December 4, 2019

Jerome Cruz, PhD
Washington State Department of Ecology Northwest Regional Office
3190 160th Street Southeast
Bellevue, Washington 98008

Re: **Progress Report No. 1, Supplemental Groundwater Investigation**
South Recycling and Disposal Station, South Park Landfill Site
Project No. 190257-001-04

Dear Dr. Cruz:

Aspect Consulting, LLC (Aspect) has prepared this Progress Report to describe completed field activities and transmit the unvalidated analytical data from the first round of supplemental groundwater monitoring completed at Seattle Public Utilities' (SPU) South Recycling and Disposal Station (SRDS) property in Seattle, Washington. Our work was done in accordance with the "Work Plan for Groundwater Investigation, South Recycling and Disposal Station, South Park Landfill Site[1]" (Work Plan; Aspect, 2019).

Field Activities Completed in Reporting Period

- Utility locates for six new monitoring well locations included in the Work Plan (MW-101 through MW-106) were completed on October 17, 2019, before drilling commenced. During the locate process, monitoring wells MW-101 and MW-102 were moved slightly from locations depicted in the Work Plan for access reasons: MW-101 was moved 37 feet east, and MW-102 was moved 21 feet southeast. The revised locations remain consistent with the intent for each well location as described in Section 5.1.1 of the Work Plan. Figure 1 depicts the as-built locations for the six new monitoring wells.

- During drilling, an Aspect geologist-in-training logged the materials and field screened for landfill gases and volatile organic compounds (VOCs) in the soil cores. No elevated readings for landfill gases were encountered at any of the well locations. Two wells had visual/olfactory indications of petroleum contamination and elevated PID readings, as described below:

    - Mild petroleum impacts were observed in the depth interval from 8 to 13 feet below ground surface (bgs) during drilling of well MW-102 in the northern portion of the property. The highest reading for VOCs was 1496 part per million (ppm) at 11 feet bgs. However, there was no sheen observed on purge water from MW-102 during development or sampling.

    - During drilling of MW-104 in the southeastern portion of the SRDS property, moderate petroleum sheen and odor was observed between depths of 8 and 15 feet

[1] Aspect Consulting, LLC (Aspect), 2019, Work Plan for Supplemental Groundwater Investigation, South Recycling and Disposal Station, South Park Landfill Site, prepared for HDR, October 1, 2019.

bgs, which likely corresponds to the depth interval of the fluctuating water table.[2] The highest reading for VOCs was 1620 ppm at 11 feet bgs. Slight petroleum impacts were observed from 15 to 20 feet bgs, and no impacts were observed from 20 to 25 feet bgs.

The well screen straddles the water table (Table 1), and during the October 22, 2019, well development, measurements taken with an oil-water interface probe indicated less than 0.1 foot of apparent light non-aqueous phase liquid (LNAPL). During the October 29, 2019, groundwater sampling event, no LNAPL was indicated by the interface probe, but a moderate sheen was present on purge water. Purge water from this well was drummed separately for disposal off-site.

- A 2-inch-diameter prepacked PVC monitoring well was installed in each of the six borings. With one exception, the water table depth observed during drilling was comparable to that predicted, and therefore the well screens were installed at the depth intervals consistent with those outlined in the Work Plan.
    - The exception was well MW-101 which, due to its repositioning to the east, had a higher ground surface elevation than assumed in the Work Plan. As a result, the water table was observed approximately 2 feet deeper than predicted. The well screen depth was adjusted accordingly to intercept the shallowest groundwater present.

Table 1 presents the as-built screen depths for the six new monitoring wells and the depths to groundwater measured during the October 29, 2019, groundwater monitoring event.

Table 1. As-Built Well Screen Depths and October 2019 Depth to Water

Well ID	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Depth to Groundwater (feet bgs)
MW-101	15	25	16.38
MW-102	10	20	11.67
MW-103	5	15	4.43
MW-104	12	22	14.06
MW-105	19	29	21.29
MW-106	12	22	11.17

Notes: Depth to groundwater measured October 29, 2019
bgs: Below existing ground surface

- With the exception of well MW-104, the new wells were developed using a submersible pump and surge block. Wells were alternately surged along the length of the screen and pumped at 2 gallons per minute to remove fine-grained particles from the well casing and

[2] The water table was observed at a depth of approximately 14 feet bgs on October 29, 2019 (Table 1).

improve hydraulic connectivity between the well and the formation. During development, specific conductance, pH, and turbidity were monitored. Wells were considered developed when turbidity fell below 10 nephelometric turbidity unit (NTU) or greater than 10 well casing volumes had been removed from the well. Turbidity did not drop below 30 NTU for any of the wells during development, so all were purged to 10 casing volumes.

  - Due to the minor LNAPL observed in MW-104, development was completed using a disposable bailer. Turbidity was monitored during the duration of development, and never fell below 1,000 NTU.[3] Ten casing volumes were removed. During subsequent groundwater sampling, turbidity had declined to 14 NTU. Purge water from MW-104 was drummed separately from purge water from the other wells on-site.

- A week after well development, the six new monitoring wells were sampled on October 29, 2019, using low-flow sampling technique in accordance with the Work Plan (Aspect, 2019). Dedicated tubing was installed at each well and purging was conducted using a peristaltic pump. Groundwater was monitored for field parameters (dissolved oxygen, oxidation-reduction potential, pH, specific conductance, temperature, and turbidity), and samples were collected when all parameters had stabilized. The stabilized turbidity readings were less than 1 NTU at MW-101 and MW-102, 4 NTU at MW-105, and between 12 and 14 NTU at MW-103, MW-104, and MW-106.

- The groundwater samples were submitted to Analytical Resources, Inc. (ARI), a Washington State Department of Ecology (Ecology)-accredited analytical laboratory, on October 29, 2019, for analysis of the following analytes:

  - Gasoline-range petroleum hydrocarbons (NWTPH-Gx method) and diesel-and oil-range petroleum hydrocarbons (NWTPH-Dx method)

  - Total and dissolved metals (arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, zinc) (U.S. Environmental Protection Agency [EPA] Method 6020A and for mercury EPA Method 7470A).

  - Full suite of VOCs (EPA Method 8260C)

  - Full suite of semivolatile organic compounds (SVOCs) including low-level carcinogenic polycyclic aromatic hydrocarbons (cPAHs) (EPA Method 8270D, with EPA Method 8270D-SIM[4] for low-level cPAHs)

  - 1,4-Dioxane (EPA Method 8270D-SIM)

  - Polychlorinated biphenyls (PCBs) (EPA Method 8082A)

[3] 1,000 NTU is the upper limit of the turbidity meter used.
[4] SIM = selective ion monitoring.

Appendix A includes the unvalidated analytical data produced by ARI Inc. from this first round of groundwater monitoring.

Proposed Management of Investigation-Derived Waste

The investigation-derived soil cuttings and purge water remain in labeled drums in a secure location on site. In total, there are two 55-gallon drums containing soil cuttings, three 55-gallon drums of purge water from wells other than MW-104, and one 16-gallon drum of purge water from MW-104.

Based on the draft Round 1 analytical data, the purge water from wells other than MW-104 complies with King County General Discharge Limitations for discharge to sanitary sewer. Therefore, we propose that the purge water from the five wells other than MW-104 be discharged to the on-site sanitary sewer.

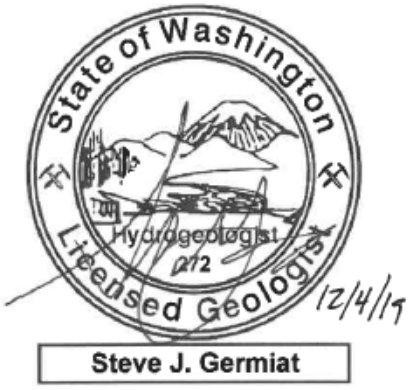
Because of the sheen observed on purge water from well MW-104, we propose it be transported to a permitted off-site facility for treatment and disposition following completion of the second round of groundwater monitoring. The small quantity of soil cuttings will be sampled for waste designation purposes, and then will also be transported to a permitted off-site landfill for disposition at the same time.

Second Round of Groundwater Monitoring

In accordance with Work Plan, SPU will coordinate with Ecology to schedule the second round of groundwater monitoring during seasonal-high water levels, anticipated in late January 2020.

Sincerely,

Aspect consulting, LLC



David Unruh, GIT
Staff Geologist
dunruh@aspectconsulting.com

Steve Germiat, LHG
Principal Hydrogeologist
sgermiat@aspectconsulting.com

Attachments: Figure 1 – Monitoring Well Locations
Appendix A – Laboratory Report (unvalidated results), ARI Inc.

cc: Jeff Neuner, Seattle Public Utilities
Olivia Williams, HDR Inc.

FIGURE

Monitoring Wells Installed for Supplemental Groundwater Investigation

Existing Monitoring Well Locations

Edge of Refuse

South Recycling & Disposal Station (SRDS), equivalent to South Transfer Station II (STSII)

King County Tax Parcel

Monitoring Well Locations

Work Plan for Supplemental Groundwater Investigation
South Recycling & Disposal Station, Seattle, WA

Aspect CONSULTING	NOV-2019	BY: SJG / EAC	FIGURE NO. 1
	PROJECT NO. 190257-001-01	REVISED BY: DU	

Basemap Layer Credits || Pictometry, King County

GIS Path: T:\projects_8\SPU\OnCall_190257\Delivered\SupplementalGWInvestigationWorkPlan\01 Monitoring Well Locations.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 11/22/2019 || User: ecrumbaker || Print Date: 11/22/2019

APPENDIX A

Laboratory Report (unvalidated results), ARI Inc.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

14 November 2019

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

RE: South Park Landfill

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)	Associated SDG ID(s)
19J0475	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, Inc.

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.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19J0475	Turn-around Requested: STD
ARI Client Company: Aspect Consulting	Phone: (206) 838-5830
Client Contact: Steve Germiat / Jeff Newner	
Client Project Name: South Park LF	
Client Project #: 140257	Samplers: DWU

Page: 1 of 1

Date: 10/24/19 Ice Present?

No. of Coolers: 4 Cooler Temps: 0.8 0.6 0.1 0.7

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: NWTPH-Gx	NWTPH-Dx	Total metals EPA 6020A/7470 *filt	Dissolved Metals EPA 6020A/7470 *filt	VOCs EPA 8260C	SVOCs EPA 8270D	low level cPAHs EPA 8270D SIM	1,4 Dioxane EPA 8270D SIM	PCBs EPA 8082A	Notes/Comments
MW-101-102914	10/29/19	0925	W	15	X	X	X	X	X	X	X	X	X	* Field Filtered
MW-102-102914		1435												
MW-103-102914		1155												
MW-104-102914		1545												Moderate sheen
MW-105-102914		1040												
MW-106-102914		1325												
Trip Blank	—	—	W	2					X					

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: David Unruh	Printed Name: Erin Sallee	Printed Name:	Printed Name:
	Company: Aspect Consulting	Company: ARI	Company:	Company:
	Date & Time: 10/29/19 1654	Date & Time: 10/29/19 1654	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, not withstanding 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	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-101-102919	19J0475-01	Water	29-Oct-2019 09:25	29-Oct-2019 16:54
MW-101-102919	19J0475-02	Water	29-Oct-2019 09:25	29-Oct-2019 16:54
MW-102-102919	19J0475-03	Water	29-Oct-2019 14:35	29-Oct-2019 16:54
MW-102-102919	19J0475-04	Water	29-Oct-2019 14:35	29-Oct-2019 16:54
MW-103-102919	19J0475-05	Water	29-Oct-2019 11:55	29-Oct-2019 16:54
MW-103-102919	19J0475-06	Water	29-Oct-2019 11:55	29-Oct-2019 16:54
MW-104-102919	19J0475-07	Water	29-Oct-2019 15:45	29-Oct-2019 16:54
MW-104-102919	19J0475-08	Water	29-Oct-2019 15:45	29-Oct-2019 16:54
MW-105-102919	19J0475-09	Water	29-Oct-2019 10:40	29-Oct-2019 16:54
MW-105-102919	19J0475-10	Water	29-Oct-2019 10:40	29-Oct-2019 16:54
MW-106-102919	19J0475-11	Water	29-Oct-2019 13:25	29-Oct-2019 16:54
MW-106-102919	19J0475-12	Water	29-Oct-2019 13:25	29-Oct-2019 16:54
Trip Blank	19J0475-13	Water	29-Oct-2019 09:25	29-Oct-2019 16:54

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Work Order Case Narrative

Client: Seattle Public Utilities
Project: South Park Landfill
Work Order: 19J0475

Sample receipt

Samples as listed on the preceding page were received October 29, 2019 under ARI work order 19J0475. For details regarding sample receipt, please refer to the Cooler Receipt Form.

PCB Aroclors - EPA Method SW8082A

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

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits except Hexabromobiphenyl which was out of control low for sample MW-104-102919 (ARI 19J0475-07) on column zb5. Data reported from passing column.

The surrogate percent recoveries were within control limits.

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

The LCS percent recoveries were within control limits.

Gasoline by NWTPH-g (GC/MS)

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 LCS/LCSD percent recoveries and RPD were within control limits.

Sample MW-104-102919 (ARI 19J0475-07) appears to be an aged gasoline mixture.

Volatiles - EPA Method SW8260C

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

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

Initial and continuing calibrations were within method requirements except Chloroethane, 1,1,2-Trichloro-1,2,2-Trifluoroethane and Bromoethane which were out of control high. All samples which contain analyte have been flagged with a "Q" qualifier.

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 LCS/LCSD percent recoveries and RPD were within control limits.

