EVERETT
WASHINGTON

December 7, 2020

Sunny Becker, Site Manager
Washington State Department of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Everett Landfill – Predevelopment Groundwater Sampling Results

Dear Sunny:

HWA Geosciences, Inc. completed the one-time groundwater sampling for the Everett Landfill Site between July 21 and July 24, 2020, in advance of pile installation at the site.

The attached letter outlines the groundwater monitoring findings, results, and a description of quality control procedures used. Also included are related laboratory reports and the Sampling and Analysis Plan that was previously submitted to Ecology for this sampling event.

If you have any comments or questions on the attached, please don't hesitate to contact me. Alternatively, you can contact Megan King at Floyd & Snider, Inc.

Sincerely,

Randy Loveless, P.E.
Landfill Site Manager

Enclosure

Public Works

3200 Cedar Street
Everett, WA 98201

425.257.8800
425.257.8882 fax

everettpw@everettwa.gov
everettwa.gov/pw

HWA GeoSciences Inc.
DBE/MWBE

October 19, 2020
HWA Project No. 98165-660

City of Everett Public Works Department
3200 Cedar Street
Everett, WA 98201

Attention: Mark Sadler

Subject: **Ground Water Sampling Report**
One-time Additional Wells and Parameters, July 2020
Everett Landfill/Tire Fire Site
Everett, Washington

Dear Mark,

This letter presents the results of a one-time ground water monitoring event at the Everett Landfill/Tire Fire Site (Landfill), conducted from July 21 to July 24, 2020 and prior to structural pile installation at the site. Ground water sampling activities were performed as a one-time sampling event with additional wells and parameters, as requested by the Department of Ecology, per HWA's *Everett Landfill/Tire Fire Site Ground Water Sampling and Analysis Plan* (SAP), dated June 30, 2020 and attached in Appendix B.

GROUND WATER MONITORING

HWA collected ground water samples in July 2020 from the following sample locations:

- 3 deep point-of-compliance monitoring wells: MW-36, MW-38, and MW-39R;
- MW-37, a deep point-of-compliance monitoring well where sampling was discontinued from 2006 to 2015 due to influence of saline water from the river, and resumed in 2015 at the request of Ecology;
- 5 deep aquifer network (not compliance) monitoring wells, MW-11R, MW-21R (upgradient), MW-29R, MW-30, and MW-31;
- Shallow (not compliance) monitoring wells MW-24 and MW-25; and
- Leachate from a leachate collector wet well LS-21.

Figure 1 shows the ground water sampling locations.

ANALYSIS

Samples collected in July were submitted to ALS Environmental in Everett, Washington and the City of Everett Environmental Laboratory (EEL) for the following analyses:

- Semi-volatile organic compounds (SVOCs) using EPA method 8270D (submitted to ALS);
- Volatile organic compounds (VOCs) using EPA method 8260C (submitted to ALS);
- Dissolved metals, including: nickel, zinc, iron, manganese, arsenic using EPA method 200.8/6020B (submitted to EEL); and
- Conventional Analytes: chloride using method SM4500-CL-E (submitted to EEL).

RESULTS

Table 1 summarizes the ground water analytical results. Appendix A contains copies of the ALS and EEL laboratory reports. No VOCs or SVOCs were detected above laboratory reporting limits in any deep wells, or shallow well MW-24. The SVOCs acenaphthene and fluorene were detected in shallow well MW-25, at trace concentrations, two orders of magnitude below MTCA Method B groundwater cleanup levels. The VOC chlorobenzene was also detected in leachate just above the reporting limit, and two orders of magnitude below the MTCA Method B groundwater cleanup level.

Inorganic parameters in all deep wells were detected at similar concentration ranges to recent prior analyses. Inorganic parameters in the shallow wells were detected at similar concentration ranges to analyses prior to 2004. Historical groundwater data can be found in the most recent annual groundwater monitoring report.

QUALITY CONTROL REVIEW OF ANALYTICAL DATA

A ground water field duplicate was collected on July 22, 2020 from well MW-31. All analytes were within an approximately 6 percent relative percent difference (RPD) between the two samples, below RPD levels considered acceptable by Ecology's *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*. One trip blank was submitted for VOC analysis during the July 2020 sampling event, with no detected analytes. No field blanks were collected during the July 2020 sampling event, as all sampling equipment used was disposable and no other internal QA/QC issues were noted.

ALS used surrogate spikes in field samples, laboratory control samples, spike blank/spike blank duplicates (SB/SBD), method blanks, and RPD calculations between SB/SBDs to maintain quality control during analyses. No SVOCs or VOCs were detected in the laboratory method blanks above the laboratory reporting limits. Acetone spike recoveries in the laboratory control samples SB and SBD were outside of control limits with a high bias, although no acetone was detected in any field sample, therefore no corrective action was taken. ALS did not qualify or flag any other data.

The City of Everett Environmental Laboratory flagged several reported values as estimated concentrations (J flags) for dissolved arsenic, iron, and nickel, where the reported concentrations were less than the practical quantitation limits. The City lab did not qualify or flag any other data.

We appreciate the opportunity to provide our services. Please feel free to call if you have any questions or need more information.

Sincerely,

HWA GEOSCIENCES INC.

Austin York, LG
Environmental Geologist

Arnie Sugar, LG, LHG
Principal Hydrogeologist

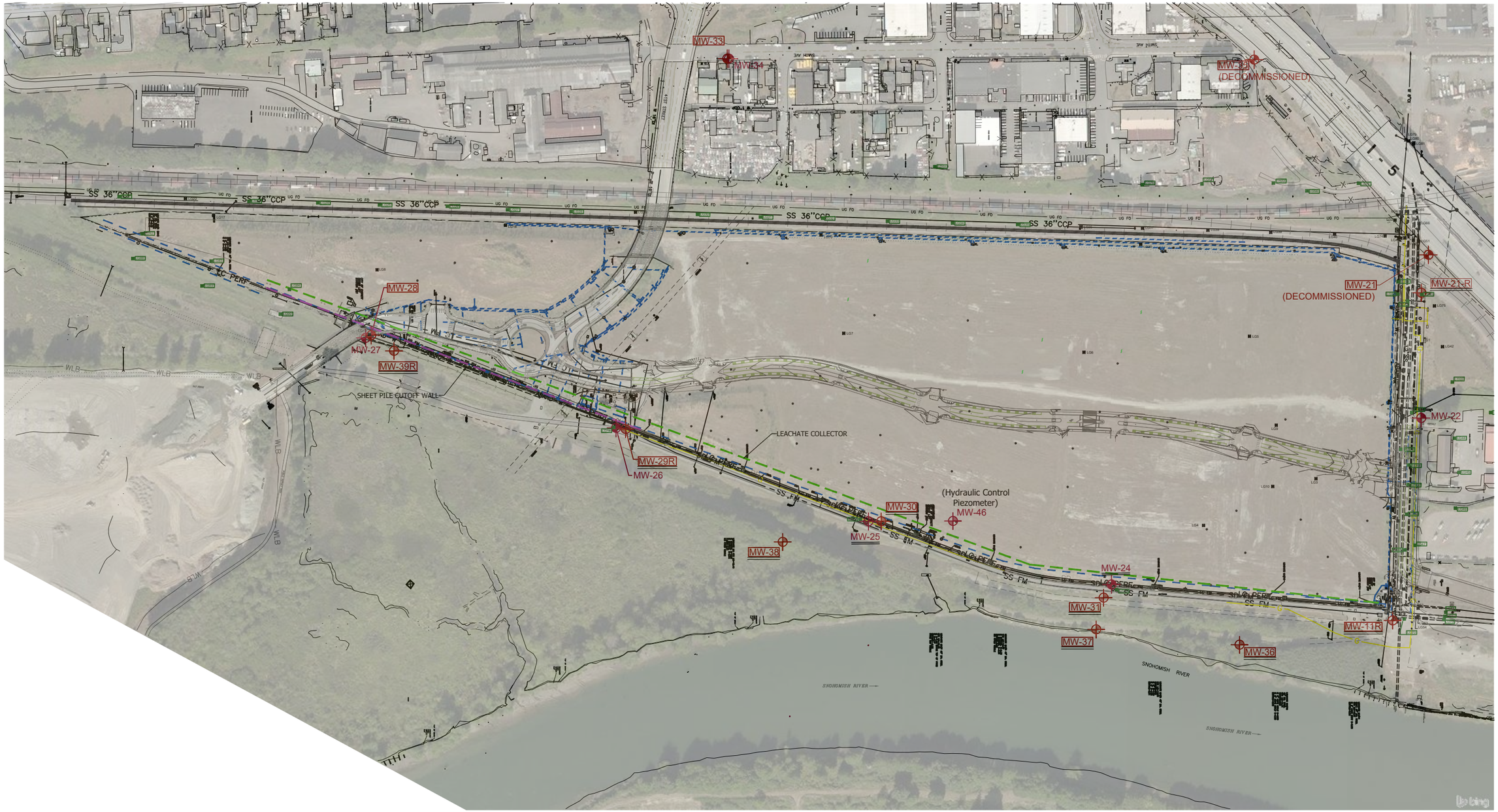
Attachments:
Table 1 - Ground Water Monitoring Analytical Results
Figure 1 - Everett Landfill Ground Water Monitoring Wells
Appendix A - Laboratory Reports and QA/QC Report
Appendix B - Everett Landfill/Tire Fire Site Ground Water SAP – July 2020

Table 1- Ground Water Analytical Results
One-time Additional Wells and Parameters, July 2020
Everett Landfill

Sample Location	Sample Date	Dissolved Metals					Chloride	VOCs	SVOCs	
		Arsenic	Iron	Manganese	Nickel	Zinc		Chloro-benzene	Acenaph-thene	Fluorene
		ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L
Cleanup Level*		25	23,687	4,040	10	77	230	160**	960**	640**
Shallow wells										
MW-24	7/22/2020	**6.2**	**49,000**	**2,090**	**2.3J**	<10	**4.4**	ND	ND	ND
MW-25	7/22/2020	**1.7J**	**54,200**	**1,940**	<1.0	**130**	**2.9**	ND	**7.1**	**3.2**
Deep point-of-compliance wells										
MW-36	7/23/2020	**7.1**	**4,350**	**378**	**2.0J**	<10	**35.7**	ND	ND	ND
MW-38	7/23/2020	<1.0	**160**	**257**	<1.0	<10	**11.8**	ND	ND	ND
MW-39R	7/22/2020	<1.0	<40	**130**	<1.0	<10	**6.3**	ND	ND	ND
Deep wells, other										
MW-37	7/23/2020	<1.0	**17,900**	**1,350**	<1.0	<10	**995**	ND	ND	ND
Deep network wells										
MW-11R	7/21/2020	<1.0	**5,200**	**428**	<1.0	<10	**7.7**	ND	ND	ND
MW-21R	7/21/2020	<1.0	<40	**319**	<1.0	<10	**11.2**	ND	ND	ND
MW-29R	7/22/2020	<1.0	**2,650**	**283**	<1.0	<10	**10.6**	ND	ND	ND
MW-30	7/22/2020	<1.0	**970**	**84.1**	<1.0	<10	**10.3**	ND	ND	ND
MW-31	7/22/2020	**1.7J**	**46,400**	**1,250**	**3.1J**	<10	**144**	ND	ND	ND
MW-31(D)	7/22/2020	**1.6J**	**45,200**	**1,240**	**3.1J**	<10	**143**	ND	ND	ND
Leachate										
LS-21	7/24/2020	**3.4J**	**13,600**	**1,220**	**1.8J**	<10	**26.6**	**2.2**	ND	ND
Trip Blank										
TB-1	7/23/2020							ND	ND	ND

