	11/22/24 15:40	EPA 8260D
Toluene-d8 (Surr)			100 %		80-120 %	1	11/22/24 15:40	EPA 8260D
4-Bromofluorobenzene (Surr)			100 %		80-120 %	1	11/22/24 15:40	EPA 8260D
MW-12D (A4K1487-17)		Matrix: Water			Batch: 24K0822			
Benzene	ND	---	0.200	ug/L	1	11/22/24 16:03	EPA 8260D	
Toluene	ND	---	1.00	ug/L	1	11/22/24 16:03	EPA 8260D	
Ethylbenzene	ND	---	0.500	ug/L	1	11/22/24 16:03	EPA 8260D	
Xylenes, total	ND	---	1.50	ug/L	1	11/22/24 16:03	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	11/22/24 16:03	EPA 8260D	
Naphthalene	ND	---	5.00	ug/L	1	11/22/24 16:03	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		Recovery:	105 %	Limits:	80-120 %	1	11/22/24 16:03	EPA 8260D
Toluene-d8 (Surr)			101 %		80-120 %	1	11/22/24 16:03	EPA 8260D
4-Bromofluorobenzene (Surr)			102 %		80-120 %	1	11/22/24 16:03	EPA 8260D

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Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24L0001 - EPA 3510C (Fuels/Acid Ext.)												Water
Blank (24L0001-BLK1)												Prepared: 12/02/24 05:00 Analyzed: 12/02/24 19:58
NWTPH-Dx LL												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)												Recovery: 78 % Limits: 50-150 % Dilution: 1x
LCS (24L0001-BS1)												Prepared: 12/02/24 05:00 Analyzed: 12/02/24 20:19
NWTPH-Dx LL												
Diesel	0.292	---	0.0800	mg/L	1	0.500	---	58	36-132%	---	---	
Surr: o-Terphenyl (Surr)												Recovery: 76 % Limits: 50-150 % Dilution: 1x
LCS Dup (24L0001-BSD1)												Prepared: 12/02/24 05:00 Analyzed: 12/02/24 20:39 Q-19
NWTPH-Dx LL												
Diesel	0.291	---	0.0800	mg/L	1	0.500	---	58	36-132%	0.3	30%	
Surr: o-Terphenyl (Surr)												Recovery: 73 % Limits: 50-150 % Dilution: 1x
Batch 24L0068 - EPA 3510C (Fuels/Acid Ext.)												Water
Blank (24L0068-BLK1)												Prepared: 12/03/24 11:11 Analyzed: 12/03/24 20:09
NWTPH-Dx LL												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	B-02
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)												Recovery: 87 % Limits: 50-150 % Dilution: 1x
LCS (24L0068-BS1)												Prepared: 12/03/24 11:11 Analyzed: 12/03/24 20:50
NWTPH-Dx LL												
Diesel	0.475	---	0.0800	mg/L	1	0.500	---	95	36-132%	---	---	
Surr: o-Terphenyl (Surr)												Recovery: 93 % Limits: 50-150 % Dilution: 1x
LCS Dup (24L0068-BSD1)												Prepared: 12/03/24 11:11 Analyzed: 12/03/24 21:11 Q-19
NWTPH-Dx LL												
Diesel	0.473	---	0.0800	mg/L	1	0.500	---	95	36-132%	0.6	30%	
Surr: o-Terphenyl (Surr)												Recovery: 93 % Limits: 50-150 % Dilution: 1x

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Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 24K0908 - EPA 3510C (Fuels/Acid Ext.)						Water							
Blank (24K0908-BLK1)			Prepared: 11/26/24 06:16		Analyzed: 11/26/24 19:55								
<u>NWTPH-Dx (Diss)</u>													
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---		
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x							
Blank (24K0908-BLK2)			Prepared: 11/26/24 06:36		Analyzed: 11/26/24 20:16								
<u>NWTPH-Dx (Diss)</u>													
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---		
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x							
LCS (24K0908-BS1)			Prepared: 11/26/24 06:16		Analyzed: 11/26/24 20:36								
<u>NWTPH-Dx (Diss)</u>													
Diesel	0.414	---	0.0800	mg/L	1	0.500	---	83	36-132%	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 107 %		Limits: 50-150 %		Dilution: 1x							
LCS Dup (24K0908-BSD1)			Prepared: 11/26/24 06:16		Analyzed: 11/26/24 20:58								Q-19
<u>NWTPH-Dx (Diss)</u>													
Diesel	0.421	---	0.0800	mg/L	1	0.500	---	84	36-132%	2	30%		
Surr: o-Terphenyl (Surr)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x							

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Project Manager: Sam J. Russell

Report ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24L0068 - EPA 3510C (Fuels/Acid Ext.)							Water					
Blank (24L0068-BLK2)			Prepared: 12/03/24 12:05		Analyzed: 12/03/24 20:30		FILT3					
NWTPH-Dx (Diss)												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 90 %		Limits: 50-150 %		Dilution: 1x						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0751 - EPA 5030C						Water						
Blank (24K0751-BLK1)			Prepared: 11/21/24 08:24 Analyzed: 11/21/24 11:28									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 94 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
LCS (24K0751-BS2)			Prepared: 11/21/24 08:24 Analyzed: 11/21/24 10:33									Q-50
NWTPH-Gx (MS)												
Gasoline Range Organics	0.522	---	0.100	mg/L	1	0.500	---	104	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 97 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		100 %		50-150 %		"						