Manual integrations were performed for targets because automatic integration did not pick up the peaks for the following. Method blank for Chloromethane, n-Butylbenzene and Naphthalene. Sample MW-101-102919 (ARI 19J0475-01) for Chloromethane, Vinyl Chloride, Acetone and Benzene. Sample MW-102-102919 (ARI 19J0475-03) for Chloromethane and Acetone. Sample MW-103-102919 (ARI 19J0475-05) for Acetone. Sample MW-104-102919 (ARI 19J0475-07) for Chlormethane, o-Xylene and 4-Isopropyltoluene. Sample MW-105-102919 (ARI 19J0475-09) for 1,1-Dichloroethane, Benzene. n-Propylbenzene and Naphthalene. Sample MW-106-102919 (ARI 19J0475- 11) for Acetone and n-Propylbenzene. Trip Blank sample (ARI 19J0475-13) for Chloromethane, Methylene Chloride and Acetone. Continuing Calibration Verification (CCV) for trans-1,4-Dichloro-2-Butene.

Semivolatiles - EPA Method SW8270D

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

Initial and continuing calibrations were within method requirements except 2-Nitroaniline and 4-Nitrophenol which were out of control high. All samples which contain analyte have been flagged with a "Q" qualifier.

Internal standard areas were within limits except d12-Chrysene which was out of control low in sample MW-104-102919 (ARI 19J0475-07). The sample was reanalyzed at a dilution with similiar internal standard recovery. Reported affected analytes bis(2-ethylhexyl)phthalate and di-n-octylphthalate from reanalysis.

The surrogate percent recoveries were within control limits except Phenol-d5 which was out of control low in sample MW-106-102919 (ARI 19J0475-11). This surrogate is flagged.

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

The LCS percent recoveries were within control limits except Benzoic Acid and 4-Chloroaniline which were out of control low and are flagged within the QC section of this report.

1,4-Dioxane - EPA Method SW8270D-SIM

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

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

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 LCS percent recoveries were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The sample(s) were extracted and 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 except Fluoranthene-d10 which was out of control low in sample MW-104-102919 (ARI 19J0475-07). This analyte is flagged.

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

The LCS percent recoveries were within control limits.

Total Metals - EPA Method 6020A

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

Initial and continuing calibrations were within method requirements.

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

The LCS percent recoveries were within control limits.

Sample specific QC was performed in association with sample MW-105-102919 (ARI 19J0475-09) in analytical batch BHK0116. The duplicate RPD and matrix spike percent recoveries were within control limits.

Dissolved Metals - EPA Method 6020A

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

Initial and continuing calibrations were within method requirements.

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

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

The LCS percent recoveries were within control limits.

Total Mercury - EPA Method 7470/7471

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

Initial and continuing calibrations were within method requirements.

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

The LCS percent recovery was outside control limits high and is flagged within the QC section of this report.

Sample specific QC was performed in association with sample MW-101-102919 (ARI 19J0475-01) in analytical batch BHK0033. The duplicate RPD and matrix spike percent recoveries were within control limits.

Dissolved Mercury - EPA Method 7470/7471

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

Initial and continuing calibrations were within method requirements.

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

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

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

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

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

The LCS percent recoveries were within control limits.

WORK ORDER

19J0475

Client: Seattle Public Utilities	**Project Manager:** Shelly Fishel
Project: South Park Landfill	**Project Number:** South Park Landfill

Preservation Confirmation

Container ID	Container Type	pH	
19J0475-01 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-01 B	Glass NM, Amber, 1000 mL		
19J0475-01 C	Glass NM, Amber, 1000 mL		
19J0475-01 D	Glass NM, Amber, 500 mL		
19J0475-01 E	Glass NM, Amber, 500 mL		
19J0475-01 F	Glass NM, Amber, 500 mL		
19J0475-01 G	Glass NM, Amber, 500 mL		
19J0475-01 H	Glass NM, Amber, 500 mL		
19J0475-01 I	Glass NM, Amber, 500 mL		
19J0475-01 J	Glass NM, Amber, 500 mL		
19J0475-01 K	Glass NM, Amber, 500 mL		
19J0475-01 L	VOA Vial, Clear, 40 mL, HCL		
19J0475-01 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-01 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-02 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-03 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-03 B	Glass NM, Amber, 1000 mL		
19J0475-03 C	Glass NM, Amber, 1000 mL		
19J0475-03 D	Glass NM, Amber, 500 mL		
19J0475-03 E	Glass NM, Amber, 500 mL		
19J0475-03 F	Glass NM, Amber, 500 mL		
19J0475-03 G	Glass NM, Amber, 500 mL		
19J0475-03 H	Glass NM, Amber, 500 mL		
19J0475-03 I	Glass NM, Amber, 500 mL		
19J0475-03 J	Glass NM, Amber, 500 mL		
19J0475-03 K	Glass NM, Amber, 500 mL		
19J0475-03 L	VOA Vial, Clear, 40 mL, HCL		
19J0475-03 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-03 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-04 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-05 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-05 B	Glass NM, Amber, 1000 mL		
19J0475-05 C	Glass NM, Amber, 1000 mL		
19J0475-05 D	Glass NM, Amber, 500 mL		
19J0475-05 E	Glass NM, Amber, 500 mL		

Reviewed By

Date

WORK ORDER

19J0475

Client: Seattle Public Utilities | **Project Manager:** Shelly Fishel

Project: South Park Landfill | **Project Number:** South Park Landfill

19J0475-05 F	Glass NM, Amber, 500 mL		
19J0475-05 G	Glass NM, Amber, 500 mL		
19J0475-05 H	Glass NM, Amber, 500 mL		
19J0475-05 I	Glass NM, Amber, 500 mL		
19J0475-05 J	Glass NM, Amber, 500 mL		
19J0475-05 K	Glass NM, Amber, 500 mL		
19J0475-05 L	VOA Vial, Clear, 40 mL, HCL		
19J0475-05 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-05 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-06 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-07 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-07 B	Glass NM, Amber, 1000 mL		
19J0475-07 C	Glass NM, Amber, 1000 mL		
19J0475-07 D	Glass NM, Amber, 500 mL		
19J0475-07 E	Glass NM, Amber, 500 mL		
19J0475-07 F	Glass NM, Amber, 500 mL		
19J0475-07 G	Glass NM, Amber, 500 mL		
19J0475-07 H	Glass NM, Amber, 500 mL		
19J0475-07 I	Glass NM, Amber, 500 mL		
19J0475-07 J	Glass NM, Amber, 500 mL		
19J0475-07 K	Glass NM, Amber, 500 mL		
19J0475-07 L	VOA Vial, Clear, 40 mL, HCL		
19J0475-07 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-07 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-08 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-09 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-09 B	Glass NM, Amber, 1000 mL		
19J0475-09 C	Glass NM, Amber, 1000 mL		
19J0475-09 D	Glass NM, Amber, 500 mL		
19J0475-09 E	Glass NM, Amber, 500 mL		
19J0475-09 F	Glass NM, Amber, 500 mL		
19J0475-09 G	Glass NM, Amber, 500 mL		
19J0475-09 H	Glass NM, Amber, 500 mL		
19J0475-09 I	Glass NM, Amber, 500 mL		
19J0475-09 J	Glass NM, Amber, 500 mL		
19J0475-09 K	Glass NM, Amber, 500 mL		
19J0475-09 L	VOA Vial, Clear, 40 mL, HCL		

Reviewed By

Date

WORK ORDER

19J0475

Client: Seattle Public Utilities	**Project Manager: Shelly Fishel**
Project: South Park Landfill	**Project Number: South Park Landfill**

19J0475-09 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-09 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-10 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-11 A	HDPE NM, 500 mL, 1:1 HNO3	<2	Pass
19J0475-11 B	Glass NM, Amber, 1000 mL		
19J0475-11 C	Glass NM, Amber, 1000 mL		
19J0475-11 D	Glass NM, Amber, 500 mL		
19J0475-11 E	Glass NM, Amber, 500 mL		
19J0475-11 F	Glass NM, Amber, 500 mL		
19J0475-11 G	Glass NM, Amber, 500 mL		
19J0475-11 H	Glass NM, Amber, 500 mL		
19J0475-11 I	Glass NM, Amber, 500 mL		
19J0475-11 J	Glass NM, Amber, 500 mL		
19J0475-11 K	Glass NM, Amber, 500 mL		
19J0475-11 L	VOA Vial, Clear, 40 mL, HCL		
19J0475-11 M	VOA Vial, Clear, 40 mL, HCL		
19J0475-11 N	VOA Vial, Clear, 40 mL, HCL		
19J0475-12 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	Pass
19J0475-13 A	VOA Vial, Clear, 40 mL, HCL		
19J0475-13 B	VOA Vial, Clear, 40 mL, HCL		

JBw
Preservation Confirmed By

10/30/19
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SPM/Aspect

Project Name: South Park LF

COC No(s): _____ NA

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

Assigned ARI Job No: 19J0475

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) (recommended 2.0-6.0 °C for chemistry)

Time 1654 0.8 0.6 0.1 0.7 ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D00256S

Cooler Accepted by: _____ Date: 10/29/19 Time: 1654

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	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	10/24/19	

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

Samples Logged by: JJ Date: 10/30/19 Time: 0858 Labels checked by: JJ

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-01 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	**0.30**	ug/L	
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**6.19**	ug/L	
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**0.03**	ug/L	J
Trichloroethene	79-01-6	1	0.05	0.20	**7.10**	ug/L	
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:26

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:26

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*110*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*95.8*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*99.1*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 09:25
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-01 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*95.8*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*94.8*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 09:25
Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 18:07

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-01 C 01
Preparation Batch: BHK0013 — Sample Size: 1000 mL
Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	**0.02**	ug/L	J
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	ND	ug/L	U
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	ND	ug/L	U
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	ND	ug/L	U
Benzoic acid	65-85-0	1	0.1	2.0	ND	ug/L	U
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 09:25

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 18:07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	ND	ug/L	U
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	ND	ug/L	U
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*48.1*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*32.6*	*%*	
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*83.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*79.3*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*97.9*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*92.5*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*91.4*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*112*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 09:25
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 10:22

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-01 J 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-01 J 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.004**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.002**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U

Surrogate: 2-Methylnaphthalene-d10	*42-120 %*	*72.2*	*%*
Surrogate: Dibenzo[a,h]anthracene-d14	*29-120 %*	*78.5*	*%*
Surrogate: Fluoranthene-d10	*57-120 %*	*84.2*	*%*

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 13:42

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-01 I 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 09:25

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 13:42

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.09**	ug/L	J
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*67.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 09:25
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 16:45

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-01 G 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*83.1*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 09:25
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 16:36

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-01 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-01 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-01 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-01 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*63.6*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*55.7*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*59.5*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*48.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 09:25
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 18:20

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-01 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.130	0.500	**0.190**	ug/L	J
Iron	7439-89-6	10	62.7	200	**3430**	ug/L	D
Lead	7439-92-1	1	0.0680	0.100	**0.776**	ug/L	
Manganese	7439-96-5	1	0.0850	0.500	**61.4**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 09:25
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:17

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-01 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**4.40**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**1.10**	ug/L	
Nickel	7440-02-0	1	0.0500	0.500	**4.06**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**5.02**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-01 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 09:25
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:13

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-01 A
Preparation Batch: BHK0033 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 09:25
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 19:40

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-02 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	1	6.27	20.0	**3430**	ug/L	
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.689**	ug/L	

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:23

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-02 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**0.175**	ug/L	J
Manganese, Dissolved	7439-96-5	1	0.0850	0.500	**57.6**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 09:25
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:23

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-02 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**4.83**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	**0.0730**	ug/L	J
Copper, Dissolved	7440-50-8	1	0.340	0.500	**0.854**	ug/L	
Nickel, Dissolved	7440-02-0	1	0.0500	0.500	**3.72**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**4.98**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-101-102919

19J0475-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 09:25
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:37

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-02 A
Preparation Batch: BHK0035 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 14:35
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-03 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	**5.76**	ug/L	
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	**0.05**	ug/L	J
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**0.09**	ug/L	J
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	**0.33**	ug/L	
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**1.30**	ug/L	
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	**0.15**	ug/L	J
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**0.19**	ug/L	J
Trichloroethene	79-01-6	1	0.05	0.20	**0.32**	ug/L	
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	**0.08**	ug/L	J
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 14:35

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:46

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	**2.87**	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	**0.11**	ug/L	J
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	**0.16**	ug/L	J
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	**0.06**	ug/L	J
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	**0.05**	ug/L	J
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 14:35

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:46

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*115*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*98.3*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*96.5*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*102*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 14:35
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-03 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*98.3*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.5*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 14:35

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 18:43

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-03 C 01

Preparation Batch: BHK0013 — Sample Size: 1000 mL

Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	ND	ug/L	U
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	**0.05**	ug/L	J
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	**0.04**	ug/L	J
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	ND	ug/L	U
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	**0.07**	ug/L	J
Benzoic acid	65-85-0	1	0.1	2.0	**0.3**	ug/L	J
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 14:35

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 18:43

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	ND	ug/L	U
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	ND	ug/L	U
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*47.9*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*30.9*	*%*	
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*85.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*79.7*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*106*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*92.3*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*95.8*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*107*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 14:35
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 10:51

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-03 H 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-03 H 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.006**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.005**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.003**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	**0.003**	ug/L	J
Acenaphthene	83-32-9	1	0.003	0.010	**0.158**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.002**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	**0.012**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.003**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	**0.003**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.005**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U

Surrogate: 2-Methylnaphthalene-d10	*42-120 %*	*82.4*	*%*
Surrogate: Dibenzo[a,h]anthracene-d14	*29-120 %*	*85.6*	*%*
Surrogate: Fluoranthene-d10	*57-120 %*	*88.2*	*%*

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:07

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-03 G 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 14:35

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.07**	ug/L	J
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*63.2*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 14:35
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 17:05

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-03 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**1.10**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	**0.214**	mg/L	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*83.4*	*%*	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 14:35
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 16:57

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-03 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-03 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-03 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-03 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*64.5*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*56.8*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*60.0*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*55.5*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 14:35
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 20:34

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-03 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	2	0.260	1.00	**0.584**	ug/L	J, D
Iron	7439-89-6	10	62.7	200	**1930**	ug/L	D
Lead	7439-92-1	2	0.136	0.200	ND	ug/L	U
Manganese	7439-96-5	10	0.850	5.00	**419**	ug/L	D

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 14:35
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:22

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-03 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.277**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel	7440-02-0	1	0.0500	0.500	**0.985**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**3.32**	ug/L	J