Notes:

mg/kg – milligrams per kilogram
ug/kg – micrograms per kilogram
* Site specific cleanup level
** MTCA Method B cleanup level
< - Analyte not detected at listed reporting limit
Bold – Analyte detected at concentration greater than the laboratory reporting limit
Bold (yellow) - Analyte detected at concentration greater than the cleanup level
ND – No other method-listed VOCs or SVOCs detected above laboratory reporting limits (see Appendix for complete list)
J – Analyte concentration less than Practical Quantitation Limit (= 4x detection limit)
D – Duplicate sample collected



EXPLORATION LEGEND

- MW-12 — SHALLOW MONITORING WELLS
- MW-12 — DEEP MONITORING WELLS
- MW-12 — WELLS TO BE MONITORED

0 150 300 450 600

SCALE: 1" = 300'

BASE MAP PROVIDED BY: BING AND SURVEYOR

S:\2015 PROJECTS\2015-061-21 EVERETT RIVERFRONT SETTLEMENT CALCULATIONS\CAD 2015-061\TASK 600\HAZMAT\2015-061 EVERETT RIVERFRONT - HAZMAT 10.18.2019.DWG <1> Plotted: 12/1/2020 12:16 PM

GeoSciences Inc. DBE/MWBE

EVERETT LANDFILL
EVERETT, WASHINGTON

GROUNDWATER
MONITORING WELLS

DRAWN BY:	FIGURE NO.:
CF / BFM	1
CHECK BY:	PROJECT NO.:
AS	2015-061-21 TASK 600

APPENDIX A

LABORATORY REPORTS

July 29, 2020

Mr. Arnie Sugar
HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

Dear Mr. Sugar,

On July 23rd, 9 samples were received by our laboratory and assigned our laboratory project number EV20070088. The project was identified as your Everett Landfill (ELF). The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-01
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:55:00 PM
CLIENT SAMPLE ID	MW-11R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-01
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:55:00 PM
CLIENT SAMPLE ID	MW-11R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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ALS Environmental

CERTIFICATE OF ANALYSIS

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:55:00 PM
CLIENT SAMPLE ID	MW-11R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzidine	EPA-8270	U	50	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:55:00 PM
CLIENT SAMPLE ID	MW-11R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**107**	07/23/2020	DLC
Toluene-d8	EPA-8260	**100**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**106**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**64.5**	07/27/2020	JMK
Phenol-d5	EPA-8270	**26.6**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**61.6**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**59.0**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**69.5**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**100**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-02
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:05:00 PM
CLIENT SAMPLE ID	MW-21R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-02
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:05:00 PM
CLIENT SAMPLE ID	MW-21R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-02
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:05:00 PM
CLIENT SAMPLE ID	MW-21R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-02
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/21/2020 3:05:00 PM
CLIENT SAMPLE ID	MW-21R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**107**	07/23/2020	DLC
Toluene-d8	EPA-8260	**101**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**105**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**52.0**	07/27/2020	JMK
Phenol-d5	EPA-8270	**22.5**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**57.5**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**57.3**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**67.9**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**98.0**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 1:32:00 PM
CLIENT SAMPLE ID	MW-24	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 1:32:00 PM
CLIENT SAMPLE ID	MW-24	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 1:32:00 PM
CLIENT SAMPLE ID	MW-24	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 1:32:00 PM
CLIENT SAMPLE ID	MW-24	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**107**	07/23/2020	DLC
Toluene-d8	EPA-8260	**99.7**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**105**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**44.0**	07/27/2020	JMK
Phenol-d5	EPA-8270	**18.9**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**64.7**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**58.7**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**90.0**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**101**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:23:00 PM
CLIENT SAMPLE ID	MW-25	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:23:00 PM
CLIENT SAMPLE ID	MW-25	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	7/29/2020
		ALS JOB#:	EV20070088
		ALS SAMPLE#:	EV20070088-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:23:00 PM
CLIENT SAMPLE ID	MW-25	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	**7.1**	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	**3.2**	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:23:00 PM
CLIENT SAMPLE ID	MW-25	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**106**	07/23/2020	DLC
Toluene-d8	EPA-8260	**100**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**103**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**42.7**	07/27/2020	JMK
Phenol-d5	EPA-8270	**19.8**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**59.7**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**53.5**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**81.1**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**86.1**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:45:00 AM
CLIENT SAMPLE ID	MW-29R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:45:00 AM
CLIENT SAMPLE ID	MW-29R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:45:00 AM
CLIENT SAMPLE ID	MW-29R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:45:00 AM
CLIENT SAMPLE ID	MW-29R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**106**	07/23/2020	DLC
Toluene-d8	EPA-8260	**100**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**103**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**39.9**	07/27/2020	JMK
Phenol-d5	EPA-8270	**18.2**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**56.7**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**58.2**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**79.1**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**95.4**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-06
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 11:33:00 AM
CLIENT SAMPLE ID	MW-30	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-06
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 11:33:00 AM
CLIENT SAMPLE ID	MW-30	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-06
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 11:33:00 AM
CLIENT SAMPLE ID	MW-30	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-06
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 11:33:00 AM
CLIENT SAMPLE ID	MW-30	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**106**	07/23/2020	DLC
Toluene-d8	EPA-8260	**100**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**104**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**46.9**	07/27/2020	JMK
Phenol-d5	EPA-8270	**19.4**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**61.7**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**58.1**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**81.9**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**102**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-07
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-31	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-07
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-31	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	7/29/2020
		ALS JOB#:	EV20070088
		ALS SAMPLE#:	EV20070088-07
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-31	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-07
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-31	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**109**	07/23/2020	DLC
Toluene-d8	EPA-8260	**101**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**104**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**49.3**	07/27/2020	JMK
Phenol-d5	EPA-8270	**21.7**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**64.8**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**58.0**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**93.9**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**94.1**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-08
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:05:00 AM
CLIENT SAMPLE ID	MW-39R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-08
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:05:00 AM
CLIENT SAMPLE ID	MW-39R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:05:00 AM
CLIENT SAMPLE ID	MW-39R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020 10:05:00 AM
CLIENT SAMPLE ID	MW-39R	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**107**	07/23/2020	DLC
Toluene-d8	EPA-8260	**100**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**106**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**45.4**	07/27/2020	JMK
Phenol-d5	EPA-8270	**20.4**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**60.1**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**62.6**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**76.4**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**101**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-09
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020
CLIENT SAMPLE ID	DUP-0722	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	07/23/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC

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CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020
CLIENT SAMPLE ID	DUP-0722	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	07/23/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	07/23/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-09
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020
CLIENT SAMPLE ID	DUP-0722	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	7/29/2020 EV20070088 EV20070088-09
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/23/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/22/2020
CLIENT SAMPLE ID	DUP-0722	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**109**	07/23/2020	DLC
Toluene-d8	EPA-8260	**99.9**	07/23/2020	DLC
4-Bromofluorobenzene	EPA-8260	**105**	07/23/2020	DLC
2-Fluorophenol	EPA-8270	**43.2**	07/27/2020	JMK
Phenol-d5	EPA-8270	**18.7**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**57.2**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**52.0**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**86.1**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**89.0**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-072320W - Batch 155811 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	07/23/2020	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Carbon Disulfide	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Acetone	EPA-8260	U	UG/L	25	07/23/2020	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	07/23/2020	DLC
Acrylonitrile	EPA-8260	U	UG/L	10	07/23/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
2-Butanone	EPA-8260	U	UG/L	10	07/23/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Chloroform	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Benzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	UG/L	10	07/23/2020	DLC
Toluene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
2-Hexanone	EPA-8260	U	UG/L	10	07/23/2020	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	07/23/2020	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

LABORATORY BLANK RESULTS

MB-072320W - Batch 155811 - Water by EPA-8260

1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Ethylbenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
m,p-Xylene	EPA-8260	U	UG/L	4.0	07/23/2020	DLC
Styrene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
o-Xylene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Bromoform	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Isopropylbenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
N-Propyl Benzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
T-Butyl Benzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
S-Butyl Benzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
P-Isopropyltoluene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
N-Butylbenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	07/23/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
Naphthalene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	07/23/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-072720W - Batch 155845 - Water by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Phenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Aniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Chlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzyl Alcohol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	7/29/2020
		ALS SDG#:	EV20070088
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Arnie Sugar		
CLIENT PROJECT:	Everett Landfill (ELF)		

LABORATORY BLANK RESULTS

MB-072720W - Batch 155845 - Water by EPA-8270

1,2-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3&4-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachloroethane	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Nitrobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Isophorone	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Nitrophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzoic Acid	EPA-8270	U	UG/L	10	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Naphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chloroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorobutadiene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Methylnaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1-Methylnaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Chloronaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Nitroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Acenaphthylene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzidine	EPA-8270	U	UG/L	50	07/28/2020	JMK
Dimethylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Acenaphthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3-Nitroaniline	EPA-8270	U	UG/L	5.0	07/28/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	UG/L	10	07/28/2020	JMK
4-Nitrophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Dibenzofuran	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Diethylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Fluorene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Nitroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

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DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

LABORATORY BLANK RESULTS

MB-072720W - Batch 155845 - Water by EPA-8270

4,6-Dinitro-2-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Azobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Pentachlorophenol	EPA-8270	U	UG/L	5.0	07/28/2020	JMK
Phenanthrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Carbazole	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Butylbenzylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Chrysene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