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A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0822 - EPA 5030C						Water						
Blank (24K0822-BLK1)			Prepared: 11/22/24 10:34 Analyzed: 11/22/24 13:06									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 93 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		104 %		50-150 %		"						
LCS (24K0822-BS2)			Prepared: 11/22/24 10:34 Analyzed: 11/22/24 12:43									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.428	---	0.100	mg/L	1	0.500	---	86	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 94 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						
Duplicate (24K0822-DUP1)			Prepared: 11/22/24 10:34 Analyzed: 11/22/24 22:48									
<u>QC Source Sample: MW-5 DUP (A4K1487-06)</u>												
Gasoline Range Organics	14.8	---	2.00	mg/L	20	---	15.2	---	---	2	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		106 %		50-150 %		"						
Duplicate (24K0822-DUP2)			Prepared: 11/22/24 10:34 Analyzed: 11/22/24 21:18									
<u>QC Source Sample: Non-SDG (A4K1434-12)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 93 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		105 %		50-150 %		"						

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Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0751 - EPA 5030C												Water
Blank (24K0751-BLK1)												Prepared: 11/21/24 08:24 Analyzed: 11/21/24 11:28
EPA 8260D												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 100 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												102 % 80-120 % "
4-Bromofluorobenzene (Surr)												103 % 80-120 % "
LCS (24K0751-BS1)												Prepared: 11/21/24 08:24 Analyzed: 11/21/24 10:05 Q-50
EPA 8260D												
Benzene	18.5	---	0.200	ug/L	1	20.0	---	92	80-120%	---	---	
Toluene	19.4	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Ethylbenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Xylenes, total	61.7	---	1.50	ug/L	1	60.0	---	103	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
Naphthalene	18.9	---	5.00	ug/L	1	20.0	---	95	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 98 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												99 % 80-120 % "
4-Bromofluorobenzene (Surr)												96 % 80-120 % "
Matrix Spike (24K0751-MS1)												Prepared: 11/21/24 08:24 Analyzed: 11/21/24 13:19 COMP
QC Source Sample: Non-SDG (A4K1443-08)												
EPA 8260D												
Benzene	19.7	---	0.200	ug/L	1	20.0	0.280	97	79-120%	---	---	
Toluene	19.9	---	1.00	ug/L	1	20.0	ND	100	80-121%	---	---	
Ethylbenzene	19.8	---	0.500	ug/L	1	20.0	ND	99	79-121%	---	---	
Xylenes, total	62.7	---	1.50	ug/L	1	60.0	ND	104	79-121%	---	---	
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	ug/L	1	20.0	ND	104	71-124%	---	---	
Naphthalene	18.8	---	5.00	ug/L	1	20.0	ND	94	61-128%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 99 % Limits: 80-120 % Dilution: 1x

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Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. Russell

Report ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0751 - EPA 5030C							Water					
Matrix Spike (24K0751-MS1)			Prepared: 11/21/24 08:24		Analyzed: 11/21/24 13:19		COMP					
QC Source Sample: Non-SDG (A4K1443-08)												
Surr: Toluene-d8 (Surr)		Recovery: 99 %		Limits: 80-120 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		93 %		80-120 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0822 - EPA 5030C						Water						
Blank (24K0822-BLK1)			Prepared: 11/22/24 10:34		Analyzed: 11/22/24 13:06							
EPA 8260D												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 104 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		100 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		103 %		80-120 %		"						
LCS (24K0822-BS1)						Prepared: 11/22/24 10:34		Analyzed: 11/22/24 12:09				
EPA 8260D												
Benzene	20.9	---	0.200	ug/L	1	20.0	---	104	80-120%	---	---	
Toluene	19.5	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Ethylbenzene	20.6	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Xylenes, total	60.7	---	1.50	ug/L	1	60.0	---	101	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
Naphthalene	17.2	---	5.00	ug/L	1	20.0	---	86	80-120%	---	---	
Isopropylbenzene	19.8	---	1.00	ug/L	1	20.0	---	99	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 104 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		96 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		94 %		80-120 %		"						
Duplicate (24K0822-DUP1)						Prepared: 11/22/24 10:34		Analyzed: 11/22/24 22:48				
QC Source Sample: MW-5 DUP (A4K1487-06)												
Benzene	ND	---	4.00	ug/L	20	---	ND	---	---	---	30%	
Toluene	ND	---	20.0	ug/L	20	---	ND	---	---	---	30%	
Ethylbenzene	137	---	10.0	ug/L	20	---	144	---	---	5	30%	
Xylenes, total	218	---	30.0	ug/L	20	---	228	---	---	5	30%	
Methyl tert-butyl ether (MTBE)	ND	---	20.0	ug/L	20	---	ND	---	---	---	30%	
Naphthalene	1870	---	100	ug/L	20	---	1920	---	---	2	30%	