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-03 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 14:35

Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:43

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-03 A

Preparation Batch: BHK0033 — Sample Size: 20 mL

Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 14:35
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 18:19

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-04 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	5	31.4	100	**2080**	ug/L	D
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**447**	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:28

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-04 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**0.519**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 14:35
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:28

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-04 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.311**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel, Dissolved	7440-02-0	1	0.0500	0.500	**0.914**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**3.72**	ug/L	J

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 14:35
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:46

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-04 A
Preparation Batch: BHK0035 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-102-102919

19J0475-04RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 14:35

Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 19:46

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-04RE1 A 01

Preparation Batch: BHK0157 — Sample Size: 25 mL

Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 11:55
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:06

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-05 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	**0.30**	ug/L	
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**1.98**	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	**0.21**	ug/L	
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**4.40**	ug/L	
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**0.17**	ug/L	J
Trichloroethene	79-01-6	1	0.05	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	**0.04**	ug/L	J
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 11:55

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:06

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	**0.11**	ug/L	J
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 11:55

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:06

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*115*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*97.5*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*101*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 11:55
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:06

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-05 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.5*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*94.3*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 11:55
Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 19:20

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-05 C 01
Preparation Batch: BHK0013 — Sample Size: 1000 mL
Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	**0.06**	ug/L	J
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	ND	ug/L	U
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	**0.08**	ug/L	J
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	ND	ug/L	U
Benzoic acid	65-85-0	1	0.1	2.0	ND	ug/L	U
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 11:55

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 19:20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	ND	ug/L	U
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	ND	ug/L	U
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*44.8*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*30.2*	*%*	
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*76.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*72.1*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*95.7*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*84.4*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*87.7*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*109*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 11:55
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 11:20

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-05 H 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-05 H 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.011**	ug/L	
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.004**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.009**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	**0.003**	ug/L	J
Acenaphthene	83-32-9	1	0.003	0.010	**1.05**	ug/L	E
Dibenzofuran	132-64-9	1	0.002	0.010	**0.009**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	**0.003**	ug/L	J
Phenanthrene	85-01-8	1	0.001	0.010	**0.007**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	**0.003**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	**0.002**	ug/L	J
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.003**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	**0.006**	ug/L	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*82.9*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*85.8*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*86.0*	*%*	

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:33

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-05 G 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 11:55

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:33

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.5**	ug/L	
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*56.5*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 11:55
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 17:25

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-05 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.221**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*83.9*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 11:55
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 17:18

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-05 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-05 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-05 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-05 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*63.2*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*55.3*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*57.8*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*51.0*	*%*	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 11:55
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 20:41

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-05 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	2	0.260	1.00	**3.19**	ug/L	D
Iron	7439-89-6	10	62.7	200	**6310**	ug/L	D
Lead	7439-92-1	2	0.136	0.200	ND	ug/L	U
Manganese	7439-96-5	10	0.850	5.00	**687**	ug/L	D

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 11:55
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:26

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-05 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**3.01**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**0.383**	ug/L	J
Nickel	7440-02-0	1	0.0500	0.500	**13.4**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**4.35**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 11:55
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:46

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-05 A
Preparation Batch: BHK0033 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-05RE1 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 11:55
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 13:18

Sample Preparation: Preparation Method: EPA 3510C SepF; Preparation Batch: BHK0015; Prepared: 05-Nov-2019; Sample Size: 500 mL; Final Volume: 0.5 mL — Extract ID: 19J0475-05RE1 H 01

Sample Cleanup: Cleanup Method: Silica Gel; Cleanup Batch: CHK0096; Cleaned: 08-Nov-2019; Initial Volume: 0.5 mL; Final Volume: 0.5 mL — Extract ID: 19J0475-05RE1 H 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	2	0.003	0.020	**0.011**	ug/L	J, D
2-Methylnaphthalene	91-57-6	2	0.002	0.020	**0.004**	ug/L	J, D
1-Methylnaphthalene	90-12-0	2	0.002	0.020	**0.009**	ug/L	J, D
2-Chloronaphthalene	91-58-7	2	0.002	0.020	**0.009**	ug/L	J, D
Acenaphthylene	208-96-8	2	0.004	0.020	ND	ug/L	U
Acenaphthene	83-32-9	2	0.006	0.020	**1.05**	ug/L	D
Dibenzofuran	132-64-9	2	0.003	0.020	**0.008**	ug/L	J, D
Fluorene	86-73-7	2	0.003	0.020	ND	ug/L	U
Phenanthrene	85-01-8	2	0.003	0.020	**0.006**	ug/L	J, D
Anthracene	120-12-7	2	0.002	0.020	**0.003**	ug/L	J, D
Carbazole	86-74-8	2	0.002	0.020	ND	ug/L	U
Fluoranthene	206-44-0	2	0.003	0.020	ND	ug/L	U
Pyrene	129-00-0	2	0.002	0.020	**0.004**	ug/L	J, D
Benzo(a)anthracene	56-55-3	2	0.002	0.020	ND	ug/L	U
Chrysene	218-01-9	2	0.002	0.020	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	2	0.0009	0.020	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	2	0.006	0.020	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	2	0.004	0.020	ND	ug/L	U
Benzofluoranthenes, Total		2	0.007	0.020	ND	ug/L	U
Benzo(a)pyrene	50-32-8	2	0.005	0.020	ND	ug/L	U
Perylene	1985-5-0	2	0.012	0.020	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	2	0.002	0.020	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	2	0.003	0.020	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	2	0.003	0.020	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*79.3*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*86.2*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*84.0*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 11:55
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 18:26

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-06 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	5	31.4	100	**6290**	ug/L	D
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**667**	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-06 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**2.89**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 11:55
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-06 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**3.37**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**0.978**	ug/L	
Nickel, Dissolved	7440-02-0	1	0.220	0.500	**11.3**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**4.18**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 11:55

Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:49

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-06 A

Preparation Batch: BHK0035 — Sample Size: 20 mL

Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-103-102919

19J0475-06RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 11:55

Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 19:59

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-06RE1 A 01

Preparation Batch: BHK0157 — Sample Size: 25 mL

Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 15:45
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:27

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-07 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	**1.04**	ug/L	
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**0.17**	ug/L	J
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	**0.36**	ug/L	
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	**0.53**	ug/L	
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**0.43**	ug/L	
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**4.96**	ug/L	
Trichloroethene	79-01-6	1	0.05	0.20	**0.51**	ug/L	
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	**0.76**	ug/L	
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 15:45

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:27

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	**4.16**	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	**3.44**	ug/L	
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	**0.75**	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	**0.23**	ug/L	
Xylenes, total	1330-20-7	1	0.09	0.60	**0.99**	ug/L	
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	**36.3**	ug/L	
Bromobenzene	108-86-1	1	0.06	0.20	**0.08**	ug/L	J
Isopropyl Benzene	98-82-8	1	0.02	0.20	**25.6**	ug/L	
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	**1.02**	ug/L	
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	**0.53**	ug/L	
s-Butylbenzene	135-98-8	1	0.02	0.20	**5.45**	ug/L	
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	**0.18**	ug/L	J
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	**1.57**	ug/L	
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	**9.46**	ug/L	
n-Butylbenzene	104-51-8	1	0.02	0.20	**3.41**	ug/L	
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	**18.0**	ug/L	
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	**0.50**	ug/L	
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 15:45

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:27

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*113*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*99.8*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*100*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*103*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 15:45
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:27

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-07 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	**1340**	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*99.8*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*100*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 15:45
Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 19:56

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-07 C 01
Preparation Batch: BHK0013 — Sample Size: 1000 mL
Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	**1.0**	ug/L	
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	**1.2**	ug/L	
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	**6.7**	ug/L	
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	**13.3**	ug/L	
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	ND	ug/L	U
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	**0.03**	ug/L	J
Benzoic acid	65-85-0	1	0.1	2.0	ND	ug/L	U
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	**2.2**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 15:45

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 19:56

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	**1.8**	ug/L	
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	**2.3**	ug/L	
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*51.3*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*32.1*	*%*	
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*79.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*70.0*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*99.4*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*59.1*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*58.9*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*104*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 15:45
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 11:50

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-07 H 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-07 H 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.135**	ug/L	
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.888**	ug/L	
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**3.48**	ug/L	E
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	**0.341**	ug/L	
Acenaphthene	83-32-9	1	0.003	0.010	**0.985**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.222**	ug/L	
Fluorene	86-73-7	1	0.002	0.010	**0.816**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.071**	ug/L	
Anthracene	120-12-7	1	0.001	0.010	**0.005**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	**0.291**	ug/L	
Fluoranthene	206-44-0	1	0.002	0.010	**0.053**	ug/L	
Pyrene	129-00-0	1	0.001	0.010	**0.125**	ug/L	
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	**0.081**	ug/L	
Chrysene	218-01-9	1	0.0009	0.010	**0.103**	ug/L	
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	**0.031**	ug/L	
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	**0.012**	ug/L	
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	**0.012**	ug/L	
Benzofluoranthenes, Total		1	0.004	0.010	**0.055**	ug/L	
Benzo(a)pyrene	50-32-8	1	0.002	0.010	**0.043**	ug/L	
Perylene	1985-5-0	1	0.006	0.010	**0.007**	ug/L	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	**0.016**	ug/L	
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	**0.007**	ug/L	J
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	**0.034**	ug/L	
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*82.7*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*102*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*29.1*	*%*	*

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:58

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-07 G 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 15:45

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 14:58

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.3**	ug/L	
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*59.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 15:45
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 17:45

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-07 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**5.73**	mg/L	E
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	**1.31**	mg/L	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*		*NRS*	NRS

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 15:45
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 17:39

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-07 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-07 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-07 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-07 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	**1.06**	ug/L	P1, E
Aroclor 1254	11097-69-1	1	0.002	0.010	**2.10**	ug/L	E
Aroclor 1260	11096-82-5	1	0.003	0.010	**0.683**	ug/L	E
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*		*NRS*	NRS
Surrogate: Tetrachlorometaxylene				*32-120 %*	*46.2*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*50.5*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*47.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 15:45
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 20:48

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-07 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	2	0.260	1.00	**0.652**	ug/L	J, D
Iron	7439-89-6	10	62.7	200	**547**	ug/L	D
Lead	7439-92-1	2	0.136	0.200	**1.18**	ug/L	D
Manganese	7439-96-5	10	0.850	5.00	**436**	ug/L	D

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 15:45
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:31

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-07 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.812**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**1.27**	ug/L	
Nickel	7440-02-0	1	0.0500	0.500	**1.88**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**21.5**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 15:45
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:52

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-07 A
Preparation Batch: BHK0033 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07RE1 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 15:45

Instrument: NT14 Analyst: VTS — Analyzed: 11/12/2019 19:37

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-07RE1 C 01

Preparation Batch: BHK0013 — Sample Size: 1000 mL

Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
bis(2-Ethylhexyl)phthalate	117-81-7	3	0.5	0.6	**2.0**	ug/L	D
Di-n-Octylphthalate	117-84-0	3	0.1	0.6	ND	ug/L	U
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*74.7*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*56.6*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*64.4*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*101*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07RE1 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 15:45
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 13:47

Sample Preparation: Preparation Method: EPA 3510C SepF; Preparation Batch: BHK0015; Prepared: 05-Nov-2019; Sample Size: 500 mL; Final Volume: 0.5 mL — Extract ID: 19J0475-07RE1 H 01

Sample Cleanup: Cleanup Method: Silica Gel; Cleanup Batch: CHK0096; Cleaned: 08-Nov-2019; Initial Volume: 0.5 mL; Final Volume: 0.5 mL — Extract ID: 19J0475-07RE1 H 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	0.013	0.100	**0.203**	ug/L	D
2-Methylnaphthalene	91-57-6	10	0.010	0.100	**1.50**	ug/L	D
1-Methylnaphthalene	90-12-0	10	0.009	0.100	**6.54**	ug/L	D
2-Chloronaphthalene	91-58-7	10	0.011	0.100	ND	ug/L	U
Acenaphthylene	208-96-8	10	0.019	0.100	ND	ug/L	U
Acenaphthene	83-32-9	10	0.029	0.100	**0.766**	ug/L	D
Dibenzofuran	132-64-9	10	0.015	0.100	**0.213**	ug/L	D
Fluorene	86-73-7	10	0.015	0.100	**0.867**	ug/L	D
Phenanthrene	85-01-8	10	0.013	0.100	**0.317**	ug/L	D
Anthracene	120-12-7	10	0.012	0.100	**0.039**	ug/L	J, D
Carbazole	86-74-8	10	0.012	0.100	**0.246**	ug/L	D
Fluoranthene	206-44-0	10	0.017	0.100	**0.046**	ug/L	J, D
Pyrene	129-00-0	10	0.012	0.100	**0.103**	ug/L	D
Benzo(a)anthracene	56-55-3	10	0.008	0.100	**0.070**	ug/L	J, D
Chrysene	218-01-9	10	0.009	0.100	**0.104**	ug/L	D
Benzo(b)fluoranthene	205-99-2	10	0.005	0.100	**0.026**	ug/L	J, D
Benzo(k)fluoranthene	207-08-9	10	0.032	0.100	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	10	0.019	0.100	ND	ug/L	U
Benzofluoranthenes, Total		10	0.036	0.100	**0.050**	ug/L	J, D
Benzo(a)pyrene	50-32-8	10	0.025	0.100	**0.035**	ug/L	J, D
Perylene	1985-5-0	10	0.059	0.100	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.010	0.100	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	10	0.013	0.100	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	10	0.014	0.100	**0.029**	ug/L	J, D
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*118*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*87.7*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*32.5*	*%*	*

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 15:45
Instrument: FID4 Analyst: SH/JGR — Analyzed: 11/05/2019 13:52

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-07RE1 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	5	0.500	**6.12**	mg/L	D
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	5	1.00	**1.05**	mg/L	D
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*69.3*	*%*	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-07RE1 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 15:45
Instrument: ECD7 Analyst: JGR — Analyzed: 11/12/2019 11:10