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21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 155811 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**99.0**			50	150	07/23/2020	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**90.9**	**8**		50	150	07/23/2020	DLC
Chloromethane - BS	EPA-8260	**127**			50	150	07/23/2020	DLC
Chloromethane - BSD	EPA-8260	**119**	**6**		50	150	07/23/2020	DLC
Vinyl Chloride - BS	EPA-8260	**116**			50	150	07/23/2020	DLC
Vinyl Chloride - BSD	EPA-8260	**109**	**7**		50	150	07/23/2020	DLC
Bromomethane - BS	EPA-8260	**97.9**			50	150	07/23/2020	DLC
Bromomethane - BSD	EPA-8260	**92.2**	**6**		50	150	07/23/2020	DLC
Chloroethane - BS	EPA-8260	**118**			50	150	07/23/2020	DLC
Chloroethane - BSD	EPA-8260	**112**	**6**		50	150	07/23/2020	DLC
Carbon Tetrachloride - BS	EPA-8260	**96.1**			50	150	07/23/2020	DLC
Carbon Tetrachloride - BSD	EPA-8260	**90.5**	**6**		50	150	07/23/2020	DLC
Trichlorofluoromethane - BS	EPA-8260	**107**			50	150	07/23/2020	DLC
Trichlorofluoromethane - BSD	EPA-8260	**99.5**	**7**		50	150	07/23/2020	DLC
Carbon Disulfide - BS	EPA-8260	**114**			50	150	07/23/2020	DLC
Carbon Disulfide - BSD	EPA-8260	**108**	**6**		50	150	07/23/2020	DLC
Acetone - BS	EPA-8260	**155**		SQ1	50	150	07/23/2020	DLC
Acetone - BSD	EPA-8260	**162**	**4**	SQ1	50	150	07/23/2020	DLC
1,1-Dichloroethene - BS	EPA-8260	**116**			72.5	136	07/23/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	**109**	**6**		72.5	136	07/23/2020	DLC
Methylene Chloride - BS	EPA-8260	**97.8**			50	150	07/23/2020	DLC
Methylene Chloride - BSD	EPA-8260	**95.9**	**2**		50	150	07/23/2020	DLC
Acrylonitrile - BS	EPA-8260	**101**			50	150	07/23/2020	DLC
Acrylonitrile - BSD	EPA-8260	**95.5**	**6**		50	150	07/23/2020	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**95.4**			50	150	07/23/2020	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**94.1**	**1**		50	150	07/23/2020	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**114**			50	150	07/23/2020	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**109**	**5**		50	150	07/23/2020	DLC
1,1-Dichloroethane - BS	EPA-8260	**119**			50	150	07/23/2020	DLC
1,1-Dichloroethane - BSD	EPA-8260	**114**	**4**		50	150	07/23/2020	DLC
2-Butanone - BS	EPA-8260	**130**			50	150	07/23/2020	DLC
2-Butanone - BSD	EPA-8260	**131**	**1**		50	150	07/23/2020	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**113**			50	150	07/23/2020	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**109**	**3**		50	150	07/23/2020	DLC
2,2-Dichloropropane - BS	EPA-8260	**126**			50	150	07/23/2020	DLC
2,2-Dichloropropane - BSD	EPA-8260	**117**	**8**		50	150	07/23/2020	DLC
Bromochloromethane - BS	EPA-8260	**99.1**			50	150	07/23/2020	DLC
Bromochloromethane - BSD	EPA-8260	**96.5**	**3**		50	150	07/23/2020	DLC
Chloroform - BS	EPA-8260	**113**			50	150	07/23/2020	DLC

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WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chloroform - BSD	EPA-8260	**108**	**4**		50	150	07/23/2020	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**100**			50	150	07/23/2020	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**94.2**	**6**		50	150	07/23/2020	DLC
1,1-Dichloropropene - BS	EPA-8260	**103**			50	150	07/23/2020	DLC
1,1-Dichloropropene - BSD	EPA-8260	**96.4**	**6**		50	150	07/23/2020	DLC
1,2-Dichloroethane - BS	EPA-8260	**109**			50	150	07/23/2020	DLC
1,2-Dichloroethane - BSD	EPA-8260	**106**	**3**		50	150	07/23/2020	DLC
Benzene - BS	EPA-8260	**114**			74.7	143	07/23/2020	DLC
Benzene - BSD	EPA-8260	**108**	**5**		74.7	143	07/23/2020	DLC
Trichloroethene - BS	EPA-8260	**113**			74.4	141	07/23/2020	DLC
Trichloroethene - BSD	EPA-8260	**107**	**5**		74.4	141	07/23/2020	DLC
1,2-Dichloropropane - BS	EPA-8260	**110**			50	150	07/23/2020	DLC
1,2-Dichloropropane - BSD	EPA-8260	**106**	**4**		50	150	07/23/2020	DLC
Dibromomethane - BS	EPA-8260	**93.5**			50	150	07/23/2020	DLC
Dibromomethane - BSD	EPA-8260	**91.1**	**3**		50	150	07/23/2020	DLC
Bromodichloromethane - BS	EPA-8260	**94.1**			50	150	07/23/2020	DLC
Bromodichloromethane - BSD	EPA-8260	**90.8**	**4**		50	150	07/23/2020	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**91.3**			50	150	07/23/2020	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**88.6**	**3**		50	150	07/23/2020	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**92.1**			50	150	07/23/2020	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**89.6**	**3**		50	150	07/23/2020	DLC
Toluene - BS	EPA-8260	**114**			71.7	139	07/23/2020	DLC
Toluene - BSD	EPA-8260	**108**	**5**		71.7	139	07/23/2020	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**94.5**			50	150	07/23/2020	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**91.2**	**3**		50	150	07/23/2020	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**91.9**			50	150	07/23/2020	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**89.5**	**3**		50	150	07/23/2020	DLC
2-Hexanone - BS	EPA-8260	**98.7**			50	150	07/23/2020	DLC
2-Hexanone - BSD	EPA-8260	**98.7**	**0**		50	150	07/23/2020	DLC
1,3-Dichloropropane - BS	EPA-8260	**107**			50	150	07/23/2020	DLC
1,3-Dichloropropane - BSD	EPA-8260	**104**	**2**		50	150	07/23/2020	DLC
Tetrachloroethylene - BS	EPA-8260	**91.5**			50	150	07/23/2020	DLC
Tetrachloroethylene - BSD	EPA-8260	**94.5**	**3**		50	150	07/23/2020	DLC
Dibromochloromethane - BS	EPA-8260	**93.8**			50	150	07/23/2020	DLC
Dibromochloromethane - BSD	EPA-8260	**91.4**	**3**		50	150	07/23/2020	DLC
1,2-Dibromoethane - BS	EPA-8260	**102**			50	150	07/23/2020	DLC
1,2-Dibromoethane - BSD	EPA-8260	**99.5**	**2**		50	150	07/23/2020	DLC
Chlorobenzene - BS	EPA-8260	**107**			73	131	07/23/2020	DLC
Chlorobenzene - BSD	EPA-8260	**102**	**4**		73	131	07/23/2020	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**107**			50	150	07/23/2020	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**104**	**4**		50	150	07/23/2020	DLC
Ethylbenzene - BS	EPA-8260	**94.2**			50	150	07/23/2020	DLC
Ethylbenzene - BSD	EPA-8260	**89.1**	**6**		50	150	07/23/2020	DLC
m,p-Xylene - BS	EPA-8260	**108**			50	150	07/23/2020	DLC
m,p-Xylene - BSD	EPA-8260	**103**	**5**		50	150	07/23/2020	DLC
Styrene - BS	EPA-8260	**88.6**			50	150	07/23/2020	DLC
Styrene - BSD	EPA-8260	**85.0**	**4**		50	150	07/23/2020	DLC
o-Xylene - BS	EPA-8260	**108**			50	150	07/23/2020	DLC
o-Xylene - BSD	EPA-8260	**103**	**5**		50	150	07/23/2020	DLC
Bromoform - BS	EPA-8260	**92.6**			50	150	07/23/2020	DLC
Bromoform - BSD	EPA-8260	**90.0**	**3**		50	150	07/23/2020	DLC
Isopropylbenzene - BS	EPA-8260	**93.8**			50	150	07/23/2020	DLC
Isopropylbenzene - BSD	EPA-8260	**88.3**	**6**		50	150	07/23/2020	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**112**			50	150	07/23/2020	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**108**	**4**		50	150	07/23/2020	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**111**			50	150	07/23/2020	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	**108**	**3**		50	150	07/23/2020	DLC
Bromobenzene - BS	EPA-8260	**96.9**			50	150	07/23/2020	DLC
Bromobenzene - BSD	EPA-8260	**93.0**	**4**		50	150	07/23/2020	DLC
N-Propyl Benzene - BS	EPA-8260	**99.2**			50	150	07/23/2020	DLC
N-Propyl Benzene - BSD	EPA-8260	**93.3**	**6**		50	150	07/23/2020	DLC
2-Chlorotoluene - BS	EPA-8260	**99.4**			50	150	07/23/2020	DLC
2-Chlorotoluene - BSD	EPA-8260	**94.0**	**6**		50	150	07/23/2020	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**101**			50	150	07/23/2020	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**94.7**	**6**		50	150	07/23/2020	DLC
4-Chlorotoluene - BS	EPA-8260	**96.7**			50	150	07/23/2020	DLC
4-Chlorotoluene - BSD	EPA-8260	**92.2**	**5**		50	150	07/23/2020	DLC
T-Butyl Benzene - BS	EPA-8260	**105**			50	150	07/23/2020	DLC
T-Butyl Benzene - BSD	EPA-8260	**91.7**	**14**		50	150	07/23/2020	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**97.6**			50	150	07/23/2020	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**92.4**	**6**		50	150	07/23/2020	DLC
S-Butyl Benzene - BS	EPA-8260	**99.8**			50	150	07/23/2020	DLC
S-Butyl Benzene - BSD	EPA-8260	**93.1**	**7**		50	150	07/23/2020	DLC
P-Isopropyltoluene - BS	EPA-8260	**97.8**			50	150	07/23/2020	DLC
P-Isopropyltoluene - BSD	EPA-8260	**91.6**	**7**		50	150	07/23/2020	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**95.4**			50	150	07/23/2020	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**91.5**	**4**		50	150	07/23/2020	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**107**			50	150	07/23/2020	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**102**	**5**		50	150	07/23/2020	DLC
N-Butylbenzene - BS	EPA-8260	**110**			50	150	07/23/2020	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
N-Butylbenzene - BSD	EPA-8260	**103**	**7**		50	150	07/23/2020	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**94.6**			50	150	07/23/2020	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**90.8**	**4**		50	150	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**83.5**			50	150	07/23/2020	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**80.8**	**3**		50	150	07/23/2020	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**85.9**			50	150	07/23/2020	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**83.8**	**2**		50	150	07/23/2020	DLC
Hexachlorobutadiene - BS	EPA-8260	**99.1**			50	150	07/23/2020	DLC
Hexachlorobutadiene - BSD	EPA-8260	**91.9**	**8**		50	150	07/23/2020	DLC
Naphthalene - BS	EPA-8260	**75.2**			50	150	07/23/2020	DLC
Naphthalene - BSD	EPA-8260	**77.3**	**3**		50	150	07/23/2020	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**84.1**			50	150	07/23/2020	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**82.2**	**2**		50	150	07/23/2020	DLC

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.