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0822 - EPA 5030C												Water
Duplicate (24K0822-DUP1)												Prepared: 11/22/24 10:34 Analyzed: 11/22/24 22:48
QC Source Sample: MW-5 DUP (A4K1487-06)												
Isopropylbenzene	111	---	20.0	ug/L	20	---	116	---	---	4	30%	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 106 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												99 % 80-120 % "
4-Bromofluorobenzene (Surr)												98 % 80-120 % "
Duplicate (24K0822-DUP2)												Prepared: 11/22/24 10:34 Analyzed: 11/22/24 21:18
QC Source Sample: Non-SDG (A4K1434-12)												
Benzene	ND	---	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	0.500	---	---	***	30%	
Naphthalene	ND	---	5.00	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 104 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												100 % 80-120 % "
4-Bromofluorobenzene (Surr)												101 % 80-120 % "
Matrix Spike (24K0822-MS1)												Prepared: 11/22/24 10:34 Analyzed: 11/22/24 17:11
QC Source Sample: MW-12D (A4K1487-17)												
EPA 8260D												
Benzene	21.0	---	0.200	ug/L	1	20.0	ND	105	79-120%	---	---	
Toluene	19.5	---	1.00	ug/L	1	20.0	ND	98	80-121%	---	---	
Ethylbenzene	20.6	---	0.500	ug/L	1	20.0	ND	103	79-121%	---	---	
Xylenes, total	60.1	---	1.50	ug/L	1	60.0	ND	100	79-121%	---	---	
Methyl tert-butyl ether (MTBE)	20.1	---	1.00	ug/L	1	20.0	ND	101	71-124%	---	---	
Naphthalene	14.9	---	5.00	ug/L	1	20.0	ND	75	61-128%	---	---	
Isopropylbenzene	19.5	---	1.00	ug/L	1	20.0	ND	98	72-131%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 103 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												96 % 80-120 % "
4-Bromofluorobenzene (Surr)												92 % 80-120 % "

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Darrell Auvil, Client Services Manager



ANALYTICAL REPORT

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0873 - EPA 5030C												
Water												
Blank (24K0873-BLK1)												
Prepared: 11/25/24 10:29 Analyzed: 11/25/24 11:42												
EPA 8260D												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)												
Recovery: 105 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr)												
102 % 80-120 % "												
4-Bromofluorobenzene (Surr)												
104 % 80-120 % "												
LCS (24K0873-BS1)												
Prepared: 11/25/24 10:29 Analyzed: 11/25/24 10:46												
EPA 8260D												
Benzene	18.2	---	0.200	ug/L	1	20.0	---	91	80-120%	---	---	
Toluene	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
Ethylbenzene	18.7	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Xylenes, total	58.2	---	1.50	ug/L	1	60.0	---	97	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Naphthalene	16.2	---	5.00	ug/L	1	20.0	---	81	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												
Recovery: 101 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr)												
98 % 80-120 % "												
4-Bromofluorobenzene (Surr)												
92 % 80-120 % "												
Duplicate (24K0873-DUP1)												
Prepared: 11/25/24 10:29 Analyzed: 11/25/24 21:25												
QC Source Sample: Non-SDG (A4K1585-01)												
Benzene	13.4	---	1.00	ug/L	5	---	12.7	---	---	5	30%	
Toluene	72.8	---	5.00	ug/L	5	---	73.6	---	---	1	30%	
Ethylbenzene	22.0	---	2.50	ug/L	5	---	21.6	---	---	2	30%	
Xylenes, total	740	---	7.50	ug/L	5	---	767	---	---	4	30%	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
Naphthalene	ND	---	25.0	ug/L	5	---	22.2	---	---	***	30%	
Surr: 1,4-Difluorobenzene (Surr)												
Recovery: 107 % Limits: 80-120 % Dilution: 1x												
Toluene-d8 (Surr)												
96 % 80-120 % "												

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ANALYTICAL REPORT

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ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 019001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1487 - 12 11 24 1706

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0873 - EPA 5030C						Water						
Duplicate (24K0873-DUP1)			Prepared: 11/25/24 10:29 Analyzed: 11/25/24 21:25									
<u>QC Source Sample: Non-SDG (A4K1585-01)</u>												
Surr: 4-Bromofluorobenzene (Surr)		Recovery: 101 %		Limits: 80-120 %		Dilution: 1x						
Matrix Spike (24K0873-MS1)			Prepared: 11/25/24 10:29 Analyzed: 11/25/24 15:54									
<u>QC Source Sample: Non-SDG (A4K1603-11)</u>												
<u>EPA 8260D</u>												
Benzene	19.9	---	0.200	ug/L	1	20.0	ND	99	79-120%	---	---	
Toluene	20.0	---	1.00	ug/L	1	20.0	ND	100	80-121%	---	---	
Ethylbenzene	20.1	---	0.500	ug/L	1	20.0	ND	101	79-121%	---	---	
Xylenes, total	60.8	---	1.50	ug/L	1	60.0	ND	101	79-121%	---	---	
Methyl tert-butyl ether (MTBE)	19.9	---	1.00	ug/L	1	20.0	ND	99	71-124%	---	---	
Naphthalene	16.3	---	5.00	ug/L	1	20.0	ND	82	61-128%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 102 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		98 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		93 %		80-120 %		"						

