

Parametrix No. 553-1550-067

Ryan Gardiner, Project Manager
Washington State Department of Ecology
Toxics Cleanup Program
15700 Dayton Ave. N.
Shoreline, Washington 98133

Re: South Park Landfill Second Quarter 2025 Progress Report

Dear Ryan:

This progress report provides an explanation of actions taken during the referenced period.

General Activities During the 2025 Second Quarter

SRDS Property

- The old South Transfer Station seep area (compactor shed) remains fenced off and locked. All existing safeguards remain in place.
- Solid Waste Operations and Household Hazardous Waste Collection continues on the Seattle Public Utilities (SPU) old South Transfer Station property.
- Another underground water leak occurred this spring and water was shut off. Repair of the leaking water line is currently being evaluated as it is isolated and may be more appropriate to wait for construction of STS Phase II.
- Cleanup of residual glass cullet, ecology block fragments, and glass labels resulting from a failure of ecology blocks from a temporary lessee's operations on the property is ongoing. A portion of the southern fence, damaged from the incident, has been repaired. One damaged and leaning utility pole from the failure is planned for shoring early in the third quarter of 2025.
- No waste audits were performed on the SRDS property in the second quarter of 2025. KCPH is aware of this activity. One tentative waste audit is planned for the third quarter of 2025.

CenterPoint South Park LLC Property

- The landfill gas system blowers continue to be remotely monitored.
- Routine operation and maintenance of the landfill gas system was conducted as scheduled for the quarter.
- First Student and Amazon have vacated the property. Avis has become the new tenant on the former Amazon lot.
- Quarterly inspection of the methane alarms in the on-site buildings was not conducted due to building vacancy.



Overall Settlement Parcels

- **2025 Second Quarter Compliance Monitoring**
 - SPU staff completed the second quarter compliance monitoring at the perimeter gas probes and groundwater wells.
 - Parametrix reviewed all field measurements collected during the monitoring event and completed the associated data management tasks.
- **Annual Cap Inspection**
 - The 2025 annual cap inspection was conducted in May. A report summarizing the findings of the inspection is scheduled for submittal to the Washington State Department of Ecology (Ecology) in July.

Deviations from Samples, Required Tasks, CAP, or Schedule

There were no deviations to report this quarter.

Data Summary

Perimeter Gas Probes Monitoring

Monitoring Date: April 24, 2025

Conducted By: SPU

Methane was not detected at any of the monitored gas probes. Monitoring data are provided in the attached records.

Groundwater Monitoring

Monitoring Dates: April 28–30, 2025

Conducted By: SPU

Laboratory Analysis: Performed by Analytical Resources, LLC

Data validation is complete for the 2025 second quarter compliance monitoring event. A trigger assessment for vinyl chloride is underway. Results of the trigger assessment will be reported to Ecology within 30 days.

A draft groundwater quality data summary table, field sheets and the final lab reports are included as attachments to this progress report.

Upcoming Activities

SRDS Property

- SPU has added significant scope changes to the STS Phase II project including combining stormwater treatment from the STS property to the SRDS property, larger trailer canopy, a combined electrical building, and crew quarter changes. The final design is anticipated to be completed in the winter of 2025.



- Continued cleanup of residual glass cullet, ecology block fragments, and glass labels from SMI glass storage.
- Shoring of a damaged utility pole, previously impacted by the SMI ecology block failure, is scheduled for the early part of the third quarter.
- One waste audit is tentatively scheduled for the third quarter of 2025.

CenterPoint Property

- Continued remote monitoring of the landfill gas system blowers.
- Complete the third quarter 2025 operation and maintenance of the landfill gas system.
- Catch basin cleaning and sediment removal and other repairs as noted in the 2024 mid-year cap reinspection.

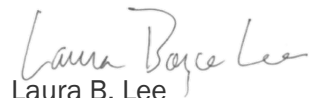
Overall Settlement Parcels

- SPU will conduct the third quarter 2025 compliance monitoring.
- SPU is coordinating with property owners for access for the installation of new supplemental gas probes as described in the approved Supplemental Gas Probes Work Plan. Once access is secured:
 - SPU will procure a drilling contractor
 - The Site Coordinator will schedule the drilling contractor for installation of the new gas probes, repair of damaged probe GP-28, and removal buried purge water drums.
- The 2025 Annual Cap Inspection Report will be submitted to property owners for review prior to final submittal to Ecology.

If you have any questions regarding this progress report, please do not hesitate to contact me.

Sincerely,

Parametrix



Laura B. Lee
Project Manager

cc: Mark Jusayan, SPU Solid Waste Capital Planning and Landfill Closure Program Manager
Min Soon Yim, SPU Landfill Manager
Ashley Piatek, CenterPoint Properties
Jeff Fowler, SPU, Solid Waste Line of Business Deputy Director
Susan Fife-Ferris, SPU, Solid Waste Line of Business/Solid Waste Planning Director
Megan J Joplin, SPU, Law Department, Attorney
Hui Yang, SPU, SRDS Redevelopment Project Manager
Lucie Harpster, SPU Solid Waste Transfer Station Manager



Attachments

- 1 Draft Groundwater Quality Data Summary, Second Quarter 2025
- 2 Landfill Gas and Groundwater Compliance Monitoring Field Sheets, Second Quarter 2025
- 3 Second Quarter 2025 Groundwater Laboratory Data

Attachment 1

Draft Groundwater Quality
Data Summary,
Second Quarter 2025

Groundwater Quality Data Summary, Second Quarter 2025, South Park Landfill

			Upgradient Wells			Downgradient Wells												Trip Blanks		
			A-Zone			Perched Zone	A-Zone					B-Zone						MW-80	MW-81	MW-82
			MW-12	MW-14	MW-29	MW-30 ¹	MW-25	MW-26	MW-27	MW-31 ¹	MW-32 ²	MW-33 ²	MW-08	MW-10	MW-18 ²	MW-60 (MW-18 Dup)	MW-24 (MW-24 Dup)			
Parameter	Units	Cleanup Level	4/30/25	4/30/25	4/30/25	4/29/25	4/29/25	4/29/25	4/28/25	4/29/25	4/28/25	4/28/25	4/28/25	4/29/25	4/30/25	4/29/25	4/29/25	4/28/25	4/29/25	4/30/25
Field Parameters																				
Temperature	C		12.5	13.4	11.9	12.1	14.1	12.6	11.8	13.8	14.0	15.4	12.4	14.2	14.7	--	12.5	--	--	--
Dissolved Oxygen	mg/L		0.32	0.10	0.09	0.39	0.10	0.37	0.11	0.12	0.10	0.48	0.11	0.14	0.09	--	0.24	--	--	--
Specific Conductivity	µS/cm		480.0	479.0	809.0	433.6	1165.0	232.7	437.0	508.0	844.0	1285.0	1298.0	1452.0	579.0	--	979	--	--	--
pH	units		6.39	6.75	6.82	6.25	6.61	6.31	6.66	6.49	6.87	6.88	6.82	6.84	6.86	--	6.77	--	--	--
Redox	mv		51.3	-33.9	-102.9	67.7	-94.5	29.0	-64.4	-54.8	-85.6	-122.7	-100.9	-120.8	-88.6	--	-99.0	--	--	--
Turbidity	NTU		1.62	2.19	1.36	1.32	2.24	1.85	7.82	3.29	2.33	1.75	1.33	2.07	2.89	--	3.22	--	--	--
Metals																				
Iron, Total	mg/L	27 A-Zone	3.01	3.51	20.8	1.39	29.2	4.17	10.8	18.3	11.8	14.4	--	--	--	--	--	--	--	--
		31 B-Zone	--	--	--	--	--	--	--	--	--	--	11.8	30.9	13.7	14.9	19.4	19.1	--	--
Manganese, Total	mg/L	2.2	0.251	0.876	0.632	0.0419	1.94	0.0566	0.385	0.835	1.29	1.69	0.906	2.72	0.717 J+	0.777 J+	1.41 J+	1.42 J+	--	--
Volatile Organic Compounds																				
Vinyl Chloride	µg/L	0.29	0.0200 U	0.0200 U	0.0918	0.0367	0.186	0.0203	0.0891	0.987	0.288	0.187	0.0758	0.375	0.0200 U	0.0200 U	0.0260	0.0266	0.0200 U	0.0200 U
Cis-1,2-Dichloroethene	µg/L	16	0.27	0.20 U	0.20 U	0.24	0.88	0.40	0.20 U	0.44	0.41	0.20 U	0.20 U	0.24	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Notes:

- ¹ MW 30 and MW-31 monitor the former Glitsa property and are not CPOC wells.
- ² MW 18 is completed in refuse along the downgradient edge of the Landfill; MW 32 and MW 33 are completed beneath refuse along the downgradient edge.

- = Exceeds cleanup level for CPOC wells
- = Not analyzed
- U = The analyte was analyzed for but was not detected above the reported sample quantitation limit.
- J+ = The result is an estimated quantity, but the result may be biased high.