ALS Test Batch ID: 155845 - Water by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**32.8**			20	150	07/28/2020	JMK
Pyridine - BSD	EPA-8270	**33.8**	**3**		20	150	07/28/2020	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**22.0**			20	150	07/28/2020	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**23.8**	**8**		20	150	07/28/2020	JMK
Phenol - BS	EPA-8270	**31.3**			5	84	07/28/2020	JMK
Phenol - BSD	EPA-8270	**32.9**	**5**		5	84	07/28/2020	JMK
Aniline - BS	EPA-8270	**41.5**			20	150	07/28/2020	JMK
Aniline - BSD	EPA-8270	**48.4**	**15**		20	150	07/28/2020	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**80.7**			20	150	07/28/2020	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**85.7**	**6**		20	150	07/28/2020	JMK
2-Chlorophenol - BS	EPA-8270	**68.4**			45	111	07/28/2020	JMK
2-Chlorophenol - BSD	EPA-8270	**73.8**	**8**		45	111	07/28/2020	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**48.6**			20	150	07/28/2020	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**57.4**	**17**		20	150	07/28/2020	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**62.0**			27.1	114	07/28/2020	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**63.3**	**2**		27.1	114	07/28/2020	JMK
Benzyl Alcohol - BS	EPA-8270	**54.5**			20	150	07/28/2020	JMK
Benzyl Alcohol - BSD	EPA-8270	**58.6**	**7**		20	150	07/28/2020	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**57.3**			20	150	07/28/2020	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**61.5**	**7**		20	150	07/28/2020	JMK
2-Methylphenol - BS	EPA-8270	**57.1**			20	150	07/28/2020	JMK
2-Methylphenol - BSD	EPA-8270	**60.4**	**6**		20	150	07/28/2020	JMK

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**49.7**			20	150	07/28/2020	JMK
Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**55.3**	**11**		20	150	07/28/2020	JMK
3&4-Methylphenol - BS	EPA-8270	**54.9**			20	150	07/28/2020	JMK
3&4-Methylphenol - BSD	EPA-8270	**57.7**	**5**		20	150	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**59.3**			42.2	119	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**64.6**	**9**		42.2	119	07/28/2020	JMK
Hexachloroethane - BS	EPA-8270	**48.3**			20	150	07/28/2020	JMK
Hexachloroethane - BSD	EPA-8270	**52.8**	**9**		20	150	07/28/2020	JMK
Nitrobenzene - BS	EPA-8270	**71.3**			20	150	07/28/2020	JMK
Nitrobenzene - BSD	EPA-8270	**78.5**	**10**		20	150	07/28/2020	JMK
Isophorone - BS	EPA-8270	**71.3**			20	150	07/28/2020	JMK
Isophorone - BSD	EPA-8270	**76.7**	**7**		20	150	07/28/2020	JMK
2-Nitrophenol - BS	EPA-8270	**75.5**			20	150	07/28/2020	JMK
2-Nitrophenol - BSD	EPA-8270	**79.2**	**5**		20	150	07/28/2020	JMK
2,4-Dimethylphenol - BS	EPA-8270	**60.3**			20	150	07/28/2020	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**57.5**	**5**		20	150	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**78.1**			20	150	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**86.0**	**10**		20	150	07/28/2020	JMK
2,4-Dichlorophenol - BS	EPA-8270	**83.5**			20	150	07/28/2020	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**90.8**	**8**		20	150	07/28/2020	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**64.1**			29.4	120	07/28/2020	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**68.7**	**7**		29.4	120	07/28/2020	JMK
Naphthalene - BS	EPA-8270	**65.9**			20	150	07/28/2020	JMK
Naphthalene - BSD	EPA-8270	**71.4**	**8**		20	150	07/28/2020	JMK
4-Chloroaniline - BS	EPA-8270	**76.9**			20	150	07/28/2020	JMK
4-Chloroaniline - BSD	EPA-8270	**85.3**	**10**		20	150	07/28/2020	JMK
Hexachlorobutadiene - BS	EPA-8270	**58.7**			20	150	07/28/2020	JMK
Hexachlorobutadiene - BSD	EPA-8270	**63.6**	**8**		20	150	07/28/2020	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**73.7**			44	113	07/28/2020	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**78.5**	**6**		44	113	07/28/2020	JMK
2-Methylnaphthalene - BS	EPA-8270	**69.8**			20	150	07/28/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270	**76.8**	**10**		20	150	07/28/2020	JMK
1-Methylnaphthalene - BS	EPA-8270	**68.9**			20	150	07/28/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270	**74.7**	**8**		20	150	07/28/2020	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**44.7**			20	150	07/28/2020	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**47.3**	**6**		20	150	07/28/2020	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**74.0**			20	150	07/28/2020	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**81.9**	**10**		20	150	07/28/2020	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**75.9**			20	150	07/28/2020	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**84.0**	**10**		20	150	07/28/2020	JMK

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
2-Chloronaphthalene - BS	EPA-8270	**75.7**			20	150	07/28/2020	JMK
2-Chloronaphthalene - BSD	EPA-8270	**83.1**	**9**		20	150	07/28/2020	JMK
2-Nitroaniline - BS	EPA-8270	**64.7**			20	150	07/28/2020	JMK
2-Nitroaniline - BSD	EPA-8270	**69.8**	**8**		20	150	07/28/2020	JMK
Acenaphthylene - BS	EPA-8270	**76.9**			20	150	07/28/2020	JMK
Acenaphthylene - BSD	EPA-8270	**85.1**	**10**		20	150	07/28/2020	JMK
Dimethylphthalate - BS	EPA-8270	**82.5**			20	150	07/28/2020	JMK
Dimethylphthalate - BSD	EPA-8270	**89.5**	**8**		20	150	07/28/2020	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**73.5**			20	150	07/28/2020	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**81.8**	**11**		20	150	07/28/2020	JMK
Acenaphthene - BS	EPA-8270	**74.2**			41	107	07/28/2020	JMK
Acenaphthene - BSD	EPA-8270	**81.7**	**10**		41	107	07/28/2020	JMK
3-Nitroaniline - BS	EPA-8270	**63.6**			20	150	07/28/2020	JMK
3-Nitroaniline - BSD	EPA-8270	**79.4**	**22**		20	150	07/28/2020	JMK
2,4-Dinitrophenol - BS	EPA-8270	**74.5**			20	150	07/28/2020	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**85.6**	**14**		20	150	07/28/2020	JMK
4-Nitrophenol - BS	EPA-8270	**34.3**			5	63	07/28/2020	JMK
4-Nitrophenol - BSD	EPA-8270	**34.2**	**0**		5	63	07/28/2020	JMK
Dibenzofuran - BS	EPA-8270	**79.8**			20	150	07/28/2020	JMK
Dibenzofuran - BSD	EPA-8270	**87.7**	**9**		20	150	07/28/2020	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**71.9**			53.1	136	07/28/2020	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**79.2**	**10**		53.1	136	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**74.1**			20	150	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**81.5**	**10**		20	150	07/28/2020	JMK
Diethylphthalate - BS	EPA-8270	**77.8**			20	150	07/28/2020	JMK
Diethylphthalate - BSD	EPA-8270	**86.1**	**10**		20	150	07/28/2020	JMK
Fluorene - BS	EPA-8270	**78.6**			20	150	07/28/2020	JMK
Fluorene - BSD	EPA-8270	**86.1**	**9**		20	150	07/28/2020	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**79.7**			20	150	07/28/2020	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**87.0**	**9**		20	150	07/28/2020	JMK
4-Nitroaniline - BS	EPA-8270	**66.5**			20	150	07/28/2020	JMK
4-Nitroaniline - BSD	EPA-8270	**75.8**	**13**		20	150	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**60.3**			20	150	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**73.4**	**20**		20	150	07/28/2020	JMK
Azobenzene - BS	EPA-8270	**71.8**			20	150	07/28/2020	JMK
Azobenzene - BSD	EPA-8270	**78.6**	**9**		20	150	07/28/2020	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**86.8**			20	150	07/28/2020	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**96.5**	**11**		20	150	07/28/2020	JMK
Hexachlorobenzene - BS	EPA-8270	**84.6**			20	150	07/28/2020	JMK
Hexachlorobenzene - BSD	EPA-8270	**93.0**	**9**		20	150	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 7/29/2020
ALS SDG#: EV20070088
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pentachlorophenol - BS	EPA-8270	**73.7**			33	124	07/28/2020	JMK
Pentachlorophenol - BSD	EPA-8270	**81.2**	**10**		33	124	07/28/2020	JMK
Phenanthrene - BS	EPA-8270	**78.9**			20	150	07/28/2020	JMK
Phenanthrene - BSD	EPA-8270	**85.7**	**8**		20	150	07/28/2020	JMK
Anthracene - BS	EPA-8270	**80.2**			20	150	07/28/2020	JMK
Anthracene - BSD	EPA-8270	**86.8**	**8**		20	150	07/28/2020	JMK
Carbazole - BS	EPA-8270	**83.0**			20	150	07/28/2020	JMK
Carbazole - BSD	EPA-8270	**84.2**	**1**		20	150	07/28/2020	JMK
Di-N-Butylphthalate - BS	EPA-8270	**71.1**			20	150	07/28/2020	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**77.0**	**8**		20	150	07/28/2020	JMK
Fluoranthene - BS	EPA-8270	**83.7**			20	150	07/28/2020	JMK
Fluoranthene - BSD	EPA-8270	**90.8**	**8**		20	150	07/28/2020	JMK
Pyrene - BS	EPA-8270	**70.1**			18	136	07/28/2020	JMK
Pyrene - BSD	EPA-8270	**78.8**	**12**		18	136	07/28/2020	JMK
Butylbenzylphthalate - BS	EPA-8270	**66.6**			20	150	07/28/2020	JMK
Butylbenzylphthalate - BSD	EPA-8270	**75.2**	**12**		20	150	07/28/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270	**74.1**			20	150	07/28/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270	**82.3**	**10**		20	150	07/28/2020	JMK
Chrysene - BS	EPA-8270	**72.6**			20	150	07/28/2020	JMK
Chrysene - BSD	EPA-8270	**80.6**	**10**		20	150	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**68.8**			20	150	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**75.9**	**10**		20	150	07/28/2020	JMK
Di-N-Octylphthalate - BS	EPA-8270	**69.8**			20	150	07/28/2020	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**76.1**	**9**		20	150	07/28/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**81.8**			20	150	07/28/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**89.4**	**9**		20	150	07/28/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**80.7**			20	150	07/28/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**88.3**	**9**		20	150	07/28/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270	**69.9**			20	150	07/28/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**75.9**	**8**		20	150	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**77.2**			20	150	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**81.7**	**6**		20	150	07/28/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**76.3**			20	150	07/28/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**80.3**	**5**		20	150	07/28/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**83.9**			20	150	07/28/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**88.3**	**5**		20	150	07/28/2020	JMK

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV2007 0088

Date 7-23-20 Page 1 Of 1

PROJECT ID: Everett Landfill (ELF)
REPORT TO COMPANY: HWA Geosciences
PROJECT MANAGER: Amie Sugar
ADDRESS: 21312 30th Drive SE
Bothell, WA 98021
PHONE: 206-794-3145 P.O. #:
E-MAIL: Asugar@hwageo.com Ayork@hwageo.com
INVOICE TO COMPANY: Same ↑
ATTENTION:
ADDRESS:

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-11R	7-21-20	1555	water	1							X			X							
2. MW-21R	7-21-20	1505		2																	
3. MW-24	7-22-20	1332		3																	
4. MW-25		1223		4																	
5. MW-29R		1045		5																	
6. MW-30		1133		6																	
7. MW-31		1254		7																	
8. MW-39R		1005		8																	
9. DUP-0722	7-22-20	—	water	9							X			X							
10.																					