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-07RE1 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-07RE1 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-07RE1 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-07RE1 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	10	0.025	0.100	ND	ug/L	U
Aroclor 1221	11104-28-2	10	0.025	0.100	ND	ug/L	U
Aroclor 1232	11141-16-5	10	0.025	0.100	ND	ug/L	U
Aroclor 1242	53469-21-9	10	0.025	0.100	ND	ug/L	U
Aroclor 1248	12672-29-6	10	0.025	0.100	**1.39**	ug/L	P1, D
Aroclor 1254	11097-69-1	10	0.025	0.100	**2.44**	ug/L	D
Aroclor 1260	11096-82-5	10	0.028	0.100	**0.742**	ug/L	D
Aroclor 1262	37324-23-5	10	0.028	0.100	ND	ug/L	U
Aroclor 1268	11100-14-4	10	0.028	0.100	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*78.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*58.7*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*61.6*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*64.1*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 15:45
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 18:34

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-08 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	5	31.4	100	**409**	ug/L	D
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**418**	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:38

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-08 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**0.516**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 15:45
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:38

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-08 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.858**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel, Dissolved	7440-02-0	1	0.0500	0.500	**1.58**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**5.21**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 15:45
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:52

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-08 A
Preparation Batch: BHK0035 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-104-102919

19J0475-08RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 15:45
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 20:05

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-08RE1 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.111**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 10:40
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:47

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-09 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**0.07**	ug/L	J
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**0.13**	ug/L	J
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**0.03**	ug/L	J
Trichloroethene	79-01-6	1	0.05	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 10:40

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:47

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	**0.05**	ug/L	J
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	**0.14**	ug/L	J
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	**0.08**	ug/L	J
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 10:40

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:47

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*113*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*98.6*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*96.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*102*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 10:40
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 12:47

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-09 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*98.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.1*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 10:40
Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 20:33

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-09 C 01
Preparation Batch: BHK0013 — Sample Size: 1000 mL
Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	**0.03**	ug/L	J
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	**0.08**	ug/L	J
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	**0.06**	ug/L	J
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	ND	ug/L	U
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	ND	ug/L	U
Benzoic acid	65-85-0	1	0.1	2.0	ND	ug/L	U
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 10:40

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 20:33

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	ND	ug/L	U
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	**0.2**	ug/L	
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*49.1*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*32.7*	*%*	
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*85.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*77.6*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*105*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*93.3*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*91.6*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*119*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 10:40
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 12:19

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-09 H 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-09 H 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.004**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.002**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.004**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U

Surrogate: 2-Methylnaphthalene-d10	*42-120 %*	*74.5*	*%*
Surrogate: Dibenzo[a,h]anthracene-d14	*29-120 %*	*90.9*	*%*
Surrogate: Fluoranthene-d10	*57-120 %*	*81.5*	*%*

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 15:23

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-09 G 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 10:40

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 15:23

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.2**	ug/L	J
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*63.3*	*%*	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 10:40
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 18:05

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-09 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.115**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*82.8*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 10:40
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 18:00

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-09 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-09 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-09 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-09 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*70.1*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*51.7*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*51.6*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*44.9*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 10:40
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 18:53

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-09 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	1	0.130	0.500	**0.275**	ug/L	J
Iron	7439-89-6	10	62.7	200	**17600**	ug/L	D
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 10:40
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:41

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-09 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**1.81**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel	7440-02-0	1	0.0500	0.500	**2.53**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**4.18**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 10:40
Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:55

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-09 A
Preparation Batch: BHK0033 — Sample Size: 20 mL
Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-09RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 10:40
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 20:08

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-09RE1 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Manganese	7439-96-5	5	0.425	2.50	**1000**	ug/L	D

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 10:40
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 17:36

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-10 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	10	62.7	200	**19900**	ug/L	D
Manganese, Dissolved	7439-96-5	10	0.850	5.00	**1000**	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-10 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**0.311**	ug/L	J

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 10:40
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-10 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**1.83**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel, Dissolved	7440-02-0	1	0.0500	0.500	**2.22**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.99**	ug/L	J

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 10:40

Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:55

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-10 A

Preparation Batch: BHK0035 — Sample Size: 20 mL

Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-105-102919

19J0475-10RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 10:40

Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 20:17

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-10RE1 A 01

Preparation Batch: BHK0157 — Sample Size: 25 mL

Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 13:25
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 13:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-11 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**0.24**	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	**0.40**	ug/L	
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	**2.86**	ug/L	
Trichloroethene	79-01-6	1	0.05	0.20	**0.17**	ug/L	J
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	**0.04**	ug/L	J
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 13:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 13:07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	**3.06**	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	**0.04**	ug/L	J
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 13:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 13:07

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*112*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*97.7*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.4*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*102*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 13:25
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 13:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-11 L
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*94.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 13:25
Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 21:10

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-11 C 01
Preparation Batch: BHK0013 — Sample Size: 1000 mL
Prepared: 05-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	0.01	0.2	**0.03**	ug/L	J
bis(2-chloroethyl) ether	111-44-4	1	0.03	0.2	ND	ug/L	U
2-Chlorophenol	95-57-8	1	0.03	0.2	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.03	0.2	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.03	0.2	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.03	0.2	ND	ug/L	U
Benzyl Alcohol	100-51-6	1	0.02	0.2	ND	ug/L	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	0.03	0.2	ND	ug/L	U
2-Methylphenol	95-48-7	1	0.03	0.2	ND	ug/L	U
Hexachloroethane	67-72-1	1	0.04	0.2	ND	ug/L	U
N-Nitroso-di-n-Propylamine	621-64-7	1	0.04	0.2	ND	ug/L	U
4-Methylphenol	106-44-5	1	0.03	0.2	**0.05**	ug/L	J
Nitrobenzene	98-95-3	1	0.03	0.2	ND	ug/L	U
Isophorone	78-59-1	1	0.03	0.2	ND	ug/L	U
2-Nitrophenol	88-75-5	1	0.04	1.0	ND	ug/L	U
2,4-Dimethylphenol	105-67-9	1	0.3	1.0	ND	ug/L	U
Bis(2-Chloroethoxy)methane	111-91-1	1	0.03	0.2	ND	ug/L	U
2,4-Dichlorophenol	120-83-2	1	0.1	1.0	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.03	0.2	ND	ug/L	U
Benzoic acid	65-85-0	1	0.1	2.0	ND	ug/L	U
4-Chloroaniline	106-47-8	1	0.04	1.0	ND	ug/L	U
Hexachlorobutadiene	87-68-3	1	0.04	0.2	ND	ug/L	U
4-Chloro-3-Methylphenol	59-50-7	1	0.1	1.0	ND	ug/L	U
Hexachlorocyclopentadiene	77-47-4	1	0.1	1.0	ND	ug/L	U
2,4,6-Trichlorophenol	88-06-2	1	0.2	1.0	ND	ug/L	U
2,4,5-Trichlorophenol	95-95-4	1	0.1	1.0	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.03	0.2	ND	ug/L	U
2-Nitroaniline	88-74-4	1	0.2	1.0	ND	ug/L	U
Dimethylphthalate	131-11-3	1	0.04	0.2	ND	ug/L	U
2,6-Dinitrotoluene	606-20-2	1	0.2	1.0	ND	ug/L	U
3-Nitroaniline	99-09-2	1	0.2	1.0	ND	ug/L	U
2,4-Dinitrophenol	51-28-5	1	0.2	2.0	ND	ug/L	U
4-Nitrophenol	100-02-7	1	0.06	1.0	ND	ug/L	U
2,4-Dinitrotoluene	121-14-2	1	0.1	1.0	ND	ug/L	U
4-Chlorophenylphenyl ether	7005-72-3	1	0.02	0.2	ND	ug/L	U
Diethyl phthalate	84-66-2	1	0.06	0.2	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Semivolatile Organic Compounds

Method: EPA 8270D — Sampled: 10/29/2019 13:25

Instrument: NT10 Analyst: VTS — Analyzed: 11/08/2019 21:10

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
4-Nitroaniline	100-01-6	1	0.2	1.0	ND	ug/L	U
4,6-Dinitro-2-methylphenol	534-52-1	1	0.4	2.0	ND	ug/L	U
N-Nitrosodiphenylamine	86-30-6	1	0.03	0.2	ND	ug/L	U
4-Bromophenyl phenyl ether	101-55-3	1	0.02	0.2	ND	ug/L	U
Hexachlorobenzene	118-74-1	1	0.04	0.2	ND	ug/L	U
Pentachlorophenol	87-86-5	1	0.1	1.0	ND	ug/L	U
Carbazole	86-74-8	1	0.04	0.2	ND	ug/L	U
Di-n-Butylphthalate	84-74-2	1	0.05	0.2	ND	ug/L	U
Butylbenzylphthalate	85-68-7	1	0.07	0.2	ND	ug/L	U
3,3'-Dichlorobenzidine	91-94-1	1	0.3	1.0	ND	ug/L	U
bis(2-Ethylhexyl)phthalate	117-81-7	1	0.2	0.2	ND	ug/L	U
Di-n-Octylphthalate	117-84-0	1	0.05	0.2	ND	ug/L	U
Surrogate: 2-Fluorophenol				*30-160 %*	*40.7*	*%*	
Surrogate: Phenol-d5				*30-160 %*	*27.0*	*%*	*
Surrogate: 2-Chlorophenol-d4				*30-160 %*	*71.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*30-160 %*	*66.1*	*%*	
Surrogate: Nitrobenzene-d5				*30-160 %*	*90.1*	*%*	
Surrogate: 2-Fluorobiphenyl				*30-160 %*	*81.3*	*%*	
Surrogate: 2,4,6-Tribromophenol				*30-160 %*	*79.5*	*%*	
Surrogate: p-Terphenyl-d14				*30-160 %*	*117*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 13:25
Instrument: NT11 Analyst: VTS — Analyzed: 11/09/2019 12:49

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-11 H 01
Preparation Batch: BHK0015 — Sample Size: 500 mL
Prepared: 05-Nov-2019 — Final Volume: 0.5 mL

Sample Cleanup: Cleanup Method: Silica Gel — Extract ID: 19J0475-11 H 01
Cleanup Batch: CHK0096 — Initial Volume: 0.5 mL
Cleaned: 08-Nov-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.007**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.002**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.002**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U

Surrogate: 2-Methylnaphthalene-d10	*42-120 %*	*78.6*	*%*
Surrogate: Dibenzo[a,h]anthracene-d14	*29-120 %*	*95.9*	*%*
Surrogate: Fluoranthene-d10	*57-120 %*	*90.2*	*%*

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 15:49

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq) — Extract ID: 19J0475-11 G 01
Preparation Batch: BHK0014 — Sample Size: 500 mL
Prepared: 04-Nov-2019 — Final Volume: 1 mL

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 10/29/2019 13:25

Instrument: NT12 Analyst: JZ — Analyzed: 11/08/2019 15:49

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
1,4-Dioxane	123-91-1	1	0.04	0.2	**0.09**	ug/L	J
Surrogate: 1,4-Dioxane-d8				*33.6-120 %*	*61.5*	*%*	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 10/29/2019 13:25
Instrument: FID4 Analyst: CTO — Analyzed: 11/04/2019 18:24

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19J0475-11 D 01
Preparation Batch: BHJ0953 — Sample Size: 500 mL
Prepared: 01-Nov-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.141**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*82.1*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 10/29/2019 13:25
Instrument: ECD7 Analyst: JGR — Analyzed: 11/11/2019 18:21

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19J0475-11 B 01
	Preparation Batch: BHK0011	Sample Size: 1000 mL	
	Prepared: 05-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19J0475-11 B 01
	Cleanup Batch: CHK0101	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19J0475-11 B 01
	Cleanup Batch: CHK0099	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19J0475-11 B 01
	Cleanup Batch: CHK0100	Initial Volume: 0.5 mL	
	Cleaned: 11-Nov-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*54.7*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*47.7*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*51.5*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*41.4*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 10/29/2019 13:25
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/07/2019 20:54

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-11 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	5	0.650	2.50	**2.14**	ug/L	J, D
Iron	7439-89-6	20	125	400	**12400**	ug/L	D
Lead	7439-92-1	5	0.340	0.500	**2.19**	ug/L	D
Manganese	7439-96-5	20	1.70	10.0	**1690**	ug/L	D

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 13:25
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/07/2019 04:36

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-11 A 01
Preparation Batch: BHK0116 — Sample Size: 25 mL
Prepared: 06-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**1.59**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	**0.0360**	ug/L	J
Copper	7440-50-8	1	0.340	0.500	**2.03**	ug/L	
Nickel	7440-02-0	1	0.0500	0.500	**12.0**	ug/L	
Zinc	7440-66-6	1	0.940	4.00	**129**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-11 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 10/29/2019 13:25

Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 14:58

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-11 A

Preparation Batch: BHK0033 — Sample Size: 20 mL

Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 13:25
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 18:53

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-12 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Iron, Dissolved	7439-89-6	10	62.7	200	**11800**	ug/L	D
Manganese, Dissolved	7439-96-5	10	0.850	5.00	**1550**	ug/L	D

Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-12 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium, Dissolved	7440-47-3	1	0.130	0.500	**1.82**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 10/29/2019 13:25
Instrument: ICPMS2 Analyst: MCB — Analyzed: 11/08/2019 20:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-12 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**1.50**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Nickel, Dissolved	7440-02-0	1	0.0500	0.500	**10.3**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**105**	ug/L	

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-12 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 10/29/2019 13:25

Instrument: CVAA Analyst: SKM — Analyzed: 11/06/2019 15:58

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19J0475-12 A

Preparation Batch: BHK0035 — Sample Size: 20 mL

Prepared: 04-Nov-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

MW-106-102919

19J0475-12RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 10/29/2019 13:25
Instrument: ICPMS1 Analyst: MCB — Analyzed: 11/12/2019 20:23

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19J0475-12RE1 A 01
Preparation Batch: BHK0157 — Sample Size: 25 mL
Prepared: 07-Nov-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.103**	ug/L	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Trip Blank

19J0475-13 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:05

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-13 A

Preparation Batch: BHJ0885 — Sample Size: 10 mL

Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.05	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Trip Blank