Abbreviations:

- µg/L Micrograms per liter
- mg/L Milligrams per liter
- µS/cm Microsiemens per centimeter
- NTU Nephelometric Turbidity unit
- CPOC Conditional point of compliance

Attachment 2

Landfill Gas and Groundwater
Compliance Monitoring Field
Sheets,
Second Quarter 2025

South Park Landfill
Second Quarter 2025 Gas Probe Monitoring Data

Gas Probe	Date	Time	Rel. Press. inches H2O	CH4 %	CO2 %	O2 %	Balance %	Blocked (Y/N)	Baro. Press. inches Hg
SP00GP33	4/24/2025	8:06	0.00	0.0	0.7	19.2	80.1	N	29.98
SP00GP07	4/24/2025	8:48	0.01	0.0	1.8	19.3	78.9	N	29.98
SP00GP23	4/24/2025	9:01	0.02	0.0	8.5	11.7	79.8	N	29.98
SP00GP37	4/24/2025	9:11	0.00	0.0	8.6	6.1	85.3	N	29.99
SP00GP38	4/24/2025	9:21	0.01	0.0	13.4	3.1	83.5	N	29.99
SP00GP09	4/24/2025	9:28	0.01	0.0	6.0	14.0	80.0	N	29.98
SP00GP29	4/24/2025	9:42	0.01	0.0	14.0	0.7	85.3	N	29.98
SP00GP16	4/24/2025	9:56	0.02	0.0	9.3	8.4	82.3	N	29.97
SP00GP31	4/24/2025	10:04	0.06	0.0	3.5	9.9	86.6	N	29.97
SP00GP28	4/24/2025	10:12	0.05	0.0	0.2	20.8	79.0	N	29.97
SP00GP27	4/24/2025	10:22	0.06	0.0	8.2	0.6	91.2	N	29.96
SP00GP26	4/24/2025	10:43	0.33	0.0	2.0	18.2	79.8	N	29.97
SP00GP11	4/24/2025	11:00	0.50	0.0	0.7	20.1	79.2	N	29.95
SP00GP03	4/24/2025	11:04	0.02	0.0	4.3	13.4	82.3	N	29.96
SP00GP15	4/24/2025	11:12	-20.93	0.0	4.4	3.9	91.7	Y	29.97
SP00GP32	4/24/2025	11:19	-0.03	0.0	0.0	20.8	79.2	N	29.96
SP00GP13	4/24/2025	11:26	-13.28	0.0	2.5	18.3	79.2	Y	29.96

GEM™5000; G5 V1_15_12; LSGAM:6_0_20160627; {15109474416}

Water Level Measurement Field Report

DATE:	04/28/2025	JOB NO. 553-1550-067			
PROJECT: South Park Landfill		CLIENT: Seattle Public Utilities			
LOCATION: Seattle, WA					
WEATHER	TEMP	49	° at	8:08	AM
Cloudy		54	° at	10:15	PM
PRESENT AT SITE	T. Steimel	D. Favill	W. Yu	Chris Bourgeois - Parametrix	

THE FOLLOWING WAS NOTED:

WELL NUMBER	Time	Measured Depth to Water (ft from TOC or SG level)	Total Measured Well Depth (ft from TOC)	Measuring Point	Total Well Depth (ft bgs)	Screen Interval (ft bgs)	SU (ft)
MW-12	9:06	6		TOC	15.3	10 - 15	1.52
MW-14	8:09	2.68		TOC	21.8	11.5 - 21.5	0.8
MW-29	8:30	6.72		TOC	30	20 - 30	-0.29
MW-18	8:43	14.96		TOC	40.4	30 - 40	1.25
MW-25	8:53	13.46		TOC	27	22 - 27	2.79
MW-32	9:29	10.36		TOC	24	19 - 24	-0.44
MW-33	9:16	10.61		TOC	25	20 - 25	-0.47
MW-26	10:06	9.25		TOC	25	15 - 25	2.39
MW-27	10:18	7.89		TOC	20	10 - 20	2.04
MW-10	8:55	12.77		TOC	45	35 - 45	1.65
MW-24	10:03	8.49		TOC	45.3	35 - 45	1.56
MW-08	1013	7.95		TOC	45.6	35.5 – 45.5	1.88
MW-30	9:52	9.69		TOC	13	8 - 13	-0.53
MW-31	9:54	10.65		TOC	23	18 - 23	-0.46

Comments:

TOC – top of PVC casing SG – staff gauge

SIGNED: _____

South Park Landfill

Well ID:	MW-08
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Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	40 ft
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End Purge Time:	12:35
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**10% or
3<5 NTU**

Weather: Cloudy

If yes, ID: _____

Additional Information/Comments

South Park Landfill

Well ID:	MW-10
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Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	40 ft
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End Purge Time: 13:15

**10% or
3<5 NTU**

Weather: Cloudy

Sample Analyses: cis-1,2-DCE, vinyl chloride, total iron, total manganese

If yes, ID: _____

South Park Landfill

Well ID:	MW-12
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Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	12.5 ft
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End Purge Time:

**10% or
3<5 NTU**

Weather: Cloudy

If yes, ID:

Additional Information/Comments

South Park Landfill

Well ID:	MW-18
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Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	35 ft
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End Purge Time: 10:30

Sampling Data

Weather: Partly Cloud

clear, no odor

If yes, ID: **SPL-GW-MW60-0525**

Additional Information/Comments

South Park Landfill

Well ID: MW-24

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	40 ft
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End Purge Time: 8:45

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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Weather: Lt. Rain

If yes, ID: SPL-GW-MW61-0525

MS/MSD Collected: ☒ Yes ☐ No

South Park Landfill

Well ID: MW-25

Samplers: Tyler Steimel, Duncan Favill, Wilson Yu

Purge Water Disposal Method: O/WS

Pump Intake Depth:	24.5 ft
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End Purge Time: 14:05

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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Weather: Lt. Rain

If yes, ID: _____

Pump stopped pumping immediately. Increase pressure to "re-prime" the pump

South Park Landfill

Well ID: MW-26

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	20 ft
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End Purge Time: 9:50

**10% or
3<5 NTU**

Weather: Lt. Rain

MS/MSD Collected: ☐ Yes ☒ No

GROUNDWATER SAMPLE COLLECTION FORM

South Park Landfill

Project No.:	553-1550-067	Date:	04/28/2025	Well ID:	MW-27
Sampling Organization:	SPU	Samplers:	Tyler Steimel	Duncan Favill	Wilson Yu

Purge Data	Screened Interval (ft bgs):	10 - 20	Well Casing/Diameter:	PVC/2 in
	Initial Depth of Water (Ft below TOC):	7.91	Purge Water Disposal Method:	O/WS
	Purge Device:	Dedicated bladder pump	Pump Intake Depth:	15 ft
	Begin Purge Time:	10:35	End Purge Time:	11:50

Time	Depth to Water (feet below MP)	Pump Setting (PSI)	Purge Rate (ml/Min)	Cum. Vol. Purged (L)	Temp (°C)	DO (mg/L)	Specific Conductivity (µS/cm)	pH (units)	ORP (mv)	Turbidity (NTU)	Comments
10:40	7.91	15	280	3.00	11.5	0.85	304.0	6.59	64.5	1100.00	brown, no odor
10:45	7.91	15	280	5.00	11.6	0.41	340.9	6.58	17.1	867.00	brown, no odor
10:50	7.91	15	280	7.00	11.6	0.22	389.0	6.68	-20.1	354.00	
10:55	7.91	15	280	8.00	11.7	0.22	399.4	6.64	-29.3	81.10	
11:00	7.91	15	280	9.50	11.7	0.24	408.4	6.64	-37.0	30.30	
11:05	7.91	15	280	11.00	11.7	0.18	414.9	6.64	-43.4	21.40	
11:10	7.91	15	280	13.00	11.8	0.15	419.0	6.64	-47.5	18.70	
11:15	7.92	15	280	14.00	11.8	0.13	420.8	6.63	-51.0	16.30	
11:20	7.92	15	280	15.50	11.8	0.13	423.4	6.66	-53.6	14.20	
11:25	7.92	15	280	17.00	11.8	0.19	426.8	6.68	-57.0	11.70	
11:30	7.92	15	280	18.50	11.8	0.14	430.6	6.66	-58.8	10.60	
11:35	7.92	15	280	20.00	11.8	0.13	431.5	6.66	-60.5	8.67	
11:40	7.92	15	280	21.50	11.8	0.13	433.8	6.65	-61.7	8.00	
11:45	7.92	15	280	23.00	11.8	0.11	434.8	6.65	-63.1	7.29	
Stabilization Criteria					3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU	

Sampling Data					
Sample ID:	SPL-GW-MW27-0525	Time Collected:	12:00	Weather:	Cloudy
Sample Description (Color, Turbidity, Odor, Other):	no odor				
Sample Analyses:	cis-1,2-DCE, vinyl chloride, total iron, total manganese				
Duplicate Sample Collected:	☐ Yes	☒ No	If yes, ID:		
MS/MSD Collected:	☐ Yes	☒ No			

Additional Information/Comments

South Park Landfill

Well ID: MW-27

Samplers: TS, DF, WY

Begin Purge Time: 10:35 End Purge Time: 11:50

GROUNDWATER SAMPLE COLLECTION FORM

South Park Landfill

Project No.:	553-1550-067	Date:	04/30/2025	Well ID:	MW-29
Sampling Organization:	SPU	Samplers:	Tyler Steimel	Duncan Favill	Wilson Yu

Purge Data	Screened Interval (ft bgs):	20 - 30	Well Casing/Diameter:	PVC/2 in
	Initial Depth of Water (Ft below TOC):	6.67	Purge Water Disposal Method:	O/WS
	Purge Device:	Peristaltic pump	Pump Intake Depth:	25 ft
	Begin Purge Time:	8:15	End Purge Time:	9:15