OTHER (Specify)

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Austin York, HWA Geosciences, 7-23-20, 0945
   Received By: Shawn Robinson ALS 7/23/20 0945
2. Relinquished By: _____
   Received By: _____

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ☒ 10 Standard ☐ 5 ☐ 3 ☐ 2 ☐ 1 ☐ SAME DAY

Fuels & Hydrocarbon Analysis: ☐ 5 Standard ☐ 3 ☐ 1 ☐ SAME DAY

OTHER: Specify: _____

*Turnaround request less than standard may incur Rush Charges

August 7, 2020

Mr. Arnie Sugar
HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

Dear Mr. Sugar,

On July 24th, 5 samples were received by our laboratory and assigned our laboratory project number EV20070102. The project was identified as your Everett Landfill (ELF). The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-01
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:04:00 AM
CLIENT SAMPLE ID	MW-36	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/03/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/03/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	8/7/2020
		ALS JOB#:	EV20070102
		ALS SAMPLE#:	EV20070102-01
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:04:00 AM
CLIENT SAMPLE ID	MW-36	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/03/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-01
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:04:00 AM
CLIENT SAMPLE ID	MW-36	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:04:00 AM
CLIENT SAMPLE ID	MW-36	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**100**	08/03/2020	DLC
Toluene-d8	EPA-8260	**100**	08/03/2020	DLC
4-Bromofluorobenzene	EPA-8260	**98.1**	08/03/2020	DLC
2-Fluorophenol	EPA-8270	**36.6**	07/27/2020	JMK
Phenol-d5	EPA-8270	**15.4**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**59.0**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**59.7**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**88.5**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**92.5**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

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CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:48:00 AM
CLIENT SAMPLE ID	MW-37	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/03/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/03/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC

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SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/03/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-02
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 11:48:00 AM
CLIENT SAMPLE ID	MW-37	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**100**	08/03/2020	DLC
Toluene-d8	EPA-8260	**101**	08/03/2020	DLC
4-Bromofluorobenzene	EPA-8260	**96.6**	08/03/2020	DLC
2-Fluorophenol	EPA-8270	**42.2**	07/27/2020	JMK
Phenol-d5	EPA-8270	**17.8**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**60.3**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**58.9**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**82.5**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**95.7**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-38	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/03/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/03/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	8/7/2020
		ALS JOB#:	EV20070102
		ALS SAMPLE#:	EV20070102-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-38	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/03/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-38	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/27/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-03
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020 12:54:00 PM
CLIENT SAMPLE ID	MW-38	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/27/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/27/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**100**	08/03/2020	DLC
Toluene-d8	EPA-8260	**101**	08/03/2020	DLC
4-Bromofluorobenzene	EPA-8260	**97.7**	08/03/2020	DLC
2-Fluorophenol	EPA-8270	**37.5**	07/27/2020	JMK
Phenol-d5	EPA-8270	**17.5**	07/27/2020	JMK
Nitrobenzene-d5	EPA-8270	**63.7**	07/27/2020	JMK
2-Fluorobiphenyl	EPA-8270	**66.9**	07/27/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**86.7**	07/27/2020	JMK
Terphenyl-d14	EPA-8270	**94.8**	07/27/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/24/2020 9:35:00 AM
CLIENT SAMPLE ID	LS-21	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/03/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/03/2020	DLC
Chlorobenzene	EPA-8260	**2.2**	2.0	1	UG/L	08/03/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	8/7/2020
		ALS JOB#:	EV20070102
		ALS SAMPLE#:	EV20070102-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/24/2020 9:35:00 AM
CLIENT SAMPLE ID	LS-21	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/03/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/24/2020 9:35:00 AM
CLIENT SAMPLE ID	LS-21	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	07/28/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	07/28/2020	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-04
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/24/2020 9:35:00 AM
CLIENT SAMPLE ID	LS-21	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Azobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	07/28/2020	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	07/28/2020	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**101**	08/03/2020	DLC
Toluene-d8	EPA-8260	**99.5**	08/03/2020	DLC
4-Bromofluorobenzene	EPA-8260	**99.1**	08/03/2020	DLC
2-Fluorophenol	EPA-8270	**41.9**	07/28/2020	JMK
Phenol-d5	EPA-8270	**18.9**	07/28/2020	JMK
Nitrobenzene-d5	EPA-8270	**64.2**	07/28/2020	JMK
2-Fluorobiphenyl	EPA-8270	**65.5**	07/28/2020	JMK
2,4,6-Tribromophenol	EPA-8270	**91.3**	07/28/2020	JMK
Terphenyl-d14	EPA-8270	**94.9**	07/28/2020	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020
CLIENT SAMPLE ID	TB-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/03/2020	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/03/2020	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE: ALS JOB#: ALS SAMPLE#:	8/7/2020 EV20070102 EV20070102-05
CLIENT CONTACT:	Arnie Sugar	DATE RECEIVED:	07/24/2020
CLIENT PROJECT:	Everett Landfill (ELF)	COLLECTION DATE:	7/23/2020
CLIENT SAMPLE ID	TB-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/03/2020	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/03/2020	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	**101**	08/03/2020	DLC
Toluene-d8	EPA-8260	**101**	08/03/2020	DLC
4-Bromofluorobenzene	EPA-8260	**97.9**	08/03/2020	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-080320W - Batch 156040 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	08/03/2020	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Carbon Disulfide	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Acetone	EPA-8260	U	UG/L	25	08/03/2020	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	08/03/2020	DLC
Acrylonitrile	EPA-8260	U	UG/L	10	08/03/2020	DLC
Methyl T-Butyl Ether	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
2-Butanone	EPA-8260	U	UG/L	10	08/03/2020	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Chloroform	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Benzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
4-Methyl-2-Pentanone	EPA-8260	U	UG/L	10	08/03/2020	DLC
Toluene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
2-Hexanone	EPA-8260	U	UG/L	10	08/03/2020	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	08/03/2020	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

LABORATORY BLANK RESULTS

MB-080320W - Batch 156040 - Water by EPA-8260

1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Ethylbenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
m,p-Xylene	EPA-8260	U	UG/L	4.0	08/03/2020	DLC
Styrene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
o-Xylene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Bromoform	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Isopropylbenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
N-Propyl Benzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
T-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
S-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
P-Isopropyltoluene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
N-Butylbenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	08/03/2020	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
Naphthalene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/03/2020	DLC

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MB-072720W - Batch 155845 - Water by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
N-Nitrosodimethylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Phenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Aniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Chlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,3-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,4-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzyl Alcohol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	HWA Geosciences Inc. 21312 - 30th Drive SE, Suite 110 Bothell, WA 98021-7010	DATE:	8/7/2020
		ALS SDG#:	EV20070102
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Arnie Sugar		
CLIENT PROJECT:	Everett Landfill (ELF)		

LABORATORY BLANK RESULTS

MB-072720W - Batch 155845 - Water by EPA-8270

1,2-Dichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3&4-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachloroethane	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Nitrobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Isophorone	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Nitrophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dimethylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzoic Acid	EPA-8270	U	UG/L	10	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Naphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chloroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,6-Dichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorobutadiene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Methylnaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
1-Methylnaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorocyclopentadiene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4,6-Trichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4,5-Trichlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Chloronaphthalene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2-Nitroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Acenaphthylene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Dimethylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,6-Dinitrotoluene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Acenaphthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3-Nitroaniline	EPA-8270	U	UG/L	5.0	07/28/2020	JMK
2,4-Dinitrophenol	EPA-8270	U	UG/L	10	07/28/2020	JMK
4-Nitrophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Dibenzofuran	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,4-Dinitrotoluene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Diethylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Fluorene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Nitroaniline	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

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CLIENT CONTACT:	Arnie Sugar		
CLIENT PROJECT:	Everett Landfill (ELF)		

LABORATORY BLANK RESULTS

MB-072720W - Batch 155845 - Water by EPA-8270

N-Nitrosodiphenylamine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Azobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Hexachlorobenzene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Pentachlorophenol	EPA-8270	U	UG/L	5.0	07/28/2020	JMK
Phenanthrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Carbazole	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Di-N-Butylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Butylbenzylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
3,3-Dichlorobenzidine	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[A]Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Chrysene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Di-N-Octylphthalate	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[B]Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[K]Fluoranthene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[A]Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	UG/L	2.0	07/28/2020	JMK

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CERTIFICATE OF ANALYSIS

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21312 - 30th Drive SE, Suite 110
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CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 156040 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**111**			50	150	08/03/2020	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**110**	**1**		50	150	08/03/2020	DLC
Chloromethane - BS	EPA-8260	**133**			50	150	08/03/2020	DLC
Chloromethane - BSD	EPA-8260	**129**	**3**		50	150	08/03/2020	DLC
Vinyl Chloride - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
Vinyl Chloride - BSD	EPA-8260	**98.4**	**3**		50	150	08/03/2020	DLC
Bromomethane - BS	EPA-8260	**82.9**			50	150	08/03/2020	DLC
Bromomethane - BSD	EPA-8260	**76.3**	**8**		50	150	08/03/2020	DLC
Chloroethane - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
Chloroethane - BSD	EPA-8260	**98.8**	**4**		50	150	08/03/2020	DLC
Carbon Tetrachloride - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
Carbon Tetrachloride - BSD	EPA-8260	**100**	**2**		50	150	08/03/2020	DLC
Trichlorofluoromethane - BS	EPA-8260	**111**			50	150	08/03/2020	DLC
Trichlorofluoromethane - BSD	EPA-8260	**109**	**1**		50	150	08/03/2020	DLC
Carbon Disulfide - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
Carbon Disulfide - BSD	EPA-8260	**98.9**	**3**		50	150	08/03/2020	DLC
Acetone - BS	EPA-8260	**91.3**			50	150	08/03/2020	DLC
Acetone - BSD	EPA-8260	**77.8**	**16**		50	150	08/03/2020	DLC
1,1-Dichloroethene - BS	EPA-8260	**98.3**			72.5	136	08/03/2020	DLC
1,1-Dichloroethene - BSD	EPA-8260	**95.6**	**3**		72.5	136	08/03/2020	DLC
Methylene Chloride - BS	EPA-8260	**80.8**			50	150	08/03/2020	DLC
Methylene Chloride - BSD	EPA-8260	**78.0**	**3**		50	150	08/03/2020	DLC
Acrylonitrile - BS	EPA-8260	**104**			50	150	08/03/2020	DLC
Acrylonitrile - BSD	EPA-8260	**101**	**3**		50	150	08/03/2020	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**93.8**			50	150	08/03/2020	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**90.9**	**3**		50	150	08/03/2020	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**101**			50	150	08/03/2020	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**96.8**	**4**		50	150	08/03/2020	DLC
1,1-Dichloroethane - BS	EPA-8260	**101**			50	150	08/03/2020	DLC
1,1-Dichloroethane - BSD	EPA-8260	**96.1**	**5**		50	150	08/03/2020	DLC
2-Butanone - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
2-Butanone - BSD	EPA-8260	**88.8**	**14**		50	150	08/03/2020	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**99.0**			50	150	08/03/2020	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**94.9**	**4**		50	150	08/03/2020	DLC
2,2-Dichloropropane - BS	EPA-8260	**113**			50	150	08/03/2020	DLC
2,2-Dichloropropane - BSD	EPA-8260	**107**	**5**		50	150	08/03/2020	DLC
Bromochloromethane - BS	EPA-8260	**94.2**			50	150	08/03/2020	DLC
Bromochloromethane - BSD	EPA-8260	**90.1**	**4**		50	150	08/03/2020	DLC
Chloroform - BS	EPA-8260	**102**			50	150	08/03/2020	DLC