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ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: **Sunoco Annex - 4Q24 GWM**
Project Number: **019001-008-13**
Project Manager: **Sam J. Russell****Report ID:**
A4K1487 - 12 11 24 1706**SAMPLE PREPARATION INFORMATION****Diesel and/or Oil Hydrocarbons by NWTPH-Dx****Prep: EPA 3510C (Fuels/Acid Ext.)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24L0001							
A4K1487-03	Water	NWTPH-Dx LL	11/19/24 10:38	12/02/24 11:00	1050mL/2mL	1000mL/2mL	0.95
A4K1487-04	Water	NWTPH-Dx LL	11/19/24 09:32	12/02/24 11:00	1030mL/2mL	1000mL/2mL	0.97
A4K1487-09	Water	NWTPH-Dx LL	11/19/24 09:45	12/02/24 11:00	1050mL/2mL	1000mL/2mL	0.95
A4K1487-10	Water	NWTPH-Dx LL	11/19/24 11:22	12/02/24 11:00	1030mL/2mL	1000mL/2mL	0.97
A4K1487-11	Water	NWTPH-Dx LL	11/19/24 12:25	12/02/24 11:00	1020mL/2mL	1000mL/2mL	0.98
A4K1487-12	Water	NWTPH-Dx LL	11/19/24 10:34	12/02/24 11:00	1040mL/2mL	1000mL/2mL	0.96
A4K1487-16	Water	NWTPH-Dx LL	11/19/24 11:35	12/02/24 11:00	1000mL/2mL	1000mL/2mL	1.00
A4K1487-17	Water	NWTPH-Dx LL	11/19/24 12:41	12/02/24 11:00	970mL/2mL	1000mL/2mL	1.03
Batch: 24L0068							
A4K1487-01	Water	NWTPH-Dx LL	11/20/24 09:59	12/03/24 11:11	1020mL/2mL	1000mL/2mL	0.98
A4K1487-02	Water	NWTPH-Dx LL	11/20/24 08:50	12/03/24 11:11	990mL/2mL	1000mL/2mL	1.01
A4K1487-05	Water	NWTPH-Dx LL	11/20/24 08:11	12/03/24 11:11	1040mL/2mL	1000mL/2mL	0.96
A4K1487-06	Water	NWTPH-Dx LL	11/20/24 08:11	12/03/24 11:11	1030mL/2mL	1000mL/2mL	0.97
A4K1487-07	Water	NWTPH-Dx LL	11/20/24 09:09	12/03/24 11:11	1000mL/2mL	1000mL/2mL	1.00
A4K1487-08	Water	NWTPH-Dx LL	11/20/24 12:29	12/03/24 11:11	1010mL/2mL	1000mL/2mL	0.99
A4K1487-13	Water	NWTPH-Dx LL	11/20/24 08:06	12/03/24 11:11	1000mL/2mL	1000mL/2mL	1.00

Dissolved Diesel and/or Oil Hydrocarbons by NWTPH-Dx**Prep: EPA 3510C (Fuels/Acid Ext.)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0908							
A4K1487-18	Water	NWTPH-Dx (Diss)	11/20/24 11:12	11/26/24 06:16	990mL/2mL	1000mL/2mL	1.01
Batch: 24L0068							
A4K1487-19RE1	Water	NWTPH-Dx (Diss)	11/20/24 11:12	12/03/24 12:05	1040mL/2mL	1000mL/2mL	0.96

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**Prep: EPA 5030C**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0751							
A4K1487-03	Water	NWTPH-Gx (MS)	11/19/24 10:38	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-04	Water	NWTPH-Gx (MS)	11/19/24 09:32	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-09	Water	NWTPH-Gx (MS)	11/19/24 09:45	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-10	Water	NWTPH-Gx (MS)	11/19/24 11:22	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00

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503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: **Sunoco Annex - 4Q24 GWM**
Project Number: **019001-008-13**
Project Manager: **Sam J. Russell****Report ID:**
A4K1487 - 12 11 24 1706**SAMPLE PREPARATION INFORMATION****Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx****Prep: EPA 5030C**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0822							
A4K1487-01	Water	NWTPH-Gx (MS)	11/20/24 09:59	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-02	Water	NWTPH-Gx (MS)	11/20/24 08:50	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-05	Water	NWTPH-Gx (MS)	11/20/24 08:11	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-06	Water	NWTPH-Gx (MS)	11/20/24 08:11	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-07	Water	NWTPH-Gx (MS)	11/20/24 09:09	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-08	Water	NWTPH-Gx (MS)	11/20/24 12:29	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-11	Water	NWTPH-Gx (MS)	11/19/24 12:25	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-12	Water	NWTPH-Gx (MS)	11/19/24 10:34	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-13	Water	NWTPH-Gx (MS)	11/20/24 08:06	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-14	Water	NWTPH-Gx (MS)	11/20/24 11:12	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-15	Water	NWTPH-Gx (MS)	11/20/24 11:12	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-16	Water	NWTPH-Gx (MS)	11/19/24 11:35	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-17	Water	NWTPH-Gx (MS)	11/19/24 12:41	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 8260D**Prep: EPA 5030C**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0751							
A4K1487-03	Water	EPA 8260D	11/19/24 10:38	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-04	Water	EPA 8260D	11/19/24 09:32	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-09	Water	EPA 8260D	11/19/24 09:45	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
A4K1487-10	Water	EPA 8260D	11/19/24 11:22	11/21/24 09:29	5mL/5mL	5mL/5mL	1.00
Batch: 24K0822							
A4K1487-01	Water	EPA 8260D	11/20/24 09:59	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-02	Water	EPA 8260D	11/20/24 08:50	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-05	Water	EPA 8260D	11/20/24 08:11	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-06	Water	EPA 8260D	11/20/24 08:11	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-07	Water	EPA 8260D	11/20/24 09:09	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-08	Water	EPA 8260D	11/20/24 12:29	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-11	Water	EPA 8260D	11/19/24 12:25	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-12	Water	EPA 8260D	11/19/24 10:34	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-13	Water	EPA 8260D	11/20/24 08:06	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-14	Water	EPA 8260D	11/20/24 11:12	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-15	Water	EPA 8260D	11/20/24 11:12	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
A4K1487-16	Water	EPA 8260D	11/19/24 11:35	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00