Time	Depth to Water (feet below MP)	Pump Setting (Ticks)	Purge Rate (ml/Min)	Cum. Vol. Purged (L)	Temp (°C)	DO (mg/L)	Specific Conductivity (µS/cm)	pH (units)	ORP (mv)	Turbidity (NTU)	Comments
8:20	8.12	2	300	1.50	11.8	0.21	1006.0	6.71	-85.5	21.20	
8:25	7.91	1.75	220	3.00	11.8	0.30	987.0	6.71	-89.2	17.20	clear w/ white particulates
8:30	7.84	1.75	220	4.25	11.8	0.81	943.0	6.67	-75.9	11.20	
8:35	7.86	1.75	220	5.50	11.8	0.73	931.0	6.73	-71.0	5.08	
8:40	7.91	1.75	220	6.75	11.8	0.54	923.0	6.75	-73.6	4.05	
8:45	7.94	1.75	220	8.00	11.8	0.38	912.0	6.75	-78.9	3.17	small white particulates
8:50	7.98	1.75	220	9.25	11.9	0.21	890.0	6.78	-86.6	2.16	
8:55	8.01	1.75	220	10.50	11.9	0.13	867.0	6.79	-92.8	1.85	
9:00	8.04	1.75	220	11.75	11.9	0.11	848.0	6.80	-96.5	1.61	
9:05	8.05	1.75	220	13.00	11.9	0.10	832.0	6.81	-99.3	1.86	
9:10	8.07	1.75	220	14.25	11.9	0.10	816.0	6.81	-101.3	1.59	
9:15	8.09	1.75	220	15.50	11.9	0.09	809.0	6.82	-102.9	1.36	
Stabilization Criteria					3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU	

Sampling Data					
Sample ID:	SPL-GW-MW29-0525	Time Collected:	9:20	Weather:	Cloudy
Sample Description (Color, Turbidity, Odor, Other):	clear , no odor with small white particulates				
Sample Analyses:	cis-1,2-DCE, vinyl chloride, total iron, total manganese				
Duplicate Sample Collected:	☐ Yes	☒ No	If yes, ID:		
MS/MSD Collected:	☐ Yes	☒ No			

Additional Information/Comments
Water level dropped during initial pumping, reduced pump flow to help manage drawdown levels

South Park Landfill

Well ID: MW-30

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	10.5 ft
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End Purge Time: 11:15

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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Time Collected:	11:20	Weather:	Lt. Rain
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MS/MSD Collected: ☐ Yes ☒ No

South Park Landfill

Well ID: MW-31

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	20.5 ft
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End Purge Time: 12:10

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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MS/MSD Collected: ☐ Yes ☒ No

South Park Landfill

Well ID: MW-32

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	21.5 ft
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End Purge Time: 14:45

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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Time Collected: 14:50 Weather: Cloudy

Sample Analyses: cis-1,2-DCE, vinyl chloride, total iron, total manganese

MS/MSD Collected: ☐ Yes ☒ No

South Park Landfill

Well ID: MW-33

Samplers:	Tyler Steimel	,	Duncan Favill	,	Wilson Yu
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Purge Water Disposal Method: O/WS

Pump Intake Depth:	22.5 ft
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End Purge Time: 13:45

Stabilization Criteria	3%	10% or 3<0.5 PPM	3%	± 0.1	± 10 mv	10% or 3<5 NTU
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Time Collected: 13:50 Weather: Cloudy

Sample Analyses: cis-1,2-DCE, vinyl chloride, total iron, total manganese

Duplicate Sample Collected: ☐ Yes ☒ No If yes, ID: _____

MS/MSD Collected: ☐ Yes ☒ No

Additional Information/Comments

ARI Assigned Number

Turn-around Requested

Date:

04/29/2025

ARI Client Company:

Phone:

City of Seattle/ Seattle Public Utilities

(206) 233-2629

Page:

1 of 1

Shannon Straws, Laura Lee(Lblee@parametrix.com)

Client Project Name:

Analysis Requested

Notes/Comments

South Park Landfill - Groundwater Sampling

Client Project #:

Samplers

T. Steim

D. Favill

W. Yu

No. Containers

cis-1,2-DCE

Vinyl
Chloride

Total
FE, MN

Mark for
MS/MSD

[illegible]

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment s

Page:	1	of	1
Date:	4/30/25	Ice Present?	
No. of Tempers:		Cooler	

Client Project Name: South Park Landfill - Groundwater Sampling				Analysis Requested				Notes/Comments	
Client Project #: 553-1550-067		Samples: TS, DF, WY							
Sample ID	Date	Time	Matrix	No. Containers	Cis-1,2 DCE	Vinyl Chloride	Total FE, MN		
SPL-GW-MW29-0525	4/30/25	0920	Water	7	3	3	1		
SPL-GW-MW18-0525	4/30/25	1035	Water	13	6	6	1		MS/MSD
SPL-GW-MW17-0525	4/30/25	1105	Water	7	3	3	1		
SPL-GW-MW14-0525	4/30/25	1145	Water	7	3	3	1		
SPL-GW-MW12-0525	4/30/25	1255	Water	7	3	3	1		
SPL-GW-MW82-0525	4/30/25		Water	2	1	1			
Comments/Special Instructions				Relinquished by: (Signature) WILSON YU	Received by: (Signature) Jhon Considine	Relinquished by: (Signature)	Received by: (Signature)		
Company: SPU/K-H Landfill				Company: ARR	Company:	Company:	Company:		
Date & Time: 4/30/25 / 13:40				Date & Time: 4/30/25 13:40	Date & Time:	Date & Time:	Date & Time:		

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Attachment 3

Second Quarter 2025

Groundwater Laboratory Data



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

19 May 2025

Min-Soon Yim
Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle, WA 98124-4018

RE: South Park Landfill -Parametrix Water (553-155-067)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
25D0606

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

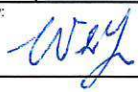
Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



25D0606

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:		Turn-around Requested:			Date: 04/28/2025				 Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)				
ARI Client Company: City of Seattle/ Seattle Public Utilities		Phone: (206) 233-2629			Page: 1 of 1								
Client Contact: Shannon Straws, Laura Lee(Lblee@parametrix.com)					No. of Coolers: Cooler Temps:								
Client Project Name: South Park Landfill - Groundwater Sampling					Analysis Requested								Notes/Comments
Client Project #: 553-1550-067		Samplers: T. Steimel D. Favill W. Yu			cis-1,2-DCE	Vinyl Chloride	Total FE, MN						Mark for MS/MSD
Sample ID	Date	Time	Matrix	No. Containers									
SPL-GW-MW27-0525	4/28/2025	12:00	Water	7	3	3	1						
SPL-GW-MW08-0525	4/28/2025	12:40	Water	7	3	3	1						
SPL-GW-MW32-0525	4/28/2025	14:50	Water	7	3	3	1						
SPL-GW-MW33-0525	4/28/2025	13:50	Water	7	3	3	1						
SPL-GW-MW80-0525	4/28/2025	-	Water	2	1	1							
Comments/Special Instructions		Relinquished by: (Signature) 			Received by: (Signature) 			Relinquished by: (Signature)			Received by: (Signature)		
		Printed Name: Wilson Yu			Printed Name: Roman			Printed Name:			Printed Name:		
		Company: SPU/K-H landfill			Company: ARLL			Company:			Company:		
		Date & Time: 4/28/2025			Date & Time: 04/28/21 1525			Date & Time:			Date & Time:		

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment s



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SPL-GW-MW27-0525	25D0606-01	Water	28-Apr-2025 12:00	28-Apr-2025 15:25
SPL-GW-MW08-0525	25D0606-02	Water	28-Apr-2025 12:40	28-Apr-2025 15:25
SPL-GW-MW32-0525	25D0606-03	Water	28-Apr-2025 14:50	28-Apr-2025 15:25
SPL-GW-MW33-0525	25D0606-04	Water	28-Apr-2025 13:50	28-Apr-2025 15:25
SPL-GW-MW80-0525	25D0606-05	Water	28-Apr-2025 00:00	28-Apr-2025 15:25



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

Work Order Case Narrative

Client: Seattle Public Utilities
Project: South Park Landfill -Parametrix Water
Work Order: 25D0606

Sample receipt

Samples as listed on the preceding page were received 28-Apr-2025 15:25 under ARI work order 25D0606. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:41

Total Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations including interference checks were within method requirements for reported elements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.



WORK ORDER

25D0606

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Preservation Confirmation

Container ID	Container Type	pH	pH Paper Lot#: <u>N000119</u>
25D0606-01 A	HDPE NM, 500 mL, 1:1 HNO3	<u><2 p</u>	
25D0606-01 B	VOA Vial, Clear, 40 mL, HCL	<u>BUBBLES</u>	
25D0606-01 C	VOA Vial, Clear, 40 mL, HCL		
25D0606-01 D	VOA Vial, Clear, 40 mL, HCL		
25D0606-01 E	VOA Vial, Clear, 40 mL		
25D0606-01 F	VOA Vial, Clear, 40 mL		
25D0606-01 G	VOA Vial, Clear, 40 mL		
25D0606-02 A	HDPE NM, 500 mL, 1:1 HNO3	<u><2 p</u>	
25D0606-02 B	VOA Vial, Clear, 40 mL, HCL		
25D0606-02 C	VOA Vial, Clear, 40 mL, HCL		
25D0606-02 D	VOA Vial, Clear, 40 mL, HCL		
25D0606-02 E	VOA Vial, Clear, 40 mL		
25D0606-02 F	VOA Vial, Clear, 40 mL		
25D0606-02 G	VOA Vial, Clear, 40 mL		
25D0606-03 A	HDPE NM, 500 mL, 1:1 HNO3	<u><2 p</u>	
25D0606-03 B	VOA Vial, Clear, 40 mL, HCL		
25D0606-03 C	VOA Vial, Clear, 40 mL, HCL		
25D0606-03 D	VOA Vial, Clear, 40 mL, HCL		
25D0606-03 E	VOA Vial, Clear, 40 mL		
25D0606-03 F	VOA Vial, Clear, 40 mL		
25D0606-03 G	VOA Vial, Clear, 40 mL		
25D0606-04 A	HDPE NM, 500 mL, 1:1 HNO3	<u><2 p</u>	
25D0606-04 B	VOA Vial, Clear, 40 mL, HCL		
25D0606-04 C	VOA Vial, Clear, 40 mL, HCL		
25D0606-04 D	VOA Vial, Clear, 40 mL, HCL		
25D0606-04 E	VOA Vial, Clear, 40 mL		
25D0606-04 F	VOA Vial, Clear, 40 mL		
25D0606-04 G	VOA Vial, Clear, 40 mL		
25D0606-05 A	VOA Vial, Clear, 40 mL, HCL		
25D0606-05 B	VOA Vial, Clear, 40 mL		