19J0475-13 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:05

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	ND	ug/L	U
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	ND	ug/L	U
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Trip Blank

19J0475-13 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 10/29/2019 09:25

Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:05

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*106*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*96.3*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*93.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*98.6*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Trip Blank

19J0475-13 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 10/29/2019 09:25
Instrument: NT2 Analyst: LH — Analyzed: 10/30/2019 11:05

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19J0475-13 A
Preparation Batch: BHJ0885 — Sample Size: 10 mL
Prepared: 30-Oct-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.3*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*93.0*	*%*	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHJ0885-BLK1)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:27							
Gasoline Range Organics (Tol-Nap)	ND		100	ug/L							U
Surrogate: Toluene-d8	4.92			ug/L	*5.00*		*98.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.64			ug/L	*5.00*		*92.9*	*80-120*			
Blank (BHJ0885-BLK2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:27							
Chloromethane	ND	0.09	0.50	ug/L							U
Vinyl Chloride	ND	0.06	0.20	ug/L							U
Bromomethane	ND	0.25	1.00	ug/L							U
Chloroethane	ND	0.09	0.20	ug/L							U
Trichlorofluoromethane	ND	0.04	0.20	ug/L							U
Acrolein	ND	2.48	5.00	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.04	0.20	ug/L							U
Acetone	ND	2.06	5.00	ug/L							U
1,1-Dichloroethene	ND	0.05	0.20	ug/L							U
Bromoethane	ND	0.04	0.20	ug/L							U
Iodomethane	ND	0.23	1.00	ug/L							U
Methylene Chloride	ND	0.49	1.00	ug/L							U
Acrylonitrile	ND	0.60	1.00	ug/L							U
Carbon Disulfide	0.06	0.04	0.20	ug/L							J
trans-1,2-Dichloroethene	ND	0.05	0.20	ug/L							U
Vinyl Acetate	ND	0.07	0.20	ug/L							U
1,1-Dichloroethane	ND	0.05	0.20	ug/L							U
2-Butanone	ND	0.81	5.00	ug/L							U
2,2-Dichloropropane	ND	0.05	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.04	0.20	ug/L							U
Chloroform	ND	0.03	0.20	ug/L							U
Bromochloromethane	ND	0.06	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.04	0.20	ug/L							U
1,1-Dichloropropene	ND	0.03	0.20	ug/L							U
Carbon tetrachloride	ND	0.04	0.20	ug/L							U
1,2-Dichloroethane	ND	0.07	0.20	ug/L							U
Benzene	ND	0.03	0.20	ug/L							U
Trichloroethene	ND	0.05	0.20	ug/L							U
1,2-Dichloropropane	ND	0.04	0.20	ug/L							U
Bromodichloromethane	ND	0.05	0.20	ug/L							U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHJ0885-BLK2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:27							
Dibromomethane	ND	0.15	0.20	ug/L							U
2-Chloroethyl vinyl ether	ND	0.25	1.00	ug/L							U
4-Methyl-2-Pentanone	ND	0.97	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.06	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U
trans-1,3-Dichloropropene	ND	0.08	0.20	ug/L							U
2-Hexanone	ND	0.90	5.00	ug/L							U
1,1,2-Trichloroethane	ND	0.13	0.20	ug/L							U
1,3-Dichloropropane	ND	0.06	0.20	ug/L							U
Tetrachloroethene	ND	0.05	0.20	ug/L							U
Dibromochloromethane	ND	0.05	0.20	ug/L							U
1,2-Dibromoethane	ND	0.07	0.20	ug/L							U
Chlorobenzene	ND	0.02	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Xylenes, total	ND	0.09	0.60	ug/L							U
Styrene	ND	0.05	0.20	ug/L							U
Bromoform	ND	0.06	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.06	0.20	ug/L							U
1,2,3-Trichloropropane	ND	0.13	0.50	ug/L							U
trans-1,4-Dichloro 2-Butene	ND	0.32	1.00	ug/L							U
n-Propylbenzene	ND	0.02	0.20	ug/L							U
Bromobenzene	ND	0.06	0.20	ug/L							U
Isopropyl Benzene	ND	0.02	0.20	ug/L							U
2-Chlorotoluene	ND	0.02	0.20	ug/L							U
4-Chlorotoluene	ND	0.02	0.20	ug/L							U
t-Butylbenzene	ND	0.03	0.20	ug/L							U
1,3,5-Trimethylbenzene	ND	0.02	0.20	ug/L							U
1,2,4-Trimethylbenzene	ND	0.02	0.20	ug/L							U
s-Butylbenzene	ND	0.02	0.20	ug/L							U
4-Isopropyl Toluene	ND	0.03	0.20	ug/L							U
1,3-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,4-Dichlorobenzene	ND	0.04	0.20	ug/L							U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHJ0885-BLK2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:27							
n-Butylbenzene	0.03	0.02	0.20	ug/L							J
1,2-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,2-Dibromo-3-chloropropane	ND	0.37	0.50	ug/L							U
1,2,4-Trichlorobenzene	ND	0.11	0.50	ug/L							U
Hexachloro-1,3-Butadiene	0.27	0.07	0.50	ug/L							J
Naphthalene	ND	0.12	0.50	ug/L							U
1,2,3-Trichlorobenzene	ND	0.11	0.50	ug/L							U
Dichlorodifluoromethane	ND	0.05	0.20	ug/L							U
Methyl tert-butyl Ether	ND	0.07	0.50	ug/L							U
2-Pentanone	ND	5.00	5.00	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5.52			ug/L	*5.00*		*110*	*80-129*			
Surrogate: Toluene-d8	4.92			ug/L	*5.00*		*98.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.64			ug/L	*5.00*		*92.9*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.09			ug/L	*5.00*		*102*	*80-120*			
LCS (BHJ0885-BS1)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 07:46							
Gasoline Range Organics (Tol-Nap)	971		100	ug/L	1000		97.1	80-120			
Surrogate: Toluene-d8	5.04			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.89			ug/L	*5.00*		*97.8*	*80-120*			
LCS (BHJ0885-BS2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 08:06							
Chloromethane	9.12	0.09	0.50	ug/L	10.0		91.2	60-138			
Vinyl Chloride	11.0	0.06	0.20	ug/L	10.0		110	66-133			
Bromomethane	11.5	0.25	1.00	ug/L	10.0		115	72-131			
Chloroethane	13.4	0.09	0.20	ug/L	10.0		134	60-155			Q
Trichlorofluoromethane	11.3	0.04	0.20	ug/L	10.0		113	80-129			
Acrolein	54.6	2.48	5.00	ug/L	50.0		109	52-144			
1,1,2-Trichloro-1,2,2-Trifluoroethane	12.6	0.04	0.20	ug/L	10.0		126	76-129			Q
Acetone	57.6	2.06	5.00	ug/L	50.0		115	58-142			
1,1-Dichloroethene	11.6	0.05	0.20	ug/L	10.0		116	69-135			
Bromoethane	12.2	0.04	0.20	ug/L	10.0		122	78-128			Q
Iodomethane	11.6	0.23	1.00	ug/L	10.0		116	56-147			
Methylene Chloride	11.1	0.49	1.00	ug/L	10.0		111	65-135			
Acrylonitrile	9.73	0.60	1.00	ug/L	10.0		97.3	64-134			
Carbon Disulfide	10.9	0.04	0.20	ug/L	10.0		109	78-125			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHJ0885-BS2)					Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 08:06						
trans-1,2-Dichloroethene	11.1	0.05	0.20	ug/L	10.0		111	78-128			
Vinyl Acetate	9.01	0.07	0.20	ug/L	10.0		90.1	55-138			
1,1-Dichloroethane	10.3	0.05	0.20	ug/L	10.0		103	76-124			
2-Butanone	51.8	0.81	5.00	ug/L	50.0		104	61-140			
2,2-Dichloropropane	8.43	0.05	0.20	ug/L	10.0		84.3	78-125			
cis-1,2-Dichloroethene	10.0	0.04	0.20	ug/L	10.0		100	80-121			
Chloroform	10.5	0.03	0.20	ug/L	10.0		105	80-122			
Bromochloromethane	10.3	0.06	0.20	ug/L	10.0		103	80-121			
1,1,1-Trichloroethane	11.0	0.04	0.20	ug/L	10.0		110	79-123			
1,1-Dichloropropene	10.2	0.03	0.20	ug/L	10.0		102	80-120			
Carbon tetrachloride	10.9	0.04	0.20	ug/L	10.0		109	53-137			
1,2-Dichloroethane	11.2	0.07	0.20	ug/L	10.0		112	75-123			
Benzene	10.0	0.03	0.20	ug/L	10.0		100	80-120			
Trichloroethene	10.3	0.05	0.20	ug/L	10.0		103	80-120			
1,2-Dichloropropane	9.85	0.04	0.20	ug/L	10.0		98.5	80-120			
Bromodichloromethane	11.1	0.05	0.20	ug/L	10.0		111	80-121			
Dibromomethane	10.9	0.15	0.20	ug/L	10.0		109	80-120			
2-Chloroethyl vinyl ether	9.61	0.25	1.00	ug/L	10.0		96.1	74-127			
4-Methyl-2-Pentanone	52.7	0.97	5.00	ug/L	50.0		105	67-133			
cis-1,3-Dichloropropene	10.3	0.06	0.20	ug/L	10.0		103	80-124			
Toluene	10.1	0.04	0.20	ug/L	10.0		101	80-120			
trans-1,3-Dichloropropene	10.4	0.08	0.20	ug/L	10.0		104	71-127			
2-Hexanone	50.8	0.90	5.00	ug/L	50.0		102	69-133			
1,1,2-Trichloroethane	10.4	0.13	0.20	ug/L	10.0		104	80-121			
1,3-Dichloropropane	9.85	0.06	0.20	ug/L	10.0		98.5	80-120			
Tetrachloroethene	9.89	0.05	0.20	ug/L	10.0		98.9	80-120			
Dibromochloromethane	11.1	0.05	0.20	ug/L	10.0		111	65-135			
1,2-Dibromoethane	11.0	0.07	0.20	ug/L	10.0		110	80-121			
Chlorobenzene	9.97	0.02	0.20	ug/L	10.0		99.7	80-120			
Ethylbenzene	9.78	0.04	0.20	ug/L	10.0		97.8	80-120			
1,1,1,2-Tetrachloroethane	10.5	0.04	0.20	ug/L	10.0		105	80-120			
m,p-Xylene	20.3	0.05	0.40	ug/L	20.0		101	80-121			
o-Xylene	9.83	0.03	0.20	ug/L	10.0		98.3	80-121			
Xylenes, total	30.1	0.09	0.60	ug/L	30.0		100	76-127			
Styrene	10.4	0.05	0.20	ug/L	10.0		104	80-124			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHJ0885-BS2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 08:06							
Bromoform	9.01	0.06	0.20	ug/L	10.0		90.1	51-134			
1,1,2,2-Tetrachloroethane	9.70	0.06	0.20	ug/L	10.0		97.0	77-123			
1,2,3-Trichloropropane	10.0	0.13	0.50	ug/L	10.0		100	76-125			
trans-1,4-Dichloro 2-Butene	9.21	0.32	1.00	ug/L	10.0		92.1	55-129			
n-Propylbenzene	10.1	0.02	0.20	ug/L	10.0		101	78-130			
Bromobenzene	9.71	0.06	0.20	ug/L	10.0		97.1	80-120			
Isopropyl Benzene	10.0	0.02	0.20	ug/L	10.0		100	80-128			
2-Chlorotoluene	9.70	0.02	0.20	ug/L	10.0		97.0	78-122			
4-Chlorotoluene	9.85	0.02	0.20	ug/L	10.0		98.5	80-121			
t-Butylbenzene	9.77	0.03	0.20	ug/L	10.0		97.7	78-125			
1,3,5-Trimethylbenzene	10.2	0.02	0.20	ug/L	10.0		102	80-129			
1,2,4-Trimethylbenzene	10.1	0.02	0.20	ug/L	10.0		101	80-127			
s-Butylbenzene	10.2	0.02	0.20	ug/L	10.0		102	78-129			
4-Isopropyl Toluene	10.4	0.03	0.20	ug/L	10.0		104	79-130			
1,3-Dichlorobenzene	9.85	0.04	0.20	ug/L	10.0		98.5	80-120			
1,4-Dichlorobenzene	9.93	0.04	0.20	ug/L	10.0		99.3	80-120			
n-Butylbenzene	10.6	0.02	0.20	ug/L	10.0		106	74-129			
1,2-Dichlorobenzene	9.82	0.04	0.20	ug/L	10.0		98.2	80-120			
1,2-Dibromo-3-chloropropane	9.12	0.37	0.50	ug/L	10.0		91.2	62-123			
1,2,4-Trichlorobenzene	10.3	0.11	0.50	ug/L	10.0		103	64-124			
Hexachloro-1,3-Butadiene	10.1	0.07	0.50	ug/L	10.0		101	58-123			
Naphthalene	10.0	0.12	0.50	ug/L	10.0		100	50-134			
1,2,3-Trichlorobenzene	10.3	0.11	0.50	ug/L	10.0		103	49-133			
Dichlorodifluoromethane	10.4	0.05	0.20	ug/L	10.0		104	48-147			
Methyl tert-butyl Ether	11.0	0.07	0.50	ug/L	10.0		110	71-132			
2-Pentanone	51.2	5.00	5.00	ug/L	50.0		102	69-134			
Surrogate: 1,2-Dichloroethane-d4	5.38			ug/L	*5.00*		*108*	*80-129*			
Surrogate: Toluene-d8	5.06			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.01			ug/L	*5.00*		*100*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.95			ug/L	*5.00*		*98.9*	*80-120*			
LCS Dup (BHJ0885-BSD1)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 08:26							
Gasoline Range Organics (Tol-Nap)	1030		100	ug/L	1000		103	80-120	5.48	30	
Surrogate: Toluene-d8	5.05			ug/L	*5.00*		*101*	*80-120*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHJ0885-BSD1)					Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 08:26						
Surrogate: 4-Bromofluorobenzene	4.93			ug/L	*5.00*		*98.6*	*80-120*			
LCS Dup (BHJ0885-BSD2)					Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:07						
Chloromethane	9.52	0.09	0.50	ug/L	10.0		95.2	60-138	4.26	30	
Vinyl Chloride	11.0	0.06	0.20	ug/L	10.0		110	66-133	0.13	30	
Bromomethane	11.8	0.25	1.00	ug/L	10.0		118	72-131	2.85	30	
Chloroethane	13.7	0.09	0.20	ug/L	10.0		137	60-155	2.67	30	Q
Trichlorofluoromethane	11.6	0.04	0.20	ug/L	10.0		116	80-129	2.11	30	
Acrolein	56.8	2.48	5.00	ug/L	50.0		114	52-144	3.90	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	12.5	0.04	0.20	ug/L	10.0		125	76-129	0.80	30	Q
Acetone	58.6	2.06	5.00	ug/L	50.0		117	58-142	1.73	30	
1,1-Dichloroethene	11.6	0.05	0.20	ug/L	10.0		116	69-135	0.36	30	
Bromoethane	12.6	0.04	0.20	ug/L	10.0		126	78-128	3.40	30	Q
Iodomethane	11.8	0.23	1.00	ug/L	10.0		118	56-147	1.00	30	
Methylene Chloride	11.3	0.49	1.00	ug/L	10.0		113	65-135	1.74	30	
Acrylonitrile	9.80	0.60	1.00	ug/L	10.0		98.0	64-134	0.69	30	
Carbon Disulfide	10.9	0.04	0.20	ug/L	10.0		109	78-125	0.34	30	
trans-1,2-Dichloroethene	11.2	0.05	0.20	ug/L	10.0		112	78-128	1.16	30	
Vinyl Acetate	9.28	0.07	0.20	ug/L	10.0		92.8	55-138	2.99	30	
1,1-Dichloroethane	10.5	0.05	0.20	ug/L	10.0		105	76-124	1.12	30	
2-Butanone	53.1	0.81	5.00	ug/L	50.0		106	61-140	2.58	30	
2,2-Dichloropropane	8.19	0.05	0.20	ug/L	10.0		81.9	78-125	2.87	30	
cis-1,2-Dichloroethene	10.2	0.04	0.20	ug/L	10.0		102	80-121	1.51	30	
Chloroform	10.8	0.03	0.20	ug/L	10.0		108	80-122	2.62	30	
Bromochloromethane	10.5	0.06	0.20	ug/L	10.0		105	80-121	2.50	30	
1,1,1-Trichloroethane	11.2	0.04	0.20	ug/L	10.0		112	79-123	1.67	30	
1,1-Dichloropropene	10.2	0.03	0.20	ug/L	10.0		102	80-120	0.72	30	
Carbon tetrachloride	10.6	0.04	0.20	ug/L	10.0		106	53-137	2.59	30	
1,2-Dichloroethane	11.4	0.07	0.20	ug/L	10.0		114	75-123	1.50	30	
Benzene	10.1	0.03	0.20	ug/L	10.0		101	80-120	1.03	30	
Trichloroethene	10.4	0.05	0.20	ug/L	10.0		104	80-120	0.60	30	
1,2-Dichloropropane	9.94	0.04	0.20	ug/L	10.0		99.4	80-120	0.91	30	
Bromodichloromethane	10.9	0.05	0.20	ug/L	10.0		109	80-121	2.07	30	
Dibromomethane	11.1	0.15	0.20	ug/L	10.0		111	80-120	1.76	30	
2-Chloroethyl vinyl ether	9.74	0.25	1.00	ug/L	10.0		97.4	74-127	1.30	30	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHJ0885-BSD2)					Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:07						
4-Methyl-2-Pentanone	52.7	0.97	5.00	ug/L	50.0		105	67-133	0.01	30	
cis-1,3-Dichloropropene	10.1	0.06	0.20	ug/L	10.0		101	80-124	1.73	30	
Toluene	10.2	0.04	0.20	ug/L	10.0		102	80-120	1.09	30	
trans-1,3-Dichloropropene	10.1	0.08	0.20	ug/L	10.0		101	71-127	3.18	30	
2-Hexanone	52.7	0.90	5.00	ug/L	50.0		105	69-133	3.80	30	
1,1,2-Trichloroethane	10.5	0.13	0.20	ug/L	10.0		105	80-121	0.86	30	
1,3-Dichloropropane	10.2	0.06	0.20	ug/L	10.0		102	80-120	3.37	30	
Tetrachloroethene	10.2	0.05	0.20	ug/L	10.0		102	80-120	2.57	30	
Dibromochloromethane	11.2	0.05	0.20	ug/L	10.0		112	65-135	0.07	30	
1,2-Dibromoethane	10.7	0.07	0.20	ug/L	10.0		107	80-121	2.07	30	
Chlorobenzene	10.2	0.02	0.20	ug/L	10.0		102	80-120	2.72	30	
Ethylbenzene	10.0	0.04	0.20	ug/L	10.0		100	80-120	2.59	30	
1,1,1,2-Tetrachloroethane	10.4	0.04	0.20	ug/L	10.0		104	80-120	0.72	30	
m,p-Xylene	20.6	0.05	0.40	ug/L	20.0		103	80-121	1.84	30	
o-Xylene	9.97	0.03	0.20	ug/L	10.0		99.7	80-121	1.45	30	
Xylenes, total	30.6	0.09	0.60	ug/L	30.0		102	76-127	1.71	30	
Styrene	10.6	0.05	0.20	ug/L	10.0		106	80-124	2.64	30	
Bromoform	8.77	0.06	0.20	ug/L	10.0		87.7	51-134	2.76	30	
1,1,2,2-Tetrachloroethane	9.72	0.06	0.20	ug/L	10.0		97.2	77-123	0.15	30	
1,2,3-Trichloropropane	10.4	0.13	0.50	ug/L	10.0		104	76-125	3.32	30	
trans-1,4-Dichloro 2-Butene	8.80	0.32	1.00	ug/L	10.0		88.0	55-129	4.60	30	
n-Propylbenzene	10.2	0.02	0.20	ug/L	10.0		102	78-130	1.55	30	
Bromobenzene	9.94	0.06	0.20	ug/L	10.0		99.4	80-120	2.37	30	
Isopropyl Benzene	10.2	0.02	0.20	ug/L	10.0		102	80-128	1.41	30	
2-Chlorotoluene	10.9	0.02	0.20	ug/L	10.0		109	78-122	12.00	30	
4-Chlorotoluene	9.95	0.02	0.20	ug/L	10.0		99.5	80-121	1.01	30	
t-Butylbenzene	10.0	0.03	0.20	ug/L	10.0		100	78-125	2.48	30	
1,3,5-Trimethylbenzene	10.2	0.02	0.20	ug/L	10.0		102	80-129	0.40	30	
1,2,4-Trimethylbenzene	10.3	0.02	0.20	ug/L	10.0		103	80-127	1.51	30	
s-Butylbenzene	10.3	0.02	0.20	ug/L	10.0		103	78-129	1.28	30	
4-Isopropyl Toluene	10.4	0.03	0.20	ug/L	10.0		104	79-130	0.87	30	
1,3-Dichlorobenzene	10.1	0.04	0.20	ug/L	10.0		101	80-120	2.53	30	
1,4-Dichlorobenzene	10.1	0.04	0.20	ug/L	10.0		101	80-120	1.93	30	
n-Butylbenzene	10.6	0.02	0.20	ug/L	10.0		106	74-129	0.46	30	
1,2-Dichlorobenzene	10.1	0.04	0.20	ug/L	10.0		101	80-120	3.26	30	