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ANALYTICAL REPORT

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5820 S Kelly Ave Unit B
Portland, OR 97239

Project: Sunoco Annex - 4Q24 GWM

Project Number: 019001-008-13

Project Manager: Sam J. Russell

Report ID:

A4K1487 - 12 11 24 1706

SAMPLE PREPARATION INFORMATION

Selected Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4K1487-17	Water	EPA 8260D	11/19/24 12:41	11/22/24 13:11	5mL/5mL	5mL/5mL	1.00
<u>Batch: 24K0873</u>							
A4K1487-01RE1	Water	EPA 8260D	11/20/24 09:59	11/25/24 11:20	5mL/5mL	5mL/5mL	1.00

Apex Laboratories

Darrell Auvil, Client Services Manager

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239

Project: **Sunoco Annex - 4Q24 GWM**
Project Number: **019001-008-13**
Project Manager: **Sam J. Russell**

Report ID:
A4K1487 - 12 11 24 1706

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- A-01** Sample was originally extracted within hold time with failing surrogate. Out of hold extraction confirms sample is non-detect
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- COMP** Analyzed sample is a composite of discrete samples that was performed in the laboratory.
- F-11** The hydrocarbon pattern indicates possible weathered diesel, mineral oil, or a contribution from a related component.
- F-18** Result for Diesel (Diesel Range Organics, C12-C25) is due to overlap from Gasoline or a Gasoline Range product.
- FILT3** This is a laboratory filtration blank, associated with filtration batch 24L0020. See Prep page of report for associated samples.
- H-02** This sample was extracted outside of the recommended holding time.
- PRES** Incomplete field preservation. Additional preservative was added to adjust the pH within the appropriate range for this analysis.
- PRO** Sample has undergone sample processing prior to extraction and analysis.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-50** Due to instrument malfunction, not all Batch QC samples were analyzed. The batch is accepted based on the recoveries of the Blank Spike (BS).
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Validated Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
-For Blank hits falling between $\frac{1}{2}$ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.
-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Decanted Samples:

Soils/Sediments:

Unless TCLP analysis is required or there is notification otherwise for a specific project, all Soil and Sediments containing excess water are decanted prior to analysis in order to provide the most representative sample for analysis.

Water Samples:

Water samples containing solids and sediment may need to be decanted in order to eliminate these particulates from the water extractions. In the case of organics extractions, a solvent rinse of the container will not be performed.

Volatiles Soils (5035s)

Samples that are field preserved by 5035 for volatiles are dry weight corrected using the same dry weight correction as for normal analyses.

In the case of decanted samples, the dry weight may be performed on a decanted sample, while the aliquot for 5035 may not have been treated the same way. If this is a concern, please submit separate containers for dry weight analysis for volatiles can be provided.

All samples decanted in the laboratory are noted in this report with the DCNT qualifier indicating the sample was decanted.

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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
--------	----------	--------	---------	--------	---------------

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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Project: Sunoco Annex - 4Q24 GWM

Project Number: 019001-008-13

Project Manager: Sam J. Russell

Report ID:

A4K1487 - 12 11 24 1706

APEX LABS COOLER RECEIPT FORM

Client: GeoEngineers Element WO#: A4K1487Project/Project #: Sunoco Annex 4Q24 GWM 19001-008-13

Delivery Info:

Date/time received: 11/20/24 @ 1532 By: AMWDelivered by: Apex ☒ Client ☒ ESS ☐ FedEx ☐ UPS ☐ Radio ☐ Morgan ☐ SDS ☐ Evergreen ☐ Other ☐From USDA Regulated Origin? Yes ☐ No ☒Cooler Inspection Date/time inspected: 11/20/24 @ 1532 By: AMWChain of Custody included? Yes ☒ No ☐Signed/dated by client? Yes ☒ No ☐Contains USDA Reg. Soils? Yes ☐ No ☒ Unsure (email RegSoils) ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>3.6</u>	<u>3.2</u>	<u>2.6</u>				
Custody seals? (Y/N)	<u>N</u>	<u>N</u>	<u>N</u>				
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>				
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>				
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>	<u>Real</u>				
Condition (In/Out):	<u>In</u>	<u>In</u>	<u>In</u>				