WORK ORDER

25D0606

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Preservation Confirmed By

Date



Cooler Receipt Form

ARI Client: SPA

Project Name: South park Landfill

COC No(s): NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: NA

Assigned ARI Job No: 25D0606

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) Time 1825 4.40 Temp Gun ID#: 9708

Was a temperature blank included in the cooler? YES NO

Were coolers received between 0° - 6° (°C) YES NO

Was sufficient ice used (if appropriate)? NA YES NO

Cooler Accepted by: [Signature] Date: 4/28/25 Time: 1825

Complete custody forms and attach all shipping documents

Log-In Phase:

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block N/A Other: NA

Are any samples that were out of temperature compliance documented in LIMS? YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Were the sample(s) split by ARI? NA YES Date/Time: 4/28/25 Equipment: 1637 Split by: [Signature]

Samples Logged by: TT Date: 4/28/25 Time: 1637 Labels checked by: [Signature]

**** Notify Project Manager of discrepancies or concerns ****

Additional Notes, Discrepancies, & Resolutions:

By: TT Date: 4/28/25



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW27-0525
25D0606-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/28/2025 12:00
Instrument: NT3 Analyst: LNH	Analyzed: 04/30/2025 16:14
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0677
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-01 C

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	97.4	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW27-0525
25D0606-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/28/2025 12:00
Instrument: NT16 Analyst: LTN	Analyzed: 04/30/2025 12:21
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0647
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-01 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0891	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	99.1	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW27-0525
25D0606-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/28/2025 12:00
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 18:44
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0254
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0606-01 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	5	0.180	10.8	mg/L	D



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:41

SPL-GW-MW27-0525

25D0606-01RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/28/2025 12:00

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 00:24

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0606-01RE1 A 01

Preparation Batch: BNE0254

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	10	0.0100	0.385	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW08-0525
25D0606-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/28/2025 12:40
Instrument: NT3 Analyst: LNH	Analyzed: 04/30/2025 16:36
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0677
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-02 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW08-0525
25D0606-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/28/2025 12:40
Instrument: NT16 Analyst: LTN	Analyzed: 04/30/2025 12:42
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0647
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-02 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0758	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW08-0525
25D0606-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/28/2025 12:40
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 19:01
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0254
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0606-02 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	11.8	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW08-0525
25D0606-02RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/28/2025 12:40

Analyzed: 05/16/2025 00:29

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0254
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0606-02RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.906	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW32-0525
25D0606-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/28/2025 14:50
Instrument: NT3 Analyst: LNH	Analyzed: 04/30/2025 16:58
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0677
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-03 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.41	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	100	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW32-0525
25D0606-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/28/2025 14:50
Instrument: NT16 Analyst: LTN	Analyzed: 04/30/2025 13:02
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0647
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-03 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.288	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	104	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW32-0525
25D0606-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/28/2025 14:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 19:23
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0254
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0606-03 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	50	1.80	11.8	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW32-0525
25D0606-03RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/28/2025 14:50

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 00:34

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0606-03RE1 A 01

Preparation Batch: BNE0254

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	50	0.0500	1.29	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW33-0525
25D0606-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/28/2025 13:50
Instrument: NT3 Analyst: LNH	Analyzed: 04/30/2025 17:20
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0677
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-04 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	101	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW33-0525
25D0606-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/28/2025 13:50

Instrument: NT16 Analyst: LTN

Analyzed: 04/30/2025 13:23

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0606-04 E

Preparation Batch: BND0647

Sample Size: 10 mL

Prepared: 04/30/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.187	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	103	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW33-0525
25D0606-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/28/2025 13:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 19:25
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0254
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0606-04 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	50	1.80	14.4	mg/L	D



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW33-0525
25D0606-04RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/28/2025 13:50

Analyzed: 05/16/2025 00:38

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0254
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0606-04RE1 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	50	0.0500	1.69	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW80-0525
25D0606-05 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/28/2025 00:00
Instrument: NT3 Analyst: LNH	Analyzed: 04/30/2025 17:42
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BND0677
	Sample Size: 10 mL
	Prepared: 04/30/2025
	Final Volume: 10 mL
	Extract ID: 25D0606-05 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	103	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

SPL-GW-MW80-0525
25D0606-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/28/2025 00:00

Instrument: NT16 Analyst: LTN

Analyzed: 04/30/2025 13:43

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0606-05 B

Preparation Batch: BND0647

Sample Size: 10 mL

Prepared: 04/30/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	105	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BND0677 - EPA 8260D in Water

Instrument: NT3 Analyst: LNH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (BND0677-BLK1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 12:43							
cis-1,2-Dichloroethene	ND	0.20	ug/L						U
Surrogate: 1,2-Dichloroethane-d4	4.95		ug/L	5.00		99.0 80-129			
LCS (BND0677-BS1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 11:36							
cis-1,2-Dichloroethene	9.75	0.20	ug/L	10.0		97.5 80-121			
Surrogate: 1,2-Dichloroethane-d4	5.04		ug/L	5.00		101 80-129			
LCS Dup (BND0677-BSD1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 11:58							
cis-1,2-Dichloroethene	9.33	0.20	ug/L	10.0		93.3 80-121	4.39	30	
Surrogate: 1,2-Dichloroethane-d4	5.00		ug/L	5.00		100 80-129			



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BND0647 - EPA 8260D-SIM in Water

Instrument: NT16 Analyst: LTN

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BND0647-BLK1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 11:41								
Vinyl chloride	ND	0.0200	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5160		ug/L	5000		103	80-129			
LCS (BND0647-BS1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 11:00								
Vinyl chloride	2.20	0.0200	ug/L	2.00		110	62-141			
Surrogate: 1,2-Dichloroethane-d4	5230		ug/L	5000		105	80-129			
LCS Dup (BND0647-BSD1)		Prepared: 30-Apr-2025 Analyzed: 30-Apr-2025 11:20								
Vinyl chloride	2.18	0.0200	ug/L	2.00		109	62-141	0.92	30	
Surrogate: 1,2-Dichloroethane-d4	5250		ug/L	5000		105	80-129			



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:41

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BNE0254 - EPA 6020B in Water

Instrument: ICPMS1 Analyst: HAL

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0254-BLK1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 20:31						
Manganese	55	ND	0.00100	mg/L							U
Blank (BNE0254-BLK2)					Prepared: 10-May-2025 Analyzed: 13-May-2025 19:33						
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0254-BS1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 20:36						
Manganese	55	0.0301	0.00100	mg/L	0.0250		120	80-120			
LCS (BNE0254-BS2)					Prepared: 10-May-2025 Analyzed: 13-May-2025 19:38						
Manganese	55	0.0287	0.00100	mg/L	0.0250		115	80-120			

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0254-BLK3)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:48						
Iron	54	ND	0.0360	mg/L							U
Iron	57	ND	0.0360	mg/L							U
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0254-BS3)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:50						
Iron	54	4.95	0.0360	mg/L	5.00		98.9	80-120			
Iron	57	4.89	0.0360	mg/L	5.00		97.8	80-120			
Manganese	55	0.0240	0.00100	mg/L	0.0250		96.1	80-120			



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Project Number: 553-155-067
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Reported:
19-May-2025 11:41

Uncertified Analytes included in this Report

Analysis Matrix & Analyte

None

Certified Analyses included in this Report

Analysis Matrix & Analyte

Certification Codes

EPA 6020B in Water

Iron-54	NELAP,DoD-ELAP,WADOE
Iron-57	NELAP,DoD-ELAP,WADOE
Manganese-55	NELAP,DoD-ELAP,WADOE

EPA 8260D in Water

cis-1,2-Dichloroethene	ADEC,NELAP,WADOE,DoD-ELAP
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EPA 8260D-SIM in Water

Vinyl chloride	NELAP,WADOE
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Certifications

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/28/2026
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	01/31/2026
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2025
WADOE	WA Dept of Ecology	C558	06/30/2025
WA-DW	Ecology - Drinking Water	C558	06/30/2025



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:41

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.
!	Indicates that ARL is NOT ACCREDITED for this parameter in samples logged as 'Drinking Water'
#	Indicates that ARL is NOT ACCREDITED for this parameter in this analysis and matrix.