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Volatile Organic Compounds - Quality Control

Batch BHJ0885 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHJ0885-BSD2)				Prepared: 30-Oct-2019 Analyzed: 30-Oct-2019 09:07							
1,2-Dibromo-3-chloropropane	8.82	0.37	0.50	ug/L	10.0		88.2	62-123	3.31	30	
1,2,4-Trichlorobenzene	10.5	0.11	0.50	ug/L	10.0		105	64-124	1.61	30	
Hexachloro-1,3-Butadiene	10.1	0.07	0.50	ug/L	10.0		101	58-123	0.01	30	
Naphthalene	10.5	0.12	0.50	ug/L	10.0		105	50-134	4.43	30	
1,2,3-Trichlorobenzene	10.6	0.11	0.50	ug/L	10.0		106	49-133	3.46	30	
Dichlorodifluoromethane	10.8	0.05	0.20	ug/L	10.0		108	48-147	3.52	30	
Methyl tert-butyl Ether	11.2	0.07	0.50	ug/L	10.0		112	71-132	1.79	30	
2-Pentanone	52.6	5.00	5.00	ug/L	50.0		105	69-134	2.80	30	
Surrogate: 1,2-Dichloroethane-d4	5.49			ug/L	*5.00*		*110*	*80-129*			
Surrogate: Toluene-d8	5.05			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.99			ug/L	*5.00*		*99.9*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.03			ug/L	*5.00*		*101*	*80-120*			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - Quality Control

Batch BHK0013 - EPA 3510C SepF

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0013-BLK1)	Prepared: 05-Nov-2019 Analyzed: 08-Nov-2019 16:54										
Phenol	ND	0.01	0.2	ug/L							U
bis(2-chloroethyl) ether	ND	0.03	0.2	ug/L							U
2-Chlorophenol	ND	0.03	0.2	ug/L							U
1,3-Dichlorobenzene	ND	0.03	0.2	ug/L							U
1,4-Dichlorobenzene	ND	0.03	0.2	ug/L							U
1,2-Dichlorobenzene	ND	0.03	0.2	ug/L							U
Benzyl Alcohol	ND	0.02	0.2	ug/L							U
2,2'-Oxybis(1-chloropropane)	ND	0.03	0.2	ug/L							U
2-Methylphenol	ND	0.03	0.2	ug/L							U
Hexachloroethane	ND	0.04	0.2	ug/L							U
N-Nitroso-di-n-Propylamine	ND	0.04	0.2	ug/L							U
4-Methylphenol	ND	0.03	0.2	ug/L							U
Nitrobenzene	ND	0.03	0.2	ug/L							U
Isophorone	ND	0.03	0.2	ug/L							U
2-Nitrophenol	ND	0.04	1.0	ug/L							U
2,4-Dimethylphenol	ND	0.3	1.0	ug/L							U
Bis(2-Chloroethoxy)methane	ND	0.03	0.2	ug/L							U
2,4-Dichlorophenol	ND	0.1	1.0	ug/L							U
1,2,4-Trichlorobenzene	ND	0.03	0.2	ug/L							U
Benzoic acid	ND	0.1	2.0	ug/L							U
4-Chloroaniline	ND	0.04	1.0	ug/L							U
Hexachlorobutadiene	ND	0.04	0.2	ug/L							U
4-Chloro-3-Methylphenol	ND	0.1	1.0	ug/L							U
Hexachlorocyclopentadiene	ND	0.1	1.0	ug/L							U
2,4,6-Trichlorophenol	ND	0.2	1.0	ug/L							U
2,4,5-Trichlorophenol	ND	0.1	1.0	ug/L							U
2-Chloronaphthalene	ND	0.03	0.2	ug/L							U
2-Nitroaniline	ND	0.2	1.0	ug/L							U
Dimethylphthalate	ND	0.04	0.2	ug/L							U
2,6-Dinitrotoluene	ND	0.2	1.0	ug/L							U
3-Nitroaniline	ND	0.2	1.0	ug/L							U
2,4-Dinitrophenol	ND	0.2	2.0	ug/L							U
4-Nitrophenol	ND	0.06	1.0	ug/L							U
2,4-Dinitrotoluene	ND	0.1	1.0	ug/L							U
4-Chlorophenylphenyl ether	ND	0.02	0.2	ug/L							U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - Quality Control

Batch BHK0013 - EPA 3510C SepF

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0013-BLK1)				Prepared: 05-Nov-2019 Analyzed: 08-Nov-2019 16:54							
Diethyl phthalate	ND	0.06	0.2	ug/L							U
4-Nitroaniline	ND	0.2	1.0	ug/L							U
4,6-Dinitro-2-methylphenol	ND	0.4	2.0	ug/L							U
N-Nitrosodiphenylamine	ND	0.03	0.2	ug/L							U
4-Bromophenyl phenyl ether	ND	0.02	0.2	ug/L							U
Hexachlorobenzene	ND	0.04	0.2	ug/L							U
Pentachlorophenol	ND	0.1	1.0	ug/L							U
Carbazole	ND	0.04	0.2	ug/L							U
Di-n-Butylphthalate	ND	0.05	0.2	ug/L							U
Butylbenzylphthalate	ND	0.07	0.2	ug/L							U
3,3'-Dichlorobenzidine	ND	0.3	1.0	ug/L							U
bis(2-Ethylhexyl)phthalate	ND	0.2	0.2	ug/L							U
Di-n-Octylphthalate	ND	0.05	0.2	ug/L							U
Surrogate: 2-Fluorophenol	3.69			ug/L	*7.50*		*49.2*	*30-160*			
Surrogate: Phenol-d5	2.55			ug/L	*7.50*		*34.0*	*30-160*			
Surrogate: 2-Chlorophenol-d4	6.28			ug/L	*7.50*		*83.7*	*30-160*			
Surrogate: 1,2-Dichlorobenzene-d4	3.93			ug/L	*5.00*		*78.5*	*30-160*			
Surrogate: Nitrobenzene-d5	4.99			ug/L	*5.00*		*99.8*	*30-160*			
Surrogate: 2-Fluorobiphenyl	4.45			ug/L	*5.00*		*89.1*	*30-160*			
Surrogate: 2,4,6-Tribromophenol	6.23			ug/L	*7.50*		*83.1*	*30-160*			
Surrogate: p-Terphenyl-d14	5.23			ug/L	*5.00*		*105*	*30-160*			
LCS (BHK0013-BS1)				Prepared: 05-Nov-2019 Analyzed: 08-Nov-2019 17:30							
Phenol	1.8	0.01	0.2	ug/L	5.00		35.9	30-160			
bis(2-chloroethyl) ether	4.2	0.03	0.2	ug/L	5.00		83.1	30-160			
2-Chlorophenol	4.0	0.03	0.2	ug/L	5.00		79.9	30-160			
1,3-Dichlorobenzene	3.3	0.03	0.2	ug/L	5.00		65.5	30-160			
1,4-Dichlorobenzene	3.2	0.03	0.2	ug/L	5.00		64.4	30-160			
1,2-Dichlorobenzene	3.5	0.03	0.2	ug/L	5.00		69.5	30-160			
Benzyl Alcohol	3.0	0.02	0.2	ug/L	5.00		59.3	30-160			
2,2'-Oxybis(1-chloropropane)	3.9	0.03	0.2	ug/L	5.00		77.6	30-160			
2-Methylphenol	3.7	0.03	0.2	ug/L	5.00		73.9	30-160			
Hexachloroethane	3.7	0.04	0.2	ug/L	5.00		73.5	30-160			
N-Nitroso-di-n-Propylamine	4.4	0.04	0.2	ug/L	5.00		88.8	30-160			
4-Methylphenol	3.3	0.03	0.2	ug/L	5.00		65.7	30-160			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - Quality Control