Cooler out of temp? (Y/N) Possible reason why: NAGreen dots applied to out of temperature samples? Yes ☒ No ☐Out of temperature samples form initiated? Yes ☒ No ☐Sample Inspection: Date/time inspected: 11/20/24 @ 1650 By: ZAAll samples intact? Yes ☒ No ☐ Comments: NABottle labels/COCs agree? Yes ☒ No ☐ Comments: NACOC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: NADo VOA vials have visible headspace? Yes ☐ No ☒ NA ☐Comments: 3 MW 11 and MW 11 DUD have sed. sent for ZAWater samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐ pH ID: A23172Comments: Received 3/2 unpres 12 Amber for MW 11 and MW 11 DUD. They pH @ 7.Labeled by: AMWWitness: AMWCooler Inspected by: AMW

Form Y-003 R-02

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Wednesday, December 4, 2024

Sam J. Russell
GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239

RE: A4K1513 - Sunoco Annex - 4Q24 GWM - 19001-008-13

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4K1513, which was received by the laboratory on 11/21/2024 at 10:48:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information	
<u>Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.</u>	
(See Cooler Receipt Form for details)	
Default Cooler	<u>5.5 degC</u>

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



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5820 S Kelly Ave Unit B
Portland, OR 97239

Project: Sunoco Annex - 4Q24 GWM

Project Number: 19001-008-13

Project Manager: Sam J. Russell

Report ID:

A4K1513 - 12 04 24 1122

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-6	A4K1513-01	Water	11/21/24 09:21	11/21/24 10:48

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A4K1513 - 12 04 24 1122

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-6 (A4K1513-01)		Matrix: Water			Batch: 24K0908			
Diesel	2.31	---	0.800	mg/L	10	11/27/24 01:10	NWTPH-Dx LL	F-20
Oil	ND	---	1.60	mg/L	10	11/27/24 01:10	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %	10	11/27/24 01:10	NWTPH-Dx LL	S-05

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Project Manager: Sam J. Russell

Report ID:

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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-6 (A4K1513-01)				Matrix: Water		Batch: 24K0818		
Gasoline Range Organics	14.5	---	2.50	mg/L	25	11/23/24 01:30	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 98 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>11/23/24 01:30</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>102 %</i>	<i>50-150 %</i>	<i>1</i>	<i>11/23/24 01:30</i>	<i>NWTPH-Gx (MS)</i>	

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A4K1513 - 12 04 24 1122

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-6 (A4K1513-01)		Matrix: Water			Batch: 24K0818			
Benzene	163	---	5.00	ug/L	25	11/23/24 01:30	EPA 8260D	
Toluene	ND	---	25.0	ug/L	25	11/23/24 01:30	EPA 8260D	
Ethylbenzene	1160	---	12.5	ug/L	25	11/23/24 01:30	EPA 8260D	
Xylenes, total	195	---	37.5	ug/L	25	11/23/24 01:30	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	---	25.0	ug/L	25	11/23/24 01:30	EPA 8260D	
Naphthalene	217	---	125	ug/L	25	11/23/24 01:30	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery:</i>	102 %	<i>Limits:</i>	80-120 %	1	11/23/24 01:30	EPA 8260D
<i>Toluene-d8 (Surr)</i>			102 %		80-120 %	1	11/23/24 01:30	EPA 8260D
<i>4-Bromofluorobenzene (Surr)</i>			98 %		80-120 %	1	11/23/24 01:30	EPA 8260D

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Project Manager: Sam J. RussellReport ID:
A4K1513 - 12 04 24 1122

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0908 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (24K0908-BLK1)			Prepared: 11/26/24 06:16 Analyzed: 11/26/24 19:55									
<u>NWTPH-Dx LL</u>												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Mineral Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x						
Blank (24K0908-BLK2)			Prepared: 11/26/24 06:36 Analyzed: 11/26/24 20:16									
<u>NWTPH-Dx LL</u>												
Diesel	ND	---	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Mineral Oil	ND	---	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						
LCS (24K0908-BS1)			Prepared: 11/26/24 06:16 Analyzed: 11/26/24 20:36									
<u>NWTPH-Dx LL</u>												
Diesel	0.414	---	0.0800	mg/L	1	0.500	---	83	36-132%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 107 %		Limits: 50-150 %		Dilution: 1x						
LCS Dup (24K0908-BSD1)			Prepared: 11/26/24 06:16 Analyzed: 11/26/24 20:58									
<u>NWTPH-Dx LL</u>												
Diesel	0.421	---	0.0800	mg/L	1	0.500	---	84	36-132%	2	30%	
Surr: o-Terphenyl (Surr)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x						

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Project Number: 19001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1513 - 12 04 24 1122

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0818 - EPA 5030C						Water						
Blank (24K0818-BLK1)			Prepared: 11/22/24 08:58 Analyzed: 11/22/24 15:22									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
LCS (24K0818-BS2)			Prepared: 11/22/24 08:58 Analyzed: 11/22/24 14:54									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.480	---	0.100	mg/L	1	0.500	---	96	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		98 %		50-150 %		"						
Duplicate (24K0818-DUP1)			Prepared: 11/22/24 08:58 Analyzed: 11/22/24 18:08									
<u>QC Source Sample: Non-SDG (A4K1481-05)</u>												
Gasoline Range Organics	ND	---	0.500	mg/L	5	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		104 %		50-150 %		"						
Duplicate (24K0818-DUP2)			Prepared: 11/22/24 08:58 Analyzed: 11/23/24 03:21									
<u>QC Source Sample: MW-6 (A4K1513-01)</u>												
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	14.4	---	2.50	mg/L	25	---	14.5	---	---	0.8	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						