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

19 May 2025

Min-Soon Yim
Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle, WA 98124-4018

RE: South Park Landfill -Parametrix Water (553-155-067)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
25D0648

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 25D0648		Turn-around Requested:		Date: 04/29/2025		 Analytical Resources, Incorporated Analytical Chemists and Consultants 4611 South 134th Place, Suite 100 Tukwila, WA 98168 206-695-6200 206-695-6201 (fax)						
ARI Client Company: City of Seattle/ Seattle Public Utilities		Phone: (206) 233-2629		Page: 1 of 1								
Client Contact: Shannon Straws, Laura Lee(Lblee@parametrix.com)				No. of Coolers: Cooler Temps:								
Client Project Name: South Park Landfill - Groundwater Sampling					Analysis Requested							Notes/Comments
Client Project #: 553-1550-067		Samplers: T. Steimel D. Favill W. Yu			cis-1,2-DCE Vinyl Chloride Total FE, MN							Mark for MS/MSD
Sample ID	Date	Time	Matrix	No. Containers								
SPL-GW-MW24-0525	4/29/2025	8:50	Water	13								
SPL-GW-MW61-0525	4/29/2025	9:20	Water	7								
SPL-GW-MW26-0525	4/29/2025	9:55	Water	7								
SPL-GW-MW30-0525	4/29/2025	11:20	Water	7								
SPL-GW-MW31-0525	4/29/2025	12:15	Water	7								
SPL-GW-MW10-0525	4/29/2025	13:20	Water	7								
SPL-GW-MW25-0525	4/29/2025	14:10	Water	7								
SPL-GW-MW81-0525	4/29/2025		Water	2								
Comments/Special Instructions					Relinquished by: (Signature) <i>WJY</i>		Received by: (Signature) <i>Christopher O'Reilly</i>		Relinquished by: (Signature)		Received by: (Signature)	
					Printed Name: Wilson Yu		Printed Name: Christopher O'Reilly		Printed Name:		Printed Name:	
					Company: SPU/K-H landfill		Company: AR		Company:		Company:	
					Date & Time: 4/29/2025 14:44		Date & Time: 4/29/25 14:44		Date & Time:		Date & Time:	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment s



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SPL-GW-MW24-0525	25D0648-01	Water	29-Apr-2025 08:50	29-Apr-2025 14:44
SPL-GW-MW61-0525	25D0648-02	Water	29-Apr-2025 09:20	29-Apr-2025 14:44
SPL-GW-MW26-0525	25D0648-03	Water	29-Apr-2025 09:55	29-Apr-2025 14:44
SPL-GW-MW30-0525	25D0648-04	Water	29-Apr-2025 11:20	29-Apr-2025 14:44
SPL-GW-MW31-0525	25D0648-05	Water	29-Apr-2025 12:15	29-Apr-2025 14:44
SPL-GW-MW10-0525	25D0648-06	Water	29-Apr-2025 13:20	29-Apr-2025 14:44
SPL-GW-MW25-0525	25D0648-07	Water	29-Apr-2025 14:10	29-Apr-2025 14:44
SPL-GW-MW81-0525	25D0648-08	Water	29-Apr-2025 00:00	29-Apr-2025 14:44



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

Work Order Case Narrative

Client: Seattle Public Utilities
Project: South Park Landfill -Parametrix Water
Work Order: 25D0648

Sample receipt

Samples as listed on the preceding page were received 29-Apr-2025 14:44 under ARI work order 25D0648. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) spike recoveries and relative percent difference (RPD) were within advisory control limits.

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.



Seattle Public Utilities

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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

Total Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations including interference checks were within method requirements for reported elements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.



WORK ORDER

25D0648

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Report To:

Seattle Public Utilities

Min-Soon Yim

700-5th Ave, Ste 4900, Box 34018

Seattle, WA 98124-4018

Phone: (206) 233-2629

Fax: -

Invoice To:

Seattle Public Utilities

Min-Soon Yim

700-5th Ave, Ste 4900, Box 34018

Seattle, WA 98124-4018

Phone : (206) 233-2629

Fax: -

Date Due: 13-May-2025 18:00 (10 day TAT)

Received By: Christopher T. Orcilla

Date Received: 29-Apr-2025 14:44

Logged In By: John Considine

Date Logged In: 30-Apr-2025 12:14

Samples Received at: 1°C

Intact, properly signed and dated custody seals attached to outside of cooler(s).....No
Custody papers properly filled out (in, signed, analyses requested, etc).....No
Was sufficient ice used (if appropriate).....Yes
All bottles arrived in good condition (unbroken).....Yes
Number of containers listed on COC match number received.....Yes
Correct bottles used for the requested analyses.....Yes
Analyses/bottles require preservation (attach preservation sheet excluding VOC).....Yes
Sample split at ARI.....No

Custody papers included with the cooler..... Yes
Was a temperature blank included in the cooler..... No
All bottles sealed in individual plastic bags..... No
All bottle labels complete and legible..... No
Bottle labels and tags agree with COC..... Yes
All VOC vials free of air bubbles..... Yes
Sufficient amount of sample sent in each bottle..... Yes



WORK ORDER

25D0648

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Preservation Confirmation

Container ID	Container Type	pH	pH Paper Lot#: <u>N000119</u>
25D0648-01 A	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 B	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 C	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 D	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 E	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 F	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 G	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 H	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 I	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 J	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 K	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 L	VOA Vial, Amber, 40 mL, HCL		
25D0648-01 M	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
25D0648-02 A	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 B	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 C	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 D	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 E	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 F	VOA Vial, Amber, 40 mL, HCL		
25D0648-02 G	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
25D0648-03 A	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 B	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 C	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 D	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 E	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 F	VOA Vial, Amber, 40 mL, HCL		
25D0648-03 G	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
25D0648-04 A	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 B	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 C	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 D	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 E	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 F	VOA Vial, Amber, 40 mL, HCL		
25D0648-04 G	HDPE NM, 500 mL, 1:1 HNO3	<2	pass



WORK ORDER

25D0648

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

25D0648-05 A	VOA Vial, Amber, 40 mL, HCL
25D0648-05 B	VOA Vial, Amber, 40 mL, HCL
25D0648-05 C	VOA Vial, Amber, 40 mL, HCL
25D0648-05 D	VOA Vial, Amber, 40 mL, HCL
25D0648-05 E	VOA Vial, Amber, 40 mL, HCL
25D0648-05 F	VOA Vial, Amber, 40 mL, HCL
25D0648-05 G	HDPE NM, 500 mL, 1:1 HNO3
25D0648-06 A	VOA Vial, Amber, 40 mL, HCL
25D0648-06 B	VOA Vial, Amber, 40 mL, HCL
25D0648-06 C	VOA Vial, Amber, 40 mL, HCL
25D0648-06 D	VOA Vial, Amber, 40 mL, HCL
25D0648-06 E	VOA Vial, Amber, 40 mL, HCL
25D0648-06 F	VOA Vial, Amber, 40 mL, HCL
25D0648-06 G	HDPE NM, 500 mL, 1:1 HNO3
25D0648-07 A	VOA Vial, Amber, 40 mL, HCL
25D0648-07 B	VOA Vial, Amber, 40 mL, HCL
25D0648-07 C	VOA Vial, Amber, 40 mL, HCL
25D0648-07 D	VOA Vial, Amber, 40 mL, HCL
25D0648-07 E	VOA Vial, Amber, 40 mL, HCL
25D0648-07 F	VOA Vial, Amber, 40 mL, HCL
25D0648-07 G	HDPE NM, 500 mL, 1:1 HNO3
25D0648-08 A	VOA Vial, Amber, 40 mL, HCL
25D0648-08 B	VOA Vial, Amber, 40 mL, HCL

<2

pass

<2

pass

<2

pass

Preservation Confirmed By

JWE

Date

4/30/25



Cooler Receipt Form

ARI Client: SPU

Project Name: South Park Landfill

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 25D0648

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) Time 14:44 LD Temp Gun ID#: 7009708

Was a temperature blank included in the cooler? YES NO

Were coolers received between 0°- 6° (°C) YES NO

Was sufficient ice used (if appropriate)? NA YES NO

Cooler Accepted by: Chris CRO Date: 4/29/25 Time: 14:44

Complete custody forms and attach all shipping documents

Log-In Phase:

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block N/A Other: _____

Are any samples that were out of temperature compliance documented in LIMS? YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: _____ NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JWC Date: 4/30/25 Time: 12:14 Labels checked by: JWC

**** Notify Project Manager of discrepancies or concerns ****

Additional Notes, Discrepancies, & Resolutions:

Sample SPL-GW-MW81-0525 does not have a time on COC or bottle, entered as 00:00

By: _____ Date: _____



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW24-0525
25D0648-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 08:50
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 16:25
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-01 C

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	115	%	



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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW24-0525
25D0648-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/29/2025 08:50
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 11:48
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0051
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-01 G

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0260	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	99.4	%	



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW24-0525
25D0648-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 08:50
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 18:47
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-01 M 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	50	1.80	19.4	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW24-0525
25D0648-01RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/29/2025 08:50

Analyzed: 05/15/2025 23:30

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0253
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0648-01RE1 M 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	50	0.0500	1.41	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW61-0525
25D0648-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 09:20
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 16:49
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-02 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	121	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW61-0525
25D0648-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/29/2025 09:20
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 12:09
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0051
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-02 D

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0266	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	98.2	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW61-0525
25D0648-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 09:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 18:36
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-02 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	2	0.0720	19.1	mg/L	D



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW61-0525
25D0648-02RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/29/2025 09:20

Analyzed: 05/16/2025 00:43

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0253
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0648-02RE1 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	1.42	mg/L	D



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW26-0525
25D0648-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 09:55
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 17:12
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-03 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.40	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	123	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW26-0525
25D0648-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/29/2025 09:55

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 12:30

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0648-03 D

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0203	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW26-0525
25D0648-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 09:55
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 18:41
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-03 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	5	0.180	4.17	mg/L	D



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Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

SPL-GW-MW26-0525

25D0648-03RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/29/2025 09:55

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 00:48

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0648-03RE1 G 01

Preparation Batch: BNE0253

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	5	0.00500	0.0566	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW30-0525
25D0648-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 11:20
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 17:36
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-04 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.24	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	113	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW30-0525
25D0648-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/29/2025 11:20

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 12:51

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0648-04 D

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0367	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	100	%	



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW30-0525
25D0648-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 11:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 18:38
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-04 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	2	0.0720	1.39	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW30-0525
25D0648-04RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/29/2025 11:20

Analyzed: 05/16/2025 00:53

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0253
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0648-04RE1 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	2	0.00200	0.0419	mg/L	D



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW31-0525
25D0648-05 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 12:15
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 17:59
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-05 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.44	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	114	%	



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Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW31-0525
25D0648-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/29/2025 12:15

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 13:12

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0648-05 D

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.987	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	111	%	



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Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

SPL-GW-MW31-0525

25D0648-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/29/2025 12:15

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 19:03

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0648-05 G 01

Preparation Batch: BNE0253

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	18.3	mg/L	D



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Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