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CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chloroform - BSD	EPA-8260	**97.6**	**4**		50	150	08/03/2020	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**98.2**	**3**		50	150	08/03/2020	DLC
1,1-Dichloropropene - BS	EPA-8260	**104**			50	150	08/03/2020	DLC
1,1-Dichloropropene - BSD	EPA-8260	**101**	**3**		50	150	08/03/2020	DLC
1,2-Dichloroethane - BS	EPA-8260	**92.6**			50	150	08/03/2020	DLC
1,2-Dichloroethane - BSD	EPA-8260	**88.8**	**4**		50	150	08/03/2020	DLC
Benzene - BS	EPA-8260	**107**			74.7	143	08/03/2020	DLC
Benzene - BSD	EPA-8260	**102**	**5**		74.7	143	08/03/2020	DLC
Trichloroethene - BS	EPA-8260	**96.5**			74.4	141	08/03/2020	DLC
Trichloroethene - BSD	EPA-8260	**92.7**	**4**		74.4	141	08/03/2020	DLC
1,2-Dichloropropane - BS	EPA-8260	**99.8**			50	150	08/03/2020	DLC
1,2-Dichloropropane - BSD	EPA-8260	**95.1**	**5**		50	150	08/03/2020	DLC
Dibromomethane - BS	EPA-8260	**98.3**			50	150	08/03/2020	DLC
Dibromomethane - BSD	EPA-8260	**94.5**	**4**		50	150	08/03/2020	DLC
Bromodichloromethane - BS	EPA-8260	**98.9**			50	150	08/03/2020	DLC
Bromodichloromethane - BSD	EPA-8260	**94.3**	**5**		50	150	08/03/2020	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**98.8**	**4**		50	150	08/03/2020	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**99.6**			50	150	08/03/2020	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**95.8**	**4**		50	150	08/03/2020	DLC
Toluene - BS	EPA-8260	**101**			71.7	139	08/03/2020	DLC
Toluene - BSD	EPA-8260	**97.1**	**4**		71.7	139	08/03/2020	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**97.8**	**5**		50	150	08/03/2020	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**98.3**			50	150	08/03/2020	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**94.5**	**4**		50	150	08/03/2020	DLC
2-Hexanone - BS	EPA-8260	**107**			50	150	08/03/2020	DLC
2-Hexanone - BSD	EPA-8260	**94.5**	**12**		50	150	08/03/2020	DLC
1,3-Dichloropropane - BS	EPA-8260	**98.4**			50	150	08/03/2020	DLC
1,3-Dichloropropane - BSD	EPA-8260	**94.7**	**4**		50	150	08/03/2020	DLC
Tetrachloroethylene - BS	EPA-8260	**77.0**			50	150	08/03/2020	DLC
Tetrachloroethylene - BSD	EPA-8260	**69.9**	**10**		50	150	08/03/2020	DLC
Dibromochloromethane - BS	EPA-8260	**101**			50	150	08/03/2020	DLC
Dibromochloromethane - BSD	EPA-8260	**96.3**	**4**		50	150	08/03/2020	DLC
1,2-Dibromoethane - BS	EPA-8260	**94.9**			50	150	08/03/2020	DLC
1,2-Dibromoethane - BSD	EPA-8260	**90.7**	**5**		50	150	08/03/2020	DLC
Chlorobenzene - BS	EPA-8260	**101**			73	131	08/03/2020	DLC
Chlorobenzene - BSD	EPA-8260	**97.1**	**4**		73	131	08/03/2020	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**98.0**			50	150	08/03/2020	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**93.8**	**4**		50	150	08/03/2020	DLC
Ethylbenzene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
Ethylbenzene - BSD	EPA-8260	**98.9**	**4**		50	150	08/03/2020	DLC
m,p-Xylene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
m,p-Xylene - BSD	EPA-8260	**98.8**	**4**		50	150	08/03/2020	DLC
Styrene - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
Styrene - BSD	EPA-8260	**98.3**	**4**		50	150	08/03/2020	DLC
o-Xylene - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
o-Xylene - BSD	EPA-8260	**97.6**	**4**		50	150	08/03/2020	DLC
Bromoform - BS	EPA-8260	**98.0**			50	150	08/03/2020	DLC
Bromoform - BSD	EPA-8260	**94.8**	**3**		50	150	08/03/2020	DLC
Isopropylbenzene - BS	EPA-8260	**104**			50	150	08/03/2020	DLC
Isopropylbenzene - BSD	EPA-8260	**100**	**4**		50	150	08/03/2020	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**104**			50	150	08/03/2020	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**98.4**	**6**		50	150	08/03/2020	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**95.3**			50	150	08/03/2020	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	**90.0**	**6**		50	150	08/03/2020	DLC
Bromobenzene - BS	EPA-8260	**101**			50	150	08/03/2020	DLC
Bromobenzene - BSD	EPA-8260	**95.1**	**6**		50	150	08/03/2020	DLC
N-Propyl Benzene - BS	EPA-8260	**105**			50	150	08/03/2020	DLC
N-Propyl Benzene - BSD	EPA-8260	**99.1**	**6**		50	150	08/03/2020	DLC
2-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
2-Chlorotoluene - BSD	EPA-8260	**96.4**	**6**		50	150	08/03/2020	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**104**			50	150	08/03/2020	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**98.6**	**6**		50	150	08/03/2020	DLC
4-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
4-Chlorotoluene - BSD	EPA-8260	**96.8**	**6**		50	150	08/03/2020	DLC
T-Butyl Benzene - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
T-Butyl Benzene - BSD	EPA-8260	**96.6**	**5**		50	150	08/03/2020	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**105**			50	150	08/03/2020	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**98.6**	**6**		50	150	08/03/2020	DLC
S-Butyl Benzene - BS	EPA-8260	**105**			50	150	08/03/2020	DLC
S-Butyl Benzene - BSD	EPA-8260	**100**	**5**		50	150	08/03/2020	DLC
P-Isopropyltoluene - BS	EPA-8260	**105**			50	150	08/03/2020	DLC
P-Isopropyltoluene - BSD	EPA-8260	**99.8**	**5**		50	150	08/03/2020	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**96.8**	**6**		50	150	08/03/2020	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**103**			50	150	08/03/2020	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**97.1**	**6**		50	150	08/03/2020	DLC
N-Butylbenzene - BS	EPA-8260	**107**			50	150	08/03/2020	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
N-Butylbenzene - BSD	EPA-8260	**102**	**4**		50	150	08/03/2020	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**96.6**	**6**		50	150	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**97.3**			50	150	08/03/2020	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**91.3**	**6**		50	150	08/03/2020	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**102**			50	150	08/03/2020	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**97.3**	**4**		50	150	08/03/2020	DLC
Hexachlorobutadiene - BS	EPA-8260	**106**			50	150	08/03/2020	DLC
Hexachlorobutadiene - BSD	EPA-8260	**102**	**4**		50	150	08/03/2020	DLC
Naphthalene - BS	EPA-8260	**106**			50	150	08/03/2020	DLC
Naphthalene - BSD	EPA-8260	**105**	**1**		50	150	08/03/2020	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**99.1**			50	150	08/03/2020	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**95.4**	**4**		50	150	08/03/2020	DLC

ALS Test Batch ID: 155845 - Water by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**32.8**			20	150	07/28/2020	JMK
Pyridine - BSD	EPA-8270	**33.8**	**3**		20	150	07/28/2020	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**22.0**			20	150	07/28/2020	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**23.8**	**8**		20	150	07/28/2020	JMK
Phenol - BS	EPA-8270	**31.3**			5	84	07/28/2020	JMK
Phenol - BSD	EPA-8270	**32.9**	**5**		5	84	07/28/2020	JMK
Aniline - BS	EPA-8270	**41.5**			20	150	07/28/2020	JMK
Aniline - BSD	EPA-8270	**48.4**	**15**		20	150	07/28/2020	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**80.7**			20	150	07/28/2020	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**85.7**	**6**		20	150	07/28/2020	JMK
2-Chlorophenol - BS	EPA-8270	**68.4**			45	111	07/28/2020	JMK
2-Chlorophenol - BSD	EPA-8270	**73.8**	**8**		45	111	07/28/2020	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**48.6**			20	150	07/28/2020	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**57.4**	**17**		20	150	07/28/2020	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**62.0**			27.1	114	07/28/2020	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**63.3**	**2**		27.1	114	07/28/2020	JMK
Benzyl Alcohol - BS	EPA-8270	**54.5**			20	150	07/28/2020	JMK
Benzyl Alcohol - BSD	EPA-8270	**58.6**	**7**		20	150	07/28/2020	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**57.3**			20	150	07/28/2020	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**61.5**	**7**		20	150	07/28/2020	JMK
2-Methylphenol - BS	EPA-8270	**57.1**			20	150	07/28/2020	JMK
2-Methylphenol - BSD	EPA-8270	**60.4**	**6**		20	150	07/28/2020	JMK
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**49.7**			20	150	07/28/2020	JMK

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LABORATORY CONTROL SAMPLE RESULTS

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Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**55.3**	**11**		20	150	07/28/2020	JMK
3&4-Methylphenol - BS	EPA-8270	**54.9**			20	150	07/28/2020	JMK
3&4-Methylphenol - BSD	EPA-8270	**57.7**	**5**		20	150	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**59.3**			42.2	119	07/28/2020	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**64.6**	**9**		42.2	119	07/28/2020	JMK
Hexachloroethane - BS	EPA-8270	**48.3**			20	150	07/28/2020	JMK
Hexachloroethane - BSD	EPA-8270	**52.8**	**9**		20	150	07/28/2020	JMK
Nitrobenzene - BS	EPA-8270	**71.3**			20	150	07/28/2020	JMK
Nitrobenzene - BSD	EPA-8270	**78.5**	**10**		20	150	07/28/2020	JMK
Isophorone - BS	EPA-8270	**71.3**			20	150	07/28/2020	JMK
Isophorone - BSD	EPA-8270	**76.7**	**7**		20	150	07/28/2020	JMK
2-Nitrophenol - BS	EPA-8270	**75.5**			20	150	07/28/2020	JMK
2-Nitrophenol - BSD	EPA-8270	**79.2**	**5**		20	150	07/28/2020	JMK
2,4-Dimethylphenol - BS	EPA-8270	**60.3**			20	150	07/28/2020	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**57.5**	**5**		20	150	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**78.1**			20	150	07/28/2020	JMK
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**86.0**	**10**		20	150	07/28/2020	JMK
2,4-Dichlorophenol - BS	EPA-8270	**83.5**			20	150	07/28/2020	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**90.8**	**8**		20	150	07/28/2020	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**64.1**			29.4	120	07/28/2020	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**68.7**	**7**		29.4	120	07/28/2020	JMK
Naphthalene - BS	EPA-8270	**65.9**			20	150	07/28/2020	JMK
Naphthalene - BSD	EPA-8270	**71.4**	**8**		20	150	07/28/2020	JMK
4-Chloroaniline - BS	EPA-8270	**76.9**			20	150	07/28/2020	JMK
4-Chloroaniline - BSD	EPA-8270	**85.3**	**10**		20	150	07/28/2020	JMK
Hexachlorobutadiene - BS	EPA-8270	**58.7**			20	150	07/28/2020	JMK
Hexachlorobutadiene - BSD	EPA-8270	**63.6**	**8**		20	150	07/28/2020	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**73.7**			44	113	07/28/2020	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**78.5**	**6**		44	113	07/28/2020	JMK
2-Methylnaphthalene - BS	EPA-8270	**69.8**			20	150	07/28/2020	JMK
2-Methylnaphthalene - BSD	EPA-8270	**76.8**	**10**		20	150	07/28/2020	JMK
1-Methylnaphthalene - BS	EPA-8270	**68.9**			20	150	07/28/2020	JMK
1-Methylnaphthalene - BSD	EPA-8270	**74.7**	**8**		20	150	07/28/2020	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**44.7**			20	150	07/28/2020	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**47.3**	**6**		20	150	07/28/2020	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**74.0**			20	150	07/28/2020	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**81.9**	**10**		20	150	07/28/2020	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**75.9**			20	150	07/28/2020	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**84.0**	**10**		20	150	07/28/2020	JMK
2-Chloronaphthalene - BS	EPA-8270	**75.7**			20	150	07/28/2020	JMK