Batch BHK0013 - EPA 3510C SepF

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHK0013-BS1)					Prepared: 05-Nov-2019 Analyzed: 08-Nov-2019 17:30						
Nitrobenzene	4.3	0.03	0.2	ug/L	5.00		85.9	30-160			
Isophorone	4.3	0.03	0.2	ug/L	5.00		85.9	30-160			
2-Nitrophenol	3.8	0.04	1.0	ug/L	5.00		75.9	30-160			
2,4-Dimethylphenol	11.0	0.3	1.0	ug/L	15.0		73.1	30-160			
Bis(2-Chloroethoxy)methane	3.4	0.03	0.2	ug/L	5.00		68.9	30-160			
2,4-Dichlorophenol	11.4	0.1	1.0	ug/L	15.0		76.0	30-160			
1,2,4-Trichlorobenzene	3.0	0.03	0.2	ug/L	5.00		59.7	30-160			
Benzoic acid	7.5	0.1	2.0	ug/L	27.5		27.2	30-160			*
4-Chloroaniline	2.7	0.04	1.0	ug/L	15.0		18.2	30-160			*
Hexachlorobutadiene	3.1	0.04	0.2	ug/L	5.00		61.1	30-160			
4-Chloro-3-Methylphenol	13.6	0.1	1.0	ug/L	15.0		90.9	30-160			
Hexachlorocyclopentadiene	9.4	0.1	1.0	ug/L	15.0		63.0	30-160			
2,4,6-Trichlorophenol	13.2	0.2	1.0	ug/L	15.0		88.0	30-160			
2,4,5-Trichlorophenol	12.9	0.1	1.0	ug/L	15.0		86.3	30-160			
2-Chloronaphthalene	4.1	0.03	0.2	ug/L	5.00		82.6	30-160			
2-Nitroaniline	19.3	0.2	1.0	ug/L	15.0		129	30-160			Q
Dimethylphthalate	4.6	0.04	0.2	ug/L	5.00		91.4	30-160			
2,6-Dinitrotoluene	14.9	0.2	1.0	ug/L	15.0		99.2	30-160			
3-Nitroaniline	12.4	0.2	1.0	ug/L	15.0		82.5	30-160			
2,4-Dinitrophenol	20.3	0.2	2.0	ug/L	27.5		73.8	30-160			
4-Nitrophenol	8.8	0.06	1.0	ug/L	15.0		58.5	30-160			Q
2,4-Dinitrotoluene	15.2	0.1	1.0	ug/L	15.0		101	30-160			
4-Chlorophenylphenyl ether	4.1	0.02	0.2	ug/L	5.00		82.8	30-160			
Diethyl phthalate	5.0	0.06	0.2	ug/L	5.00		99.9	30-160			
4-Nitroaniline	12.6	0.2	1.0	ug/L	15.0		83.8	30-160			
4,6-Dinitro-2-methylphenol	23.8	0.4	2.0	ug/L	27.5		86.4	30-160			
N-Nitrosodiphenylamine	5.9	0.03	0.2	ug/L	5.00		118	30-160			
4-Bromophenyl phenyl ether	4.4	0.02	0.2	ug/L	5.00		88.2	30-160			
Hexachlorobenzene	4.2	0.04	0.2	ug/L	5.00		83.7	30-160			
Pentachlorophenol	9.7	0.1	1.0	ug/L	15.0		64.8	30-160			
Carbazole	4.7	0.04	0.2	ug/L	5.00		93.1	30-160			
Di-n-Butylphthalate	5.3	0.05	0.2	ug/L	5.00		107	30-160			
Butylbenzylphthalate	5.7	0.07	0.2	ug/L	5.00		115	30-160			
3,3'-Dichlorobenzidine	14.9	0.3	1.0	ug/L	15.0		99.2	30-160			
bis(2-Ethylhexyl)phthalate	5.5	0.2	0.2	ug/L	5.00		110	30-160			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - Quality Control

Batch BHK0013 - EPA 3510C SepF

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHK0013-BS1)				Prepared: 05-Nov-2019 Analyzed: 08-Nov-2019 17:30							
Di-n-Octylphthalate	4.2	0.05	0.2	ug/L	5.00		84.4	30-160			
Surrogate: 2-Fluorophenol	4.13			ug/L	*7.50*		*55.0*	*30-160*			
Surrogate: Phenol-d5	2.81			ug/L	*7.50*		*37.5*	*30-160*			
Surrogate: 2-Chlorophenol-d4	6.59			ug/L	*7.50*		*87.9*	*30-160*			
Surrogate: 1,2-Dichlorobenzene-d4	3.87			ug/L	*5.00*		*77.4*	*30-160*			
Surrogate: Nitrobenzene-d5	4.82			ug/L	*5.00*		*96.4*	*30-160*			
Surrogate: 2-Fluorobiphenyl	4.50			ug/L	*5.00*		*89.9*	*30-160*			
Surrogate: 2,4,6-Tribromophenol	6.40			ug/L	*7.50*		*85.4*	*30-160*			
Surrogate: p-Terphenyl-d14	5.88			ug/L	*5.00*		*118*	*30-160*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHK0014 - EPA 3520C (Liq Liq)

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0014-BLK1)				Prepared: 04-Nov-2019 Analyzed: 08-Nov-2019 12:50							
1,4-Dioxane	0.06	0.04	0.2	ug/L							J
Surrogate: 1,4-Dioxane-d8	7.26			ug/L	*10.0*		*72.6*	*33.6-120*			
LCS (BHK0014-BS1)				Prepared: 04-Nov-2019 Analyzed: 08-Nov-2019 13:16							
1,4-Dioxane	7.8	0.04	0.2	ug/L	10.0		77.7	39.9-120			
Surrogate: 1,4-Dioxane-d8	7.11			ug/L	*10.0*		*71.1*	*33.6-120*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHK0015 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0015-BLK1)				Prepared: 05-Nov-2019 Analyzed: 09-Nov-2019 09:23							
Naphthalene	0.004	0.001	0.010	ug/L							J
2-Methylnaphthalene	ND	0.001	0.010	ug/L							U
1-Methylnaphthalene	0.001	0.0009	0.010	ug/L							J
2-Chloronaphthalene	ND	0.001	0.010	ug/L							U
Acenaphthylene	ND	0.002	0.010	ug/L							U
Acenaphthene	ND	0.003	0.010	ug/L							U
Dibenzofuran	ND	0.002	0.010	ug/L							U
Fluorene	ND	0.002	0.010	ug/L							U
Phenanthrene	ND	0.001	0.010	ug/L							U
Anthracene	ND	0.001	0.010	ug/L							U
Carbazole	ND	0.001	0.010	ug/L							U
Fluoranthene	ND	0.002	0.010	ug/L							U
Pyrene	ND	0.001	0.010	ug/L							U
Benzo(a)anthracene	ND	0.0008	0.010	ug/L							U
Chrysene	ND	0.0009	0.010	ug/L							U
Benzo(b)fluoranthene	ND	0.0005	0.010	ug/L							U
Benzo(k)fluoranthene	ND	0.003	0.010	ug/L							U
Benzo(j)fluoranthene	ND	0.002	0.010	ug/L							U
Benzofluoranthenes, Total	ND	0.004	0.010	ug/L							U
Benzo(a)pyrene	ND	0.002	0.010	ug/L							U
Perylene	ND	0.006	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.001	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.001	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.001	0.010	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	0.205			ug/L	*0.300*		*68.2*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.209			ug/L	*0.300*		*69.6*	*29-120*			
Surrogate: Fluoranthene-d10	0.230			ug/L	*0.300*		*76.7*	*57-120*			
LCS (BHK0015-BS1)				Prepared: 05-Nov-2019 Analyzed: 09-Nov-2019 09:52							
Naphthalene	0.220	0.001	0.010	ug/L	0.300		73.4	37-120			
2-Methylnaphthalene	0.218	0.001	0.010	ug/L	0.300		72.8	37-120			
1-Methylnaphthalene	0.217	0.0009	0.010	ug/L	0.300		72.4	29-120			
2-Chloronaphthalene	0.216	0.001	0.010	ug/L	0.300		72.0	30-160			
Acenaphthylene	0.206	0.002	0.010	ug/L	0.300		68.8	41-120			
Acenaphthene	0.223	0.003	0.010	ug/L	0.300		74.5	41-120			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHK0015 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHK0015-BS1)					Prepared: 05-Nov-2019 Analyzed: 09-Nov-2019 09:52						
Dibenzofuran	0.227	0.002	0.010	ug/L	0.300		75.6	38-120			
Fluorene	0.223	0.002	0.010	ug/L	0.300		74.3	43-120			
Phenanthrene	0.250	0.001	0.010	ug/L	0.300		83.5	41-120			
Anthracene	0.205	0.001	0.010	ug/L	0.300		68.4	40-120			
Carbazole	0.236	0.001	0.010	ug/L	0.300		78.5	30-160			
Fluoranthene	0.246	0.002	0.010	ug/L	0.300		81.9	45-120			
Pyrene	0.236	0.001	0.010	ug/L	0.300		78.6	41-120			
Benzo(a)anthracene	0.223	0.0008	0.010	ug/L	0.300		74.4	42-120			
Chrysene	0.247	0.0009	0.010	ug/L	0.300		82.2	44-120			
Benzo(b)fluoranthene	0.238	0.0005	0.010	ug/L	0.300		79.2	44-120			
Benzo(k)fluoranthene	0.249	0.003	0.010	ug/L	0.300		83.0	50-120			
Benzo(j)fluoranthene	0.264	0.002	0.010	ug/L	0.300		88.1	39-160			
Benzofluoranthenes, Total	0.751	0.004	0.010	ug/L	0.900		83.4	46-120			
Benzo(a)pyrene	0.236	0.002	0.010	ug/L	0.300		78.5	35-120			
Perylene	0.237	0.006	0.010	ug/L	0.300		79.1	30-160			
Indeno(1,2,3-cd)pyrene	0.255	0.001	0.010	ug/L	0.300		85.0	37-120			
Dibenzo(a,h)anthracene	0.252	0.001	0.010	ug/L	0.300		84.0	34-120			
Benzo(g,h,i)perylene	0.260	0.001	0.010	ug/L	0.300		86.6	38-120			
Surrogate: 2-Methylnaphthalene-d10	0.230			ug/L	*0.300*		*76.8*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.260			ug/L	*0.300*		*86.6*	*29-120*			
Surrogate: Fluoranthene-d10	0.249			ug/L	*0.300*		*82.9*	*57-120*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Petroleum Hydrocarbons - Quality Control

Batch BHJ0953 - EPA 3510C SepF

Instrument: FID4 Analyst: CTO

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHJ0953-BLK1)				Prepared: 01-Nov-2019 Analyzed: 04-Nov-2019 16:04						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.189		mg/L	*0.225*		*84.1*	*50-150*			
LCS (BHJ0953-BS1)				Prepared: 01-Nov-2019 Analyzed: 04-Nov-2019 16:24						
Diesel Range Organics (C12-C24)	2.37	0.100	mg/L	3.00		79.1	56-120			
Surrogate: o-Terphenyl	0.198		mg/L	*0.225*		*88.1*	*50-150*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Aroclor PCB - Quality Control

Batch BHK0011 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0011-BLK1)				Prepared: 05-Nov-2019 Analyzed: 11-Nov-2019 15:54							
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
Surrogate: Decachlorobiphenyl	0.0113			ug/L	*0.0200*		*56.6*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.0123			ug/L	*0.0200*		*61.6*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0104			ug/L	*0.0200*		*52.0*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0108			ug/L	*0.0200*		*53.9*	*32-120*			
LCS (BHK0011-BS1)				Prepared: 05-Nov-2019 Analyzed: 11-Nov-2019 16:15							
Aroclor 1016	0.042	0.002	0.010	ug/L	0.0500		83.8	54-120			
Aroclor 1260	0.040	0.003	0.010	ug/L	0.0500		80.3	51-128			
Surrogate: Decachlorobiphenyl	0.0120			ug/L	*0.0200*		*59.9*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.0126			ug/L	*0.0200*		*63.1*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0112			ug/L	*0.0200*		*56.0*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0108			ug/L	*0.0200*		*53.9*	*32-120*			

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Metals and Metallic Compounds - Quality Control

Batch BHK0033 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0033-BLK1)					Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 14:07						
Mercury	ND	0.000010	0.000020	mg/L							U
LCS (BHK0033-BS1)					Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 14:49						
Mercury	0.000246	0.000010	0.000020	mg/L	0.000200		123	80-120			*
Duplicate (BHK0033-DUP1)		**Source: 19J0475-01**			Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 14:16						
Mercury	ND	0.000010	0.000020	mg/L		ND					U
Matrix Spike (BHK0033-MS1)		**Source: 19J0475-01**			Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 14:19						
Mercury	0.000109	0.000010	0.000020	mg/L	0.000100	ND	109	75-125			