SPL-GW-MW31-0525

25D0648-05RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/29/2025 12:15

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 00:57

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0648-05RE1 G 01

Preparation Batch: BNE0253

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.835	mg/L	D



Seattle Public Utilities
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Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW10-0525
25D0648-06 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 13:20
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 18:23
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-06 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.24	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	125	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW10-0525
25D0648-06 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/29/2025 13:20
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 13:33
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0051
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-06 D

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.375	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW10-0525
25D0648-06 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 13:20
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 19:27
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-06 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	50	1.80	30.9	mg/L	D



Seattle Public Utilities

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Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

SPL-GW-MW10-0525

25D0648-06RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/29/2025 13:20

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 01:25

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0648-06RE1 G 01

Preparation Batch: BNE0253

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	50	0.0500	2.72	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW25-0525
25D0648-07 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 14:10
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 18:46
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Prepared: 05/02/2025
	Sample Size: 10 mL
	Final Volume: 10 mL
	Extract ID: 25D0648-07 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.88	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	119	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW25-0525
25D0648-07 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/29/2025 14:10
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 13:54
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0051
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-07 D

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.186	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	103	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW25-0525
25D0648-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/29/2025 14:10
Instrument: ICPMS2 Analyst: MCB	Analyzed: 05/14/2025 19:28
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0253
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0648-07 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	50	1.80	29.2	mg/L	D



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW25-0525
25D0648-07RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B
Instrument: ICPMS1 Analyst: HAL

Sampled: 04/29/2025 14:10

Analyzed: 05/16/2025 01:02

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BNE0253
Prepared: 05/10/2025

Sample Size: 25 mL

Final Volume: 25 mL

Extract ID: 25D0648-07RE1 G 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	50	0.0500	1.94	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW81-0525
25D0648-08 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/29/2025 00:00
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 13:16
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-08 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	112	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

SPL-GW-MW81-0525
25D0648-08 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/29/2025 00:00
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 11:07
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0051
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0648-08 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	98.9	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BNE0060 - EPA 8260D in Water

Instrument: NT20 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0060-BLK1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 12:49						
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	6.05		ug/L	5.00		121	80-129			
LCS (BNE0060-BS1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 11:25						
cis-1,2-Dichloroethene	10.5	0.20	ug/L	10.0		105	80-121			
Surrogate: 1,2-Dichloroethane-d4	5.64		ug/L	5.00		113	80-129			
LCS Dup (BNE0060-BSD1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 12:02						
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101	80-121	3.28	30	
Surrogate: 1,2-Dichloroethane-d4	5.67		ug/L	5.00		113	80-129			
Matrix Spike (BNE0060-MS1)				Source: 25D0648-01 Prepared: 02-May-2025 Analyzed: 02-May-2025 21:05						
cis-1,2-Dichloroethene	11.2	0.20	ug/L	10.0	ND	112	80-121			
Surrogate: 1,2-Dichloroethane-d4	5.88		ug/L	5.00	5.75	118	80-129			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
Matrix Spike Dup (BNE0060-MSD1)				Source: 25D0648-01 Prepared: 02-May-2025 Analyzed: 02-May-2025 21:28						
cis-1,2-Dichloroethene	11.2	0.20	ug/L	10.0	ND	112	80-121	0.09	30	
Surrogate: 1,2-Dichloroethane-d4	5.99		ug/L	5.00	5.75	120	80-129			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BNE0051 - EPA 8260D-SIM in Water

Instrument: NT16 Analyst: LTN

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0051-BLK1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 10:06						
Vinyl chloride	ND	0.0200	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	4720		ug/L	5000		94.5	80-129			
LCS (BNE0051-BS1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 09:25						
Vinyl chloride	2.01	0.0200	ug/L	2.00		100	62-141			
Surrogate: 1,2-Dichloroethane-d4	4930		ug/L	5000		98.6	80-129			
LCS Dup (BNE0051-BSD1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 09:46						
Vinyl chloride	2.21	0.0200	ug/L	2.00		111	62-141	9.74	30	
Surrogate: 1,2-Dichloroethane-d4	5190		ug/L	5000		104	80-129			
Matrix Spike (BNE0051-MS1)				Source: 25D0648-01		Prepared: 02-May-2025 Analyzed: 02-May-2025 16:03				
Vinyl chloride	2.22	0.0200	ug/L	2.00	0.0260	110	62-141			
Surrogate: 1,2-Dichloroethane-d4	5260		ug/L	5000	4970	105	80-129			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
Matrix Spike Dup (BNE0051-MSD1)				Source: 25D0648-01		Prepared: 02-May-2025 Analyzed: 02-May-2025 16:24				
Vinyl chloride	2.22	0.0200	ug/L	2.00	0.0260	110	62-141	0.16	30	
Surrogate: 1,2-Dichloroethane-d4	5200		ug/L	5000	4970	104	80-129			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BNE0253 - EPA 6020B in Water

Instrument: ICPMS1 Analyst: HAL

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0253-BLK1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 18:26						
Manganese	55	ND	0.00100	mg/L							U
Blank (BNE0253-BLK2)					Prepared: 10-May-2025 Analyzed: 12-May-2025 19:43						
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0253-BS1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 18:30						
Manganese	55	0.0300	0.00100	mg/L	0.0250		120	80-120			
LCS (BNE0253-BS2)					Prepared: 10-May-2025 Analyzed: 12-May-2025 19:48						
Manganese	55	0.0299	0.00100	mg/L	0.0250		120	80-120			
Duplicate (BNE0253-DUP2)					Source: 25D0648-01RE1		Prepared: 10-May-2025 Analyzed: 15-May-2025 23:35				
Manganese	55	1.42	0.0500	mg/L		1.41			0.11	20	D
Matrix Spike (BNE0253-MS2)					Source: 25D0648-01RE1		Prepared: 10-May-2025 Analyzed: 15-May-2025 23:40				
Manganese	55	1.44	0.0500	mg/L	0.0250	1.41	107	75-125			D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BNE0253-MSD2)					Source: 25D0648-01RE1		Prepared: 10-May-2025 Analyzed: 15-May-2025 23:45				
Manganese	55	1.49	0.0500	mg/L	0.0250	1.41	318	75-125	3.60	20	*, D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0253-BLK3)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:45						
Iron	54	ND	0.0360	mg/L							U
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0253-BS3)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:47						
Iron	54	4.97	0.0360	mg/L	5.00		99.4	80-120			
Manganese	55	0.0245	0.00100	mg/L	0.0250		98.0	80-120			
Duplicate (BNE0253-DUP1)					Source: 25D0648-01		Prepared: 10-May-2025 Analyzed: 14-May-2025 18:49				
Iron	54	18.9	1.80	mg/L		19.4			3.08	20	D
Matrix Spike (BNE0253-MS1)					Source: 25D0648-01		Prepared: 10-May-2025 Analyzed: 14-May-2025 18:51				
Iron	54	23.7	1.80	mg/L	5.00	19.4	85.9	75-125			D



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BNE0253 - EPA 6020B in Water

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Matrix Spike (BNE0253-MS1)

Source: 25D0648-01

Prepared: 10-May-2025 Analyzed: 14-May-2025 18:51

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BNE0253-MSD1)

Source: 25D0648-01

Prepared: 10-May-2025 Analyzed: 14-May-2025 18:52

Iron	54	24.5	1.80	mg/L	5.00	19.4	101	75-125	3.17	20	D
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Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 11:49

Uncertified Analytes included in this Report

Analysis Matrix & Analyte

None

Certified Analyses included in this Report

Analysis Matrix & Analyte

Certification Codes

EPA 6020B in Water

Iron-54 NELAP,DoD-ELAP,WADOE
Manganese-55 NELAP,DoD-ELAP,WADOE

EPA 8260D in Water

cis-1,2-Dichloroethene ADEC,NELAP,WADOE,DoD-ELAP

EPA 8260D-SIM in Water

Vinyl chloride NELAP,WADOE

Certifications

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/28/2026
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	01/31/2026
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2025
WADOE	WA Dept of Ecology	C558	06/30/2025
WA-DW	Ecology - Drinking Water	C558	06/30/2025



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 11:49

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.
!	Indicates that ARL is NOT ACCREDITED for this parameter in samples logged as 'Drinking Water'
#	Indicates that ARL is NOT ACCREDITED for this parameter in this analysis and matrix.



Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

19 May 2025

Min-Soon Yim
Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle, WA 98124-4018

RE: South Park Landfill -Parametrix Water (553-155-067)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
25D0654

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 25D0654		Turn-around Requested:		Page: 1 of 1	
ARI Client Company: City of Seattle/ Seattle Public Utilities		Phone: 206-233-2629		Date: 4/30/25	Ice Present?
Client Contact: Shannon Straws/Laura Lee (lblee@parmatrix.com)		No. of Coolers:		Cooler Temps:	
Client Project Name: South Park Landfill - Groundwater Sampling		Analysis Requested			
Client Project #: 553-1550-067					
Samplers: TS, DF, WY		Notes/Comments			
Sample ID	Date	Time	Matrix	No. Containers	
SPL-GW-mw29-0525	4/30/25	0920	Water	7	
SPL-GW-mw18-0525	4/30/25	1035	Water	13	
SPL-GW-mw60 (TS) mw60 -0525	4/30/25	1105	Water	7	
SPL-GW-mw14-0525	4/30/25	1145	Water	7	
SPL-GW-mw12-0525	4/30/25	1255	Water	7	
SPL-GW-mw82-0525	4/30/25		Water	2	
Comments/Special Instructions		Relinquished by: (Signature) <i>WILSON YU</i>		Received by: (Signature) <i>John (Comp.) Line</i>	
Printed Name: WILSON YU		Printed Name: John (Comp.) Line		Relinquished by: (Signature)	
Company: SPU/K-H Landfill		Company: ARI		Printed Name:	
Date & Time: 4/30/25 / 13:40		Date & Time: 4/30/25 13:40		Company:	
				Date & Time:	



Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 25D0654	Turn-around Requested:	Page: 1 of 1
ARI Client Company: City of Seattle Public Utilities	Phone: 206-233-2629	Date: 4/30/25
Client Contact: Shannon Straws/Laura Lee (lblee@parametrix.com)	No. of Coolers:	Ice Present? Cooler Temps:
Client Project Name: South Park Landfill - Groundwater Sampling		
Client Project #: 553-1550-067	Samplers: TS, DE, WY	



Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested								Notes/Comments	
					CIS-1,2 DCE	Vinyl Chloride	Total FE, MN							
SPL-GW-mw29-0525	4/30/25	0920	Water	7	3	3	1							
SPL-GW-mw18-0525	4/30/25	1035	Water	13	6	6	1							MS/MSD
SPL-GW-mw61-0525	4/30/25	1105	Water	7	3	3	1							
SPL-GW-mw14-0525	4/30/25	1145	Water	7	3	3	1							
SPL-GW-mw12-0525	4/30/25	1255	Water	7	3	3	1							
SPL-GW-mw82-0525	4/30/25		Water	2	1	1								
Comments/Special Instructions	Relinquished by: (Signature) WILSON YU	Received by: (Signature) John Conditine	Relinquished by: (Signature)	Received by: (Signature)										
	Printed Name: WILSON YU	Printed Name: John Conditine	Printed Name:	Printed Name:										
	Company: SPU/K-H Landfill	Company: ARI	Company:	Company:										
	Date & Time: 4/30/25 / 13:40	Date & Time: 4/30/25 13:40	Date & Time:	Date & Time:										

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SPL-GW-MW29-0525	25D0654-01	Water	30-Apr-2025 09:20	30-Apr-2025 13:40
SPL-GW-MW18-0525	25D0654-02	Water	30-Apr-2025 10:35	30-Apr-2025 13:40
SPL-GW-MW60-0525	25D0654-03	Water	30-Apr-2025 11:05	30-Apr-2025 13:40
SPL-GW-MW14-0525	25D0654-04	Water	30-Apr-2025 11:45	30-Apr-2025 13:40
SPL-GW-MW12-0525	25D0654-05	Water	30-Apr-2025 12:55	30-Apr-2025 13:40
SPL-GW-MW82-0525	25D0654-06	Water	30-Apr-2025 00:00	30-Apr-2025 13:40



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

Work Order Case Narrative

Client: Seattle Public Utilities
Project: South Park Landfill -Parametrix Water
Work Order: 25D0654

Sample receipt

Samples as listed on the preceding page were received 30-Apr-2025 13:40 under ARI work order 25D0654. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) spike recoveries and relative percent difference (RPD) were within advisory control limits.

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

Total Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations including interference checks were within method requirements for reported elements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.



Cooler Receipt Form

ARI Client: SPL
COC No(s): _____ NA
Assigned ARI Job No: 25D0654

Project Name: South Park Landfill
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO
Were custody papers included with the cooler? YES NO
Were custody papers properly filled out (ink, signed, etc.) YES NO
Temperature of Cooler(s) (°C) Time 13:40 4.9 Temp Gun ID#: 9708
Was a temperature blank included in the cooler? YES NO
Were coolers received between 0° - 6° (°C) YES NO
Was sufficient ice used (if appropriate)? NA YES NO

Cooler Accepted by: JWC Date: 4/30/25 Time: 13:40

Complete custody forms and attach all shipping documents

Log-In Phase:

What kind of packing material was used? Bubble Wrap Wet Ice Gel Packs Baggies Foam Block N/A Other: _____
Are any samples that were out of temperature compliance documented in LIMS? YES NO
How were bottles sealed in plastic bags? Individually Grouped Not
Did all bottles arrive in good condition (unbroken)? YES NO
Were all bottle labels complete and legible? YES NO
Did the number of containers listed on COC match with the number of containers received? YES NO 8m 4/30/25
Did all bottle labels and tags agree with custody papers? YES NO *
Were all bottles used correct for the requested analyses? YES NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO
Were all VOC vials free of air bubbles? NA YES NO
Was sufficient amount of sample sent in each bottle? YES NO
Date VOC Trip Blank was made at ARI: _____ NA
Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: 8m Date: 4/30/25 Time: 1444 Labels checked by: h

**** Notify Project Manager of discrepancies or concerns ****

Additional Notes, Discrepancies, & Resolutions:

* ~~COC sample ID SPL-GW-MWB1-0525 doesn't match the sample bottles labeled SPL-GW-MWB2-0525. Logging COC sample ID in Element.~~ 8m 4/30/25
* Sample ID SPL-GW-MWB2-0525 does not have a sample time on vials or COC. Logging time as 00:00 in Element.
* Client sent an updated COC with correct sample ID.

By: 8m Date: 4/30/25



WORK ORDER

25D0654

Client: Seattle Public Utilities

Project Manager: Kelly Bottem

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Preservation Confirmation

Container ID	Container Type	pH	pH Paper Lot#: <u>N0008119</u>
25D0654-01 A	HDPE NM, 500 mL, 1:1 HNO3	<2p	
25D0654-01 B	VOA Vial, Clear, 40 mL		
25D0654-01 C	VOA Vial, Clear, 40 mL		
25D0654-01 D	VOA Vial, Clear, 40 mL		
25D0654-01 E	VOA Vial, Clear, 40 mL, HCL		
25D0654-01 F	VOA Vial, Clear, 40 mL, HCL		
25D0654-01 G	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 A	HDPE NM, 500 mL, 1:1 HNO3	<2p	
25D0654-02 B	VOA Vial, Clear, 40 mL		
25D0654-02 C	VOA Vial, Clear, 40 mL		
25D0654-02 D	VOA Vial, Clear, 40 mL		
25D0654-02 E	VOA Vial, Clear, 40 mL		
25D0654-02 F	VOA Vial, Clear, 40 mL		
25D0654-02 G	VOA Vial, Clear, 40 mL		
25D0654-02 H	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 I	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 J	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 K	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 L	VOA Vial, Clear, 40 mL, HCL		
25D0654-02 M	VOA Vial, Clear, 40 mL, HCL		
25D0654-03 A	HDPE NM, 500 mL, 1:1 HNO3	<2p	
25D0654-03 B	VOA Vial, Clear, 40 mL		
25D0654-03 C	VOA Vial, Clear, 40 mL		
25D0654-03 D	VOA Vial, Clear, 40 mL		
25D0654-03 E	VOA Vial, Clear, 40 mL, HCL		
25D0654-03 F	VOA Vial, Clear, 40 mL, HCL		
25D0654-03 G	VOA Vial, Clear, 40 mL, HCL		
25D0654-04 A	HDPE NM, 500 mL, 1:1 HNO3	<2p	
25D0654-04 B	VOA Vial, Clear, 40 mL		
25D0654-04 C	VOA Vial, Clear, 40 mL		
25D0654-04 D	VOA Vial, Clear, 40 mL		
25D0654-04 E	VOA Vial, Clear, 40 mL, HCL		



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW29-0525
25D0654-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 04/30/2025 09:20

Instrument: NT20 Analyst: PKC

Analyzed: 05/02/2025 19:09

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-01 F

Preparation Batch: BNE0060

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	119	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW29-0525
25D0654-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/30/2025 09:20

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 14:15

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-01 B

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0918	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW29-0525

25D0654-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 09:20

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 19:05

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-01 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	20.8	mg/L	D



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW29-0525
25D0654-01RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/30/2025 09:20
Instrument: ICPMS1 Analyst: HAL	Analyzed: 05/16/2025 01:30
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0255
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0654-01RE1 A 02

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.632	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW18-0525
25D0654-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/30/2025 10:35
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 19:33
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0654-02 J

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	118	%	



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW18-0525
25D0654-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM	Sampled: 04/30/2025 10:35
Instrument: NT16 Analyst: LTN	Analyzed: 05/02/2025 14:36
Sample Preparation:	Extract ID: 25D0654-02 B
Preparation Method: EPA 5030C (Purge and Trap)	
Preparation Batch: BNE0051	Sample Size: 10 mL
Prepared: 05/02/2025	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW18-0525

25D0654-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 10:35

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 19:09

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-02 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	13.7	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW18-0525
25D0654-02RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B	Sampled: 04/30/2025 10:35
Instrument: ICPMS1 Analyst: HAL	Analyzed: 05/16/2025 01:49
Sample Preparation:	Preparation Method: REN - EPA 3010A M
	Preparation Batch: BNE0255
	Prepared: 05/10/2025
	Sample Size: 25 mL
	Final Volume: 25 mL
	Extract ID: 25D0654-02RE1 A 02

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.717	mg/L	D



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW60-0525
25D0654-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/30/2025 11:05
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 19:56
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0654-03 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	123	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW60-0525
25D0654-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/30/2025 11:05

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 14:58

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-03 B

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	102	%	



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW60-0525

25D0654-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 11:05

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 19:06

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-03 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	14.9	mg/L	D



Seattle Public Utilities

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Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW60-0525

25D0654-03RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 11:05

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 01:34

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-03RE1 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.777	mg/L	D



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW14-0525
25D0654-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/30/2025 11:45
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 20:19
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0654-04 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	120	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW14-0525
25D0654-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/30/2025 11:45

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 15:19

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-04 B

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	104	%	



Seattle Public Utilities

700-5th Ave, Ste 4900, Box 34018

Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW14-0525

25D0654-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 11:45

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 19:08

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-04 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	20	0.720	3.51	mg/L	D



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW14-0525
25D0654-04RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 11:45