Apex Laboratories

Darrell Auvil, Client Services Manager

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 19001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1513 - 12 04 24 1122

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0818 - EPA 5030C												Water
Blank (24K0818-BLK1)												Prepared: 11/22/24 08:58 Analyzed: 11/22/24 15:22
EPA 8260D												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 102 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												101 % 80-120 % "
4-Bromofluorobenzene (Surr)												104 % 80-120 % "
LCS (24K0818-BS1)												Prepared: 11/22/24 08:58 Analyzed: 11/22/24 13:57
EPA 8260D												
Benzene	18.7	---	0.200	ug/L	1	20.0	---	93	80-120%	---	---	
Toluene	19.0	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Ethylbenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Xylenes, total	61.3	---	1.50	ug/L	1	60.0	---	102	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	20.2	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
Naphthalene	18.5	---	5.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,2-Dibromoethane (EDB)	20.3	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
1,2-Dichloroethane (EDC)	18.8	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
Isopropylbenzene	21.8	---	1.00	ug/L	1	20.0	---	109	80-120%	---	---	
n-Propylbenzene	19.4	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,2,4-Trimethylbenzene	20.5	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
1,3,5-Trimethylbenzene	20.2	---	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)												Recovery: 99 % Limits: 80-120 % Dilution: 1x
Toluene-d8 (Surr)												98 % 80-120 % "
4-Bromofluorobenzene (Surr)												94 % 80-120 % "

Apex Laboratories

Darrell Auvil, Client Services Manager

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 19001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1513 - 12 04 24 1122

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0818 - EPA 5030C						Water						
Duplicate (24K0818-DUP1)												
Prepared: 11/22/24 08:58 Analyzed: 11/22/24 18:08												
QC Source Sample: Non-SDG (A4K1481-05)												
Benzene	ND	---	1.00	ug/L	5	---	ND	---	---	---	30%	
Toluene	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	2.50	ug/L	5	---	ND	---	---	---	30%	
Xylenes, total	ND	---	7.50	ug/L	5	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
Naphthalene	ND	---	25.0	ug/L	5	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	2.50	ug/L	5	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	2.00	ug/L	5	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	2.50	ug/L	5	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	5.00	ug/L	5	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 105 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		101 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		103 %		80-120 %		"						

Duplicate (24K0818-DUP2) Prepared: 11/22/24 08:58 Analyzed: 11/23/24 03:21

QC Source Sample: MW-6 (A4K1513-01)												
EPA 8260D												
Benzene	164	---	5.00	ug/L	25	---	163	---	---	0.8	30%	
Toluene	ND	---	25.0	ug/L	25	---	14.2	---	---	***	30%	
Ethylbenzene	1160	---	12.5	ug/L	25	---	1160	---	---	0.6	30%	
Xylenes, total	197	---	37.5	ug/L	25	---	195	---	---	1	30%	
Methyl tert-butyl ether (MTBE)	ND	---	25.0	ug/L	25	---	ND	---	---	---	30%	
Naphthalene	230	---	125	ug/L	25	---	217	---	---	6	30%	
1,2-Dibromoethane (EDB)	ND	---	12.5	ug/L	25	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	10.0	ug/L	25	---	ND	---	---	---	30%	
Isopropylbenzene	49.0	---	25.0	ug/L	25	---	47.0	---	---	4	30%	
n-Propylbenzene	140	---	12.5	ug/L	25	---	140	---	---	0.2	30%	
1,2,4-Trimethylbenzene	88.2	---	25.0	ug/L	25	---	83.8	---	---	5	30%	
1,3,5-Trimethylbenzene	ND	---	25.0	ug/L	25	---	22.0	---	---	***	30%	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 104 %		Limits: 80-120 %		Dilution: 1x						

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Darrell Auvil, Client Services Manager



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ORELAP ID: OR100062

GeoEngineers - Portland
5820 S Kelly Ave Unit B
Portland, OR 97239Project: Sunoco Annex - 4Q24 GWM
Project Number: 19001-008-13
Project Manager: Sam J. RussellReport ID:
A4K1513 - 12 04 24 1122