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

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Metals and Metallic Compounds - Quality Control

Batch BHK0116 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0116-BLK3)					Prepared: 06-Nov-2019 Analyzed: 12-Nov-2019 16:17							
Iron	54	ND	6.27	20.0	ug/L							U
LCS (BHK0116-BS3)					Prepared: 06-Nov-2019 Analyzed: 12-Nov-2019 16:20							
Iron	54	5300	6.27	20.0	ug/L	5000		106	80-120			
Duplicate (BHK0116-DUP2)			**Source: 19J0475-09**		Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 18:58							
Chromium	52	0.349	0.130	0.500	ug/L		0.275			23.70	20	L, J
Lead	208	0.0780	0.0680	0.100	ug/L		ND					J
Duplicate (BHK0116-DUP3)			**Source: 19J0475-09RE1**		Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 20:12							
Manganese	55	1030	0.425	2.50	ug/L		1000			2.43	20	D
Duplicate (BHK0116-DUP5)			**Source: 19J0475-09**		Prepared: 06-Nov-2019 Analyzed: 12-Nov-2019 17:47							
Iron	54	17600	62.7	200	ug/L		17600			0.33	20	D
Matrix Spike (BHK0116-MS2)			**Source: 19J0475-09**		Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 19:04							
Chromium	52	25.7	0.130	0.500	ug/L	25.0	0.275	102	75-125			
Lead	208	25.1	0.0680	0.100	ug/L	25.0	ND	100	75-125			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												
Matrix Spike (BHK0116-MS3)			**Source: 19J0475-09RE1**		Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 20:16							
Manganese	55	1080	0.425	2.50	ug/L	25.0	1000	326	75-125			HC, D
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												
Matrix Spike (BHK0116-MS5)			**Source: 19J0475-09**		Prepared: 06-Nov-2019 Analyzed: 12-Nov-2019 17:53							
Iron	54	23700	62.7	200	ug/L	5000	17600	122	75-125			D
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0116-BLK1)					Prepared: 06-Nov-2019 Analyzed: 06-Nov-2019 18:09							
Chromium	52	ND	0.130	0.500	ug/L							U
Lead	208	ND	0.0680	0.100	ug/L							U
Manganese	55	ND	0.0850	0.500	ug/L							U

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Metals and Metallic Compounds - Quality Control

Batch BHK0116 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0116-BLK1)						Prepared: 06-Nov-2019 Analyzed: 06-Nov-2019 18:09						
Arsenic	75a	ND	0.0220	0.200	ug/L							U
Cadmium	111	ND	0.0300	0.100	ug/L							U
Copper	63	ND	0.340	0.500	ug/L							U
Nickel	60	ND	0.0500	0.500	ug/L							U
Zinc	66	3.17	0.820	4.00	ug/L							J
Zinc	67	2.41	0.940	4.00	ug/L							J
LCS (BHK0116-BS1)						Prepared: 06-Nov-2019 Analyzed: 06-Nov-2019 18:14						
Chromium	52	24.0	0.130	0.500	ug/L	25.0		96.0	80-120			
Lead	208	23.8	0.0680	0.100	ug/L	25.0		95.2	80-120			
Manganese	55	25.1	0.0850	0.500	ug/L	25.0		100	80-120			
Arsenic	75a	24.7	0.0220	0.200	ug/L	25.0		99.0	80-120			
Cadmium	111	25.7	0.0300	0.100	ug/L	25.0		103	80-120			
Copper	63	24.9	0.340	0.500	ug/L	25.0		99.7	80-120			
Nickel	60	26.0	0.0500	0.500	ug/L	25.0		104	80-120			
Zinc	66	84.6	0.820	4.00	ug/L	80.0		106	80-120			
Zinc	67	79.8	0.940	4.00	ug/L	80.0		99.8	80-120			
Duplicate (BHK0116-DUP1)			**Source: 19J0475-09**			Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 04:46						
Arsenic	75a	1.70	0.0220	0.200	ug/L		1.81			6.31	20	
Cadmium	111	ND	0.0300	0.100	ug/L		ND					U
Copper	63	ND	0.340	0.500	ug/L		ND					U
Nickel	60	2.57	0.0500	0.500	ug/L		2.53			1.53	20	
Zinc	66	4.57	0.820	4.00	ug/L		4.18			8.84	20	
Matrix Spike (BHK0116-MS1)			**Source: 19J0475-09**			Prepared: 06-Nov-2019 Analyzed: 07-Nov-2019 04:51						
Arsenic	75a	26.4	0.0220	0.200	ug/L	25.0	1.81	98.4	75-125			
Cadmium	111	23.5	0.0300	0.100	ug/L	25.0	ND	93.8	75-125			
Copper	63	25.1	0.340	0.500	ug/L	25.0	ND	100	75-125			
Nickel	60	29.0	0.0500	0.500	ug/L	25.0	2.53	106	75-125			
Zinc	66	76.8	0.820	4.00	ug/L	80.0	4.18	90.8	75-125			

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

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHK0035 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0035-BLK1)					Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 15:22						
Mercury, Dissolved	ND	0.000010	0.000020	mg/L							U
LCS (BHK0035-BS1)					Prepared: 04-Nov-2019 Analyzed: 06-Nov-2019 15:25						
Mercury, Dissolved	0.000215	0.000010	0.000020	mg/L	0.000200		108	80-120			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHK0157 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0157-BLK3)					Prepared: 07-Nov-2019 Analyzed: 12-Nov-2019 16:11							
Iron, Dissolved	54	ND	6.27	20.0	ug/L							U
LCS (BHK0157-BS3)					Prepared: 07-Nov-2019 Analyzed: 12-Nov-2019 16:14							
Iron, Dissolved	54	5290	6.27	20.0	ug/L	5000		106	80-120			

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHK0157-BLK1)					Prepared: 07-Nov-2019 Analyzed: 07-Nov-2019 17:42							
Chromium, Dissolved	52	ND	0.130	0.500	ug/L							U
Lead, Dissolved	208	ND	0.0680	0.100	ug/L							U
Manganese, Dissolved	55	ND	0.0850	0.500	ug/L							U
Arsenic, Dissolved	75a	ND	0.0220	0.200	ug/L							U
Cadmium, Dissolved	111	ND	0.0300	0.100	ug/L							U
Copper, Dissolved	63	ND	0.340	0.500	ug/L							U
Nickel, Dissolved	60	ND	0.0500	0.500	ug/L							U
Nickel, Dissolved	62	ND	0.220	0.500	ug/L							U
Zinc, Dissolved	66	2.08	0.820	4.00	ug/L							J
LCS (BHK0157-BS1)					Prepared: 07-Nov-2019 Analyzed: 07-Nov-2019 17:47							
Chromium, Dissolved	52	23.9	0.130	0.500	ug/L	25.0		95.6	80-120			
Lead, Dissolved	208	24.8	0.0680	0.100	ug/L	25.0		99.2	80-120			
Manganese, Dissolved	55	24.9	0.0850	0.500	ug/L	25.0		99.4	80-120			
Arsenic, Dissolved	75a	24.4	0.0220	0.200	ug/L	25.0		97.7	80-120			
Cadmium, Dissolved	111	24.5	0.0300	0.100	ug/L	25.0		97.9	80-120			
Copper, Dissolved	63	25.5	0.340	0.500	ug/L	25.0		102	80-120			
Nickel, Dissolved	60	25.3	0.0500	0.500	ug/L	25.0		101	80-120			
Nickel, Dissolved	62	26.2	0.220	0.500	ug/L	25.0		105	80-120			
Zinc, Dissolved	66	84.2	0.820	4.00	ug/L	80.0		105	80-120			

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Water	
Chromium-52	NELAP,WADOE,DoD-ELAP,ADEC
Chromium-53	NELAP,WADOE,DoD-ELAP,ADEC
Iron-54	NELAP,WADOE,DoD-ELAP
Iron-57	NELAP,WADOE,DoD-ELAP
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
Chromium-52	NELAP,WADOE,DoD-ELAP,ADEC
Chromium-53	NELAP,WADOE,DoD-ELAP,ADEC
Iron-54	NELAP,WADOE,DoD-ELAP
Iron-57	NELAP,WADOE,DoD-ELAP
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
EPA 6020A UCT-KED in Water	
Arsenic-75a	WADOE,WA-DW,DoD-ELAP,ADEC,NELAP
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Nickel-60	NELAP,WADOE,DoD-ELAP,ADEC
Nickel-62	NELAP,WADOE,DoD-ELAP,ADEC
Zinc-66	WADOE,WA-DW,DoD-ELAP
Zinc-67	WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Nickel-60	NELAP,WADOE,DoD-ELAP,ADEC
Nickel-62	NELAP,WADOE,DoD-ELAP,ADEC
Zinc-66	NELAP,WADOE,DoD-ELAP
Zinc-67	NELAP,WADOE,DoD-ELAP
EPA 7470A in Water	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

EPA 8082A in Water

Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8270D in Water

Phenol	NELAP,DoD-ELAP
bis(2-chloroethyl) ether	NELAP,DoD-ELAP
2-Chlorophenol	NELAP,DoD-ELAP
1,3-Dichlorobenzene	NELAP,DoD-ELAP
1,4-Dichlorobenzene	NELAP,DoD-ELAP
1,2-Dichlorobenzene	NELAP,DoD-ELAP
Benzyl Alcohol	NELAP,DoD-ELAP
2,2'-Oxybis(1-chloropropane)	NELAP,DoD-ELAP
2-Methylphenol	NELAP,DoD-ELAP
Hexachloroethane	NELAP,DoD-ELAP
N-Nitroso-di-n-Propylamine	NELAP,DoD-ELAP
4-Methylphenol	NELAP,DoD-ELAP
Nitrobenzene	NELAP,DoD-ELAP
Isophorone	NELAP,DoD-ELAP
2-Nitrophenol	NELAP,DoD-ELAP
2,4-Dimethylphenol	NELAP,DoD-ELAP
Bis(2-Chloroethoxy)methane	NELAP,DoD-ELAP
2,4-Dichlorophenol	NELAP,DoD-ELAP
1,2,4-Trichlorobenzene	NELAP,DoD-ELAP
Naphthalene	NELAP,DoD-ELAP
Benzoic acid	NELAP,DoD-ELAP
4-Chloroaniline	NELAP,DoD-ELAP

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Hexachlorobutadiene	NELAP,DoD-ELAP
4-Chloro-3-Methylphenol	NELAP,DoD-ELAP
2-Methylnaphthalene	NELAP,DoD-ELAP
Hexachlorocyclopentadiene	NELAP,DoD-ELAP
2,4,6-Trichlorophenol	NELAP,DoD-ELAP
2,4,5-Trichlorophenol	NELAP,DoD-ELAP
2-Chloronaphthalene	NELAP,DoD-ELAP
2-Nitroaniline	NELAP,DoD-ELAP
Acenaphthylene	NELAP,DoD-ELAP
Dimethylphthalate	NELAP,DoD-ELAP
2,6-Dinitrotoluene	NELAP,DoD-ELAP
Acenaphthene	NELAP,DoD-ELAP
3-Nitroaniline	NELAP,DoD-ELAP
2,4-Dinitrophenol	NELAP,DoD-ELAP
Dibenzofuran	NELAP,DoD-ELAP
4-Nitrophenol	NELAP,DoD-ELAP
2,4-Dinitrotoluene	NELAP,DoD-ELAP
Fluorene	NELAP,DoD-ELAP
4-Chlorophenylphenyl ether	NELAP,DoD-ELAP
Diethyl phthalate	NELAP,DoD-ELAP
4-Nitroaniline	NELAP,DoD-ELAP
4,6-Dinitro-2-methylphenol	NELAP,DoD-ELAP
N-Nitrosodiphenylamine	NELAP,DoD-ELAP
4-Bromophenyl phenyl ether	NELAP,DoD-ELAP
Hexachlorobenzene	NELAP,DoD-ELAP
Pentachlorophenol	NELAP,DoD-ELAP
Phenanthrene	NELAP,DoD-ELAP
Anthracene	NELAP,DoD-ELAP
Carbazole	NELAP,DoD-ELAP
Di-n-Butylphthalate	NELAP,DoD-ELAP
Fluoranthene	NELAP,DoD-ELAP
Pyrene	NELAP,DoD-ELAP
Butylbenzylphthalate	NELAP,DoD-ELAP
Benzo(a)anthracene	NELAP,DoD-ELAP
3,3'-Dichlorobenzidine	NELAP,DoD-ELAP
Chrysene	NELAP,DoD-ELAP
bis(2-Ethylhexyl)phthalate	NELAP,DoD-ELAP
Di-n-Octylphthalate	NELAP,DoD-ELAP
Benzo(b)fluoranthene	NELAP,DoD-ELAP
Benzo(k)fluoranthene	NELAP,DoD-ELAP

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Benzofluoranthenes, Total	NELAP
Benzo(a)pyrene	NELAP,DoD-ELAP
Indeno(1,2,3-cd)pyrene	NELAP,DoD-ELAP
Dibenzo(a,h)anthracene	NELAP,DoD-ELAP
Benzo(g,h,i)perylene	NELAP,DoD-ELAP
N-Nitrosodimethylamine	NELAP,DoD-ELAP
1-Methylnaphthalene	NELAP,DoD-ELAP

EPA 8270D-SIM in Water

1,4-Dioxane	WADOE,NELAP,DoD-ELAP
Naphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Biphenyl	NELAP
Acenaphthylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP,CALAP
Fluorene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Phenanthrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Carbazole	NELAP
Fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(a)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Chrysene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(b)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(k)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(j)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene	NELAP
Benzo(a)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Perylene	ADEC,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzo(a,h)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(g,h,i)perylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Seattle Public Utilities	Project: South Park Landfill	
700-5th Ave, Ste 4900, Box 34018	Project Number: South Park Landfill	**Reported:**
Seattle WA, 98124-4018	Project Manager: Jeff Neuner	14-Nov-2019 16:02

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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
HC	The natural concentration of the spiked analyte is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
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 +/- RL instead of 20% RPD
NRS	This surrogate not reported due to chromatographic interference
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
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.