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 01:39

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-04RE1 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	20	0.0200	0.876	mg/L	D



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW12-0525
25D0654-05 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/30/2025 12:55
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 20:42
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0654-05 E

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	0.27	ug/L	
Surrogate: 1,2-Dichloroethane-d4			80-129 %	116	%	



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW12-0525
25D0654-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/30/2025 12:55

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 15:41

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-05 B

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	104	%	



Seattle Public Utilities

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Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW12-0525

25D0654-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 12:55

Instrument: ICPMS2 Analyst: MCB

Analyzed: 05/14/2025 18:42

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-05 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Iron	7439-89-6	5	0.180	3.01	mg/L	D



Seattle Public Utilities

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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water

Project Number: 553-155-067

Project Manager: Min-Soon Yim

Reported:

19-May-2025 12:04

SPL-GW-MW12-0525

25D0654-05RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020B

Sampled: 04/30/2025 12:55

Instrument: ICPMS1 Analyst: HAL

Analyzed: 05/16/2025 01:44

Sample Preparation:

Preparation Method: REN - EPA 3010A M

Extract ID: 25D0654-05RE1 A 02

Preparation Batch: BNE0255

Sample Size: 25 mL

Prepared: 05/10/2025

Final Volume: 25 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	5	0.00500	0.251	mg/L	D



Seattle Public Utilities
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Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW82-0525
25D0654-06 (Water)

Volatile Organic Compounds

Method: EPA 8260D	Sampled: 04/30/2025 00:00
Instrument: NT20 Analyst: PKC	Analyzed: 05/02/2025 13:39
Sample Preparation:	Preparation Method: EPA 5030C (Purge and Trap)
	Preparation Batch: BNE0060
	Sample Size: 10 mL
	Prepared: 05/02/2025
	Final Volume: 10 mL
	Extract ID: 25D0654-06 B

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
cis-1,2-Dichloroethene	156-59-2	1	0.20	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	114	%	



Seattle Public Utilities
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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

SPL-GW-MW82-0525
25D0654-06 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM

Sampled: 04/30/2025 00:00

Instrument: NT16 Analyst: LTN

Analyzed: 05/02/2025 11:28

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 25D0654-06 A

Preparation Batch: BNE0051

Sample Size: 10 mL

Prepared: 05/02/2025

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
Surrogate: 1,2-Dichloroethane-d4			80-129 %	96.3	%	



Seattle Public Utilities
700-5th Ave, Ste 4900, Box 34018
Seattle WA, 98124-4018

Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BNE0060 - EPA 8260D in Water

Instrument: NT20 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0060-BLK1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 12:49						
cis-1,2-Dichloroethene	ND	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	6.05		ug/L	5.00		121	80-129			
LCS (BNE0060-BS1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 11:25						
cis-1,2-Dichloroethene	10.5	0.20	ug/L	10.0		105	80-121			
Surrogate: 1,2-Dichloroethane-d4	5.64		ug/L	5.00		113	80-129			
LCS Dup (BNE0060-BSD1)				Prepared: 02-May-2025 Analyzed: 02-May-2025 12:02						
cis-1,2-Dichloroethene	10.1	0.20	ug/L	10.0		101	80-121	3.28	30	
Surrogate: 1,2-Dichloroethane-d4	5.67		ug/L	5.00		113	80-129			
Matrix Spike (BNE0060-MS2)				Source: 25D0654-02 Prepared: 02-May-2025 Analyzed: 02-May-2025 21:51						
cis-1,2-Dichloroethene	11.0	0.20	ug/L	10.0	ND	110	80-121			
Surrogate: 1,2-Dichloroethane-d4	5.85		ug/L	5.00	5.89	117	80-129			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
Matrix Spike Dup (BNE0060-MSD2)				Source: 25D0654-02 Prepared: 02-May-2025 Analyzed: 02-May-2025 22:15						
cis-1,2-Dichloroethene	11.4	0.20	ug/L	10.0	ND	114	80-121	3.66	30	
Surrogate: 1,2-Dichloroethane-d4	5.95		ug/L	5.00	5.89	119	80-129			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Project: South Park Landfill -Parametrix Water
Project Number: 553-155-067
Project Manager: Min-Soon Yim

Reported:
19-May-2025 12:04

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BNE0051 - EPA 8260D-SIM in Water

Instrument: NT16 Analyst: LTN

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0051-BLK1)		Prepared: 02-May-2025 Analyzed: 02-May-2025 10:06								
Vinyl chloride	ND	0.0200	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	4720		ug/L	5000		94.5	80-129			
LCS (BNE0051-BS1)		Prepared: 02-May-2025 Analyzed: 02-May-2025 09:25								
Vinyl chloride	2.01	0.0200	ug/L	2.00		100	62-141			
Surrogate: 1,2-Dichloroethane-d4	4930		ug/L	5000		98.6	80-129			
LCS Dup (BNE0051-BSD1)		Prepared: 02-May-2025 Analyzed: 02-May-2025 09:46								
Vinyl chloride	2.21	0.0200	ug/L	2.00		111	62-141	9.74	30	
Surrogate: 1,2-Dichloroethane-d4	5190		ug/L	5000		104	80-129			
Matrix Spike (BNE0051-MS2)		Source: 25D0654-02		Prepared: 02-May-2025 Analyzed: 02-May-2025 16:46						
Vinyl chloride	2.17	0.0200	ug/L	2.00	ND	108	62-141			
Surrogate: 1,2-Dichloroethane-d4	5130		ug/L	5000	5090	103	80-129			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
Matrix Spike Dup (BNE0051-MSD2)		Source: 25D0654-02		Prepared: 02-May-2025 Analyzed: 02-May-2025 17:07						
Vinyl chloride	2.17	0.0200	ug/L	2.00	ND	108	62-141	0.14	30	
Surrogate: 1,2-Dichloroethane-d4	5110		ug/L	5000	5090	102	80-129			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Reported:
19-May-2025 12:04

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BNE0255 - EPA 6020B in Water

Instrument: ICPMS1 Analyst: HAL

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0255-BLK1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 23:51						
Manganese	55	ND	0.00100	mg/L							U
Blank (BNE0255-BLK3)					Prepared: 10-May-2025 Analyzed: 15-May-2025 01:19						
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0255-BS1)					Prepared: 10-May-2025 Analyzed: 12-May-2025 23:56						
Manganese	55	0.0281	0.00100	mg/L	0.0250		112	80-120			
LCS (BNE0255-BS3)					Prepared: 10-May-2025 Analyzed: 15-May-2025 01:24						
Manganese	55	0.0264	0.00100	mg/L	0.0250		105	80-120			
Duplicate (BNE0255-DUP2)					Source: 25D0654-02RE1		Prepared: 10-May-2025 Analyzed: 16-May-2025 01:53				
Manganese	55	0.738	0.0200	mg/L		0.717			2.86	20	D
Matrix Spike (BNE0255-MS2)					Source: 25D0654-02RE1		Prepared: 10-May-2025 Analyzed: 16-May-2025 01:58				
Manganese	55	0.794	0.0200	mg/L	0.0250	0.717	307	75-125			*, D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BNE0255-MSD2)					Source: 25D0654-02RE1		Prepared: 10-May-2025 Analyzed: 16-May-2025 02:03				
Manganese	55	0.737	0.0200	mg/L	0.0250	0.717	80.8	75-125	7.38	20	D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BNE0255-BLK2)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:21						
Iron	54	ND	0.0360	mg/L							U
Manganese	55	ND	0.00100	mg/L							U
LCS (BNE0255-BS2)					Prepared: 10-May-2025 Analyzed: 14-May-2025 17:22						
Iron	54	4.84	0.0360	mg/L	5.00		96.7	80-120			
Manganese	55	0.0231	0.00100	mg/L	0.0250		92.4	80-120			
Duplicate (BNE0255-DUP1)					Source: 25D0654-02		Prepared: 10-May-2025 Analyzed: 14-May-2025 19:11				
Iron	54	14.6	0.720	mg/L		13.7			6.52	20	D
Matrix Spike (BNE0255-MS1)					Source: 25D0654-02		Prepared: 10-May-2025 Analyzed: 14-May-2025 19:13				
Iron	54	19.2	0.720	mg/L	5.00	13.7	110	75-125			D



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Reported:
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Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BNE0255 - EPA 6020B in Water

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BNE0255-MS1)			Source: 25D0654-02		Prepared: 10-May-2025		Analyzed: 14-May-2025 19:13				
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Matrix Spike Dup (BNE0255-MSD1)			Source: 25D0654-02		Prepared: 10-May-2025		Analyzed: 14-May-2025 19:14				
Iron	54	18.8	0.720	mg/L	5.00	13.7	101	75-125	2.23	20	D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Uncertified Analytes included in this Report

Analysis Matrix & Analyte

None

Certified Analyses included in this Report

Analysis Matrix & Analyte

Certification Codes

EPA 6020B in Water

Iron-54 NELAP,DoD-ELAP,WADOE

Manganese-55 NELAP,DoD-ELAP,WADOE

EPA 8260D in Water

cis-1,2-Dichloroethene ADEC,NELAP,WADOE,DoD-ELAP

EPA 8260D-SIM in Water

Vinyl chloride NELAP,WADOE

Certifications

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	02/28/2026
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	01/31/2026
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2025
WADOE	WA Dept of Ecology	C558	06/30/2025
WA-DW	Ecology - Drinking Water	C558	06/30/2025



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Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
L	Analyte concentration is ≤ 5 times the reporting limit and the replicate control limit defaults to $\pm$ RL instead of 20% RPD
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.
!	Indicates that ARL is NOT ACCREDITED for this parameter in samples logged as 'Drinking Water'
#	Indicates that ARL is NOT ACCREDITED for this parameter in this analysis and matrix.