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24K0818 - EPA 5030C						Water						
Duplicate (24K0818-DUP2)			Prepared: 11/22/24 08:58 Analyzed: 11/23/24 03:21									
QC Source Sample: MW-6 (A4K1513-01)												
Surr: Toluene-d8 (Surr)		Recovery: 100 %		Limits: 80-120 %		Dilution: 1x						
4-Bromofluorobenzene (Surr)		100 %		80-120 %		"						
Matrix Spike (24K0818-MS1)			Prepared: 11/22/24 08:58 Analyzed: 11/23/24 02:26									
QC Source Sample: Non-SDG (A4K1508-01)												
EPA 8260D												
Benzene	206	---	2.00	ug/L	10	200	ND	103	79-120%	---	---	
Toluene	202	---	10.0	ug/L	10	200	ND	101	80-121%	---	---	
Ethylbenzene	206	---	5.00	ug/L	10	200	ND	103	79-121%	---	---	
Xylenes, total	635	---	15.0	ug/L	10	600	ND	106	79-121%	---	---	
Methyl tert-butyl ether (MTBE)	201	---	10.0	ug/L	10	200	ND	100	71-124%	---	---	
Naphthalene	197	---	50.0	ug/L	10	200	ND	98	61-128%	---	---	
1,2-Dibromoethane (EDB)	204	---	5.00	ug/L	10	200	ND	102	77-121%	---	---	
1,2-Dichloroethane (EDC)	202	---	4.00	ug/L	10	200	ND	101	73-128%	---	---	
Isopropylbenzene	234	---	10.0	ug/L	10	200	ND	117	72-131%	---	---	
n-Propylbenzene	215	---	5.00	ug/L	10	200	8.60	103	76-126%	---	---	
1,2,4-Trimethylbenzene	214	---	10.0	ug/L	10	200	ND	107	76-124%	---	---	
1,3,5-Trimethylbenzene	212	---	10.0	ug/L	10	200	ND	106	75-124%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		Recovery: 103 %		Limits: 80-120 %		Dilution: 1x						
Toluene-d8 (Surr)		96 %		80-120 %		"						
4-Bromofluorobenzene (Surr)		92 %		80-120 %		"						

Apex Laboratories

Darrell Auvil, Client Services Manager

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**ANALYTICAL REPORT****Apex Laboratories, LLC**6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323

ORELAP ID: OR100062

GeoEngineers - Portland5820 S Kelly Ave Unit B
Portland, OR 97239Project: **Sunoco Annex - 4Q24 GWM**Project Number: **19001-008-13**Project Manager: **Sam J. Russell****Report ID:****A4K1513 - 12 04 24 1122****SAMPLE PREPARATION INFORMATION****Diesel and/or Oil Hydrocarbons by NWTPH-Dx****Prep: EPA 3510C (Fuels/Acid Ext.)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0908							
A4K1513-01	Water	NWTPH-Dx LL	11/21/24 09:21	11/26/24 11:25	1000mL/2mL	1000mL/2mL	1.00

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx**Prep: EPA 5030C**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0818							
A4K1513-01	Water	NWTPH-Gx (MS)	11/21/24 09:21	11/22/24 09:01	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 8260D**Prep: EPA 5030C**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24K0818							
A4K1513-01	Water	EPA 8260D	11/21/24 09:21	11/22/24 09:01	5mL/5mL	5mL/5mL	1.00

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Project Number: **19001-008-13**

Project Manager: **Sam J. Russell**

Report ID:

A4K1513 - 12 04 24 1122

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- F-20** Result for Diesel (DRO) is Estimated due to overlap from Gasoline Range Organics or other VOCs.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Validated Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")

See Percent Solids section for details of dry weight analysis.

"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Report ID:
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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
-For Blank hits falling between $\frac{1}{2}$ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.
-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Decanted Samples:

Soils/Sediments:

Unless TCLP analysis is required or there is notification otherwise for a specific project, all Soil and Sediments containing excess water are decanted prior to analysis in order to provide the most representative sample for analysis.

Water Samples:

Water samples containing solids and sediment may need to be decanted in order to eliminate these particulates from the water extractions. In the case of organics extractions, a solvent rinse of the container will not be performed.

Volatiles Soils (5035s)

Samples that are field preserved by 5035 for volatiles are dry weight corrected using the same dry weight correction as for normal analyses.

In the case of decanted samples, the dry weight may be performed on a decanted sample, while the aliquot for 5035 may not have been treated the same way. If this is a concern, please submit separate containers for dry weight analysis for volatiles can be provided.

All samples decanted in the laboratory are noted in this report with the DCNT qualifier indicating the sample was decanted.

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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
--------	----------	--------	---------	--------	---------------

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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APEX LABS COOLER RECEIPT FORM

Client: GeoEngineers Element WO#: A4K1513Project/Project #: Annex GWM 4Q24 19001-008-13

Delivery Info:

Date/time received: 11/21/24 @ 1048 By: AWDelivered by: Apex ☒ Client ☒ FedEx ☐ UPS ☐ Radio ☐ Morgan ☐ SDS ☐ Evergreen ☐ Other ☐From USDA Regulated Origin? Yes ☐ No ☒Cooler Inspection Date/time inspected: 11/21/24 @ 1048 By: AWChain of Custody included? Yes ☒ No ☐Signed/dated by client? Yes ☒ No ☐Contains USDA Reg. Soils? Yes ☐ No ☒ Unsure (email RegSoils) ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.5</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>IN</u>						

Cooler out of temp? (Y/N) Possible reason why: NAGreen dots applied to out of temperature samples? Yes ☐ No ☒Out of temperature samples form initiated? Yes ☐ No ☒Sample Inspection: Date/time inspected: 11/21/24 @ 1150 By: JAAll samples intact? Yes ☒ No ☐ Comments: 21Bottle labels/COCs agree? Yes ☐ No ☒ Comments: COC reads 6 containers, received 5 cont. 1 for 3 VOAs reads 0900.COC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: Do VOA vials have visible headspace? Yes ☐ No ☒ NA ☐Comments: Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐ pH ID: A231172Comments: Labeled by: JAWitness: JSCooler Inspected by: AW

Form Y-003 R-02

Apex Laboratories

Darrell Auvil, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.