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Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
2-Chloronaphthalene - BSD	EPA-8270	**83.1**	**9**		20	150	07/28/2020	JMK
2-Nitroaniline - BS	EPA-8270	**64.7**			20	150	07/28/2020	JMK
2-Nitroaniline - BSD	EPA-8270	**69.8**	**8**		20	150	07/28/2020	JMK
Acenaphthylene - BS	EPA-8270	**76.9**			20	150	07/28/2020	JMK
Acenaphthylene - BSD	EPA-8270	**85.1**	**10**		20	150	07/28/2020	JMK
Dimethylphthalate - BS	EPA-8270	**82.5**			20	150	07/28/2020	JMK
Dimethylphthalate - BSD	EPA-8270	**89.5**	**8**		20	150	07/28/2020	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**73.5**			20	150	07/28/2020	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**81.8**	**11**		20	150	07/28/2020	JMK
Acenaphthene - BS	EPA-8270	**74.2**			41	107	07/28/2020	JMK
Acenaphthene - BSD	EPA-8270	**81.7**	**10**		41	107	07/28/2020	JMK
3-Nitroaniline - BS	EPA-8270	**63.6**			20	150	07/28/2020	JMK
3-Nitroaniline - BSD	EPA-8270	**79.4**	**22**		20	150	07/28/2020	JMK
2,4-Dinitrophenol - BS	EPA-8270	**74.5**			20	150	07/28/2020	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**85.6**	**14**		20	150	07/28/2020	JMK
4-Nitrophenol - BS	EPA-8270	**34.3**			5	63	07/28/2020	JMK
4-Nitrophenol - BSD	EPA-8270	**34.2**	**0**		5	63	07/28/2020	JMK
Dibenzofuran - BS	EPA-8270	**79.8**			20	150	07/28/2020	JMK
Dibenzofuran - BSD	EPA-8270	**87.7**	**9**		20	150	07/28/2020	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**71.9**			53.1	136	07/28/2020	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**79.2**	**10**		53.1	136	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**74.1**			20	150	07/28/2020	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**81.5**	**10**		20	150	07/28/2020	JMK
Diethylphthalate - BS	EPA-8270	**77.8**			20	150	07/28/2020	JMK
Diethylphthalate - BSD	EPA-8270	**86.1**	**10**		20	150	07/28/2020	JMK
Fluorene - BS	EPA-8270	**78.6**			20	150	07/28/2020	JMK
Fluorene - BSD	EPA-8270	**86.1**	**9**		20	150	07/28/2020	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**79.7**			20	150	07/28/2020	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**87.0**	**9**		20	150	07/28/2020	JMK
4-Nitroaniline - BS	EPA-8270	**66.5**			20	150	07/28/2020	JMK
4-Nitroaniline - BSD	EPA-8270	**75.8**	**13**		20	150	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**60.3**			20	150	07/28/2020	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**73.4**	**20**		20	150	07/28/2020	JMK
Azobenzene - BS	EPA-8270	**71.8**			20	150	07/28/2020	JMK
Azobenzene - BSD	EPA-8270	**78.6**	**9**		20	150	07/28/2020	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**86.8**			20	150	07/28/2020	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**96.5**	**11**		20	150	07/28/2020	JMK
Hexachlorobenzene - BS	EPA-8270	**84.6**			20	150	07/28/2020	JMK
Hexachlorobenzene - BSD	EPA-8270	**93.0**	**9**		20	150	07/28/2020	JMK
Pentachlorophenol - BS	EPA-8270	**73.7**			33	124	07/28/2020	JMK

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: HWA Geosciences Inc.
21312 - 30th Drive SE, Suite 110
Bothell, WA 98021-7010

CLIENT CONTACT: Arnie Sugar
CLIENT PROJECT: Everett Landfill (ELF)

DATE: 8/7/2020
ALS SDG#: EV20070102
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pentachlorophenol - BSD	EPA-8270	**81.2**	**10**		33	124	07/28/2020	JMK
Phenanthrene - BS	EPA-8270	**78.9**			20	150	07/28/2020	JMK
Phenanthrene - BSD	EPA-8270	**85.7**	**8**		20	150	07/28/2020	JMK
Anthracene - BS	EPA-8270	**80.2**			20	150	07/28/2020	JMK
Anthracene - BSD	EPA-8270	**86.8**	**8**		20	150	07/28/2020	JMK
Carbazole - BS	EPA-8270	**83.0**			20	150	07/28/2020	JMK
Carbazole - BSD	EPA-8270	**84.2**	**1**		20	150	07/28/2020	JMK
Di-N-Butylphthalate - BS	EPA-8270	**71.1**			20	150	07/28/2020	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**77.0**	**8**		20	150	07/28/2020	JMK
Fluoranthene - BS	EPA-8270	**83.7**			20	150	07/28/2020	JMK
Fluoranthene - BSD	EPA-8270	**90.8**	**8**		20	150	07/28/2020	JMK
Pyrene - BS	EPA-8270	**70.1**			18	136	07/28/2020	JMK
Pyrene - BSD	EPA-8270	**78.8**	**12**		18	136	07/28/2020	JMK
Butylbenzylphthalate - BS	EPA-8270	**66.6**			20	150	07/28/2020	JMK
Butylbenzylphthalate - BSD	EPA-8270	**75.2**	**12**		20	150	07/28/2020	JMK
Benzo[A]Anthracene - BS	EPA-8270	**74.1**			20	150	07/28/2020	JMK
Benzo[A]Anthracene - BSD	EPA-8270	**82.3**	**10**		20	150	07/28/2020	JMK
Chrysene - BS	EPA-8270	**72.6**			20	150	07/28/2020	JMK
Chrysene - BSD	EPA-8270	**80.6**	**10**		20	150	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**68.8**			20	150	07/28/2020	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**75.9**	**10**		20	150	07/28/2020	JMK
Di-N-Octylphthalate - BS	EPA-8270	**69.8**			20	150	07/28/2020	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**76.1**	**9**		20	150	07/28/2020	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**81.8**			20	150	07/28/2020	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**89.4**	**9**		20	150	07/28/2020	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**80.7**			20	150	07/28/2020	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**88.3**	**9**		20	150	07/28/2020	JMK
Benzo[A]Pyrene - BS	EPA-8270	**69.9**			20	150	07/28/2020	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**75.9**	**8**		20	150	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**77.2**			20	150	07/28/2020	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**81.7**	**6**		20	150	07/28/2020	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**76.3**			20	150	07/28/2020	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**80.3**	**5**		20	150	07/28/2020	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**83.9**			20	150	07/28/2020	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**88.3**	**5**		20	150	07/28/2020	JMK

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV20070102

Date 7-24-20 Page 1 Of 1

PROJECT ID: Everett Landfill (ELF)
REPORT TO COMPANY: HWA Geosciences
PROJECT MANAGER: Arnie Sugar
ADDRESS: 21312 30th Drive SE
Bothell, WA 98021
PHONE: 206-794-3145 P.O. #:
E-MAIL: Asugar@hwageo.com / Ayork@hwageo.com
INVOICE TO COMPANY: Same ↑
ATTENTION:
ADDRESS:

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-36	7-23-20	1104	water	1							X			X								
2. MW-37	7-23-20	1148		2							X			X								
3. MW-38	7-23-20	1254		3							X			X								
4. LS-21	7-24-20	0935	↓	4							X			X								
5. TB-1	7-23-20	—	water	5							X											
6.																						
7.																						
8.																						
9.																						
10.																						

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Austin York, HWA Geosciences 7/24/20 1100
   Received By: ALS 7/24/20 11:00
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ~~10~~ Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: 5 Standard | 3 | 1 | SAME DAY

OTHER: Specify:

*Turnaround request less than standard may incur Rush Charges

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #

00056545

Client:	HWA GEOSCIENCES	Date Received:	07/22/20
Program:	Contract - HWA - Landfill	Data Release:	SF
Contact:	ARNIE SUGAR	Date Reported:	10/08/20

Department	Analysis	Units	DL	Method	PQL	BM83984 MW-11R 07/21/20	BM83985 MW-21R 07/21/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**<1.0**
	Dis. Iron	µg/L	40	6020B	160	**5200**	**<40**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**428**	**319**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**<1.0**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**7.7**	**11.2**

Department	Analysis	Units	DL	Method	PQL	BM83986 MW-24 07/22/20	BM83987 MW-25 07/22/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**6.2**	**1.7 J**
	Dis. Iron	µg/L	40	6020B	160	**49000**	**54200**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**2090**	**1940**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**2.3 J**	**<1.0**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**130**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**4.4**	**2.9**

Department	Analysis	Units	DL	Method	PQL	BM83988 MW-29R 07/22/20	BM83989 MW-30 07/22/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**<1.0**
	Dis. Iron	µg/L	40	6020B	160	**2650**	**970**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**283**	**84.1**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**<1.0**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**10.6**	**10.3**

Department	Analysis	Units	DL	Method	PQL	BM83990 MW-31 07/22/20	BM83991 MW-39R 07/22/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**1.7 J**	**<1.0**
	Dis. Iron	µg/L	40	6020B	160	**46400**	**<40**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**1250**	**130**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**3.1 J**	**<1.0**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**144**	**6.3**

Department	Analysis	Units	DL	Method	PQL	BM83992 DUP-0722 07/22/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**1.6 J**
	Dis. Iron	µg/L	40	6020B	160	**45200**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**1240**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**3.1 J**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**143**

DATA REPORTING QUALIFIERS

DL = Detection Limit
PQL = Practical Quantitation Limit (= 4xDL)
J = Analyte concentration less than PQL
SA = See Attached
ND = No Data
TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion
P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent
Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent
E = Estimated Value. Count from plates not within ideal range.
R = Sample was re-analyzed after holding time.
CG = Confluent Growth

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

Phone: (425)257-8230 Fax: (425)257-8228
Sample Dropoff: 4027 4th St SE, Everett WA 98201
Mailing Address: 3200 Cedar St, Everett WA 98201

ANALYSIS REQUEST
CHAIN OF CUSTODY

PROJECT # 56545

Date: 7-22-20

Client: HWA Geosciences
Address: 21312 30th Dr SE Bothell, WA 98021
Program:
Sample Site: Everett Landfill (ELF)
Phone: 206-794-3145
Collected By: Austin York
Requested By: Arnie Sugar

Requested sample report date (If less than 30 days):

Purpose: ___ In Lab Contract ___ Outside Lab Contract

Analyses Requested

Sample Description:	LIMS ID # (Lab Use Only)	Sample Date	Sample Time	Comp Grab	Sample Matrix	Chloride	Dissolved Metals*								
MW-11R	BM 83984	7-21-20	1555	G	water	X	X								
MW-22R	85	7-21-20	1505	G	↓	↓	↓								
MW-24	86	7-22-20	1332	↓	↓	↓	↓								
MW-25	87	↓	1223	↓	↓	↓	↓								
MW-29R	88	↓	1045	↓	↓	↓	↓								
MW-30	89	↓	1133	↓	↓	↓	↓								
MW-31	90	↓	1254	↓	↓	↓	↓								
MW-39R	91	↓	1005	↓	↓	↓	↓								
DUP-0722	92	7-22-20	—	G	Water	X	X								

Cooler w/Ice? Y / N   Rec Temp: °C   —INDICATE: LAB PERFORMING ANALYSIS / # OF CONTAINERS—

CHAIN OF CUSTODY

*Relinquished: [signature] Austin York	Received: Tyler Cotts [signature]		Date: 7-22-20	Time: 1405
*Relinquished:	Received:		Date:	Time:
*Relinquished:	Received:		Date:	Time:

COMMENTS:
* Field Filtered
Arsenic, Nickel, Zinc, Iron, Manganese

**Because the City of Everett Environmental Laboratory is a public agency, data, test results, reports and other documents are public records and therefore subject to disclosure to third parties upon their request pursuant to RCW Chap. 42.17.*

CITY OF EVERETT
ENVIRONMENTAL LABORATORY

PROJECT #

00056568

Client:	HWA GEOSCIENCES	Date Received:	07/24/20
Program:	Contract - HWA - Landfill	Data Release:	SF
Contact:	ARNIE SUGAR	Date Reported:	10/08/20

Department	Analysis	Units	DL	Method	PQL	BM84129 MW-36 07/23/20	BM84130 MW-37 07/23/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**7.1**	**<1.0**
	Dis. Iron	µg/L	40	6020B	160	**4350**	**17900**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**378**	**1350**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**2.0 J**	**<1.0**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**35.7**	**995**

Department	Analysis	Units	DL	Method	PQL	BM84131 MW-38 07/23/20	BM84132 LS-21 07/24/20
METALS(D)	Dis. Arsenic	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**3.4 J**
	Dis. Iron	µg/L	40	6020B	160	**160**	**13600**
	Dis. Manganese	µg/L	1.0	200.8/6020B	4.0	**257**	**1220**
	Dis. Nickel	µg/L	1.0	200.8/6020B	4.0	**<1.0**	**1.8 J**
	Dis. Zinc	µg/L	10	200.8/6020B	40	**<10**	**<10**
NUTRIENTS	Chloride	mg/L	0.3	SM4500-CL-E	1.2	**11.8**	**26.6**

DATA REPORTING QUALIFIERS

DL = Detection Limit
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SA = See Attached
ND = No Data
TNTC = Too numerous to count

When Dissolved Metals > Total Metals note possible filtering process contamintion
P/A (used for Total Coliform results) P= Coliforms present, A = Coliforms absent
Y/N (used for E. Coli Results) Y= E. Coli present, N=E. Coli absent
E = Estimated Value. Count from plates not within ideal range.
R = Sample was re-analyzed after holding time.
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CITY OF EVERETT
ENVIRONMENTAL LABORATORY

Phone: (425)257-8230 Fax: (425)257-8228
Sample Dropoff: 4027 4th St SE, Everett WA 98201
Mailing Address: 3200 Cedar St, Everett WA 98201

PROJECT # 96568

ANALYSIS REQUEST
CHAIN OF CUSTODY

Date: 7-24-20

Client: HWA Geosciences		Address: 21312 30th Drive SE Bothell, WA 98021
Program: ~~Everett~~	Sample Site: Everett Landfill (ELF)	
Phone: 206-794-3145	Collected By: Austin York	Requested By: Arnie Sugar

Requested sample report date (If less than 30 days): _____

Purpose: ___ In Lab Contract ___ Outside Lab Contract

Sample Description:	LIMS ID # (Lab Use Only)	Sample Date	Sample Time	Comp Grab	Sample Matrix	Analyses Requested: Chloride	Dissolved * Metals
MW-36	BM 84129	7-23-20	1104	G	water	X	X
MW-37	30	7-23-20	1148	↓	↓	X	X
MW-38	31	7-23-20	1254	↓	↓	X	X
LS-21	32	7-24-20	0935	G	water	X	X

Cooler w/Ice? Y / N Rec Temp: °C –INDICATE: LAB PERFORMING ANALYSIS / # OF CONTAINERS–

CHAIN OF CUSTODY

*Relinquished: Austin York	Received: Tyler Cutts	Date: 7-24-20	Time: 1030
*Relinquished:	Received:	Date:	Time:
*Relinquished:	Received:	Date:	Time:

COMMENTS:
* Sampled Field Filtered
Analysis: Arsenic, iron, manganese, nickel, and zinc

**Because the City of Everett Environmental Laboratory is a public agency, data, test results, reports and other documents are public records and therefore subject to disclosure to third parties upon their request pursuant to RCW Chap. 42.17.*

APPENDIX B

EVERETT LANDFILL/TIRE FIRE SITE GROUND WATER SAMPLING AND ANALYSIS PLAN ONE-TIME SAMPLING JULY 2020

Everett Landfill/Tire Fire Site
Ground Water Sampling and Analysis Plan
One-Time Sampling - July 2020

Prepared for:

City of Everett

Prepared By:

HWA GEOSCIENCES INC.

June 30, 2020

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) is for a one-time pre-development ground water sampling event at the Everett Landfill/Tire Fire Site (Site), to be conducted in July 2020. The Site has been, and will continue to be, in the ground water Performance Monitoring period, as outlined in the Compliance Monitoring and Contingency Plan (CMCP). The CMCP is an attachment to the Cleanup Action Plan (CAP), previously submitted to and approved by Washington State Department of Ecology (Ecology) in association with the Consent Decree that was entered into Snohomish County Superior Court on April 2, 2001. Ground water Performance Monitoring methods and procedures are outlined in the *Everett Landfill/Tire Fire Site Ground Water Sampling and Analysis Plan* dated March 22, 2005 and approved by Ecology on May 25, 2005.

This SAP:

1. Specifies procedures for field sampling activities in May or June 2020.
2. Identifies quality assurance (QA) procedures to be implemented during sampling activities and laboratory analyses.
3. Meets the requirements of WAC 173-340-820, and WAC 173-340-410(3)(a) of the Model Toxics Control Act (MTCA), for sampling and analysis plans.

Sampling and analysis will be conducted by HWA GeoSciences Inc. under the direction of the City of Everett Public Works Department (City). The City will report results to Ecology in a brief letter report.

1.1 PROJECT ORGANIZATION

Individuals responsible for ensuring the quality of the field operations and the collection of data are identified in this section. The City of Everett will provide oversight of all project activities and will be the point of contact with Ecology. Sampling activities, data evaluation, and reporting will be performed by HWA GeoSciences Inc. (HWA). Laboratory analysis will be done by Ecology-certified laboratories, and include the City of Everett Environmental Laboratory (for conventional and metals analyses) and by ALS Environmental Laboratory, Everett, Washington for organic parameters. Contacts for this project include:

Mark Sadler	City of Everett Site Manager (425) 257-8967
Arnie Sugar	HWA Project Manager (206) 774-0106
Chris Merwede	City of Everett Environmental Laboratory (425) 257 7865
Rick Bagan	ALS Laboratory Director (425) 356 2600

2.0 SAMPLING AND ANALYSIS

Wells to be sampled in July 2020 are:

- 3 deep point-of-compliance monitoring wells: MW-36, MW-38, and MW-39R
- MW-37, a deep monitoring well discontinued from 2006 to 2015 due to influence of saline water from the river, and resumed in 2015 at request of Ecology
- 5 deep aquifer network (not compliance) wells, MW-11R, MW-21R (upgradient), MW-29R, MW-30, MW-31
- Shallow wells MW-24 and MW-25
- Leachate from a leachate collector wet well or sampling port

The monitoring well locations are shown on Figure 1.

Analytes to be analyzed in July 2020 are:

- Dissolved Metals: nickel, zinc, iron, manganese, arsenic using EPA method 200.8/6020B
- Conventional Analytes: chloride using method SM4500-CL-E
- Volatile organic compounds (VOCs) using EPA method 8260C
- Semi-volatile organic compounds (SVOCs) using EPA method 8270D

HWA will send the samples to ALS Environmental Laboratory, Everett Washington, for organic analyses, and to the Everett Environmental Laboratory for inorganic analyses.

2.1 GROUND WATER SAMPLING

2.1.1 GROUND WATER MONITORING WELLS

Monitoring wells will be purged before sample collection to obtain ground water samples that are representative of the formation water rather than stagnant water from the well casing. Ground water that has occupied the well casing is often under oxidizing conditions, and thus may be chemically different from true formation water.

Monitoring wells will be purged and sampled using low-flow purging methods. Sampling staff will measure ground water levels to the nearest 0.01-foot using a decontaminated electronic well probe prior to collection of samples. Prior to collection of ground water samples, the wells will be purged by pumping a small volume of water to ensure sampled water represents aquifer conditions. The volume pumped will be determined in the field based on stabilization of field parameters: specific conductance, dissolved oxygen, and pH. Wells will be purged by very slowly lowering semi-rigid polyethylene tubing to a depth corresponding to roughly the midpoint of the screen, securing the tubing to prevent vertical movement, connecting it to a peristaltic pump, and then pumping at a rate not to exceed 0.5 liters/minute (0.132 gallons/minute). At a minimum, two pump and tubing volumes will be purged (1/4” I.D. tubing = 0.005 gallon/lineal

foot). Samples from all wells will be collected once the parameter values have stabilized over the course of three sets of measurements as follows:

specific conductance	10 uS
dissolved oxygen	2 mg/L
pH	0.1

If a well can be pumped dry prior to reaching the desired purge volume, it will be allowed to recover prior to sampling, using the minimum time between purging and sampling that would allow collection of sufficient sample volume. Samples will be pumped directly into the appropriate containers, as provided by the laboratory. A Field Data Sampling Sheet (provided in Appendix A) will be filled out for each well. New tubing will be used for each well. All purge water will be collected and discharged to one of the leachate wet wells.

Dissolved metals samples will be filtered through a disposable 0.45-micron filter at the time of sample collection. The filters will attach directly to the discharge tube of the sampling pump. Each in-line filter will be used only once.

After collection, all samples will be labeled, chilled in a cooler to 4°C, and shipped to the testing laboratories for analysis (CCI Analytical Laboratories, Inc. for organic analyses, and the Everett Environmental Laboratory for inorganic analyses). Full chain-of-custody and field documentation procedures will be employed, as described in Section 2.6. The laboratory will analyze the water samples for the constituents listed on Table 1. PQLs listed in Table 1 are equal to or less than those listed in the CMCP.

Table 1
Proposed Analytical Methods

Analyte	**Proposed Analytical Method**	**Method PQL µg/L**
Conventional Parameters		
Chloride	SM4500-CL-E	1200
Dissolved Metals		
Arsenic	200.8/6020B	2
Nickel	200.8/6020B	2
Zinc	200.8/6020B	20
Iron	200.8/6020B	80
Manganese	200.8/6020B	2
Organic Compounds		
VOCs	8260C	varies
SVOCs	8270D	varies

2.1.2 FIELD FILTERING

Samples collected for dissolved constituent analysis must be filtered through a 0.45-micron filter. The filters will attach directly to the discharge tube of the sampling pump. The filter must be changed between sample points, or more frequently if clogging occurs. Samples that have been field-filtered must be noted on the Chain-of-Custody forms in the comments section.

2.1.3 SAMPLE COLLECTION

When filling the sample bottles, the following procedures and precautions will be adhered to:

1. Sample bottles will be filled directly from the pump or filter apparatus, with minimal air contact.
2. Bottle caps will be removed carefully so that the inside of the cap is not touched. Caps must never be put on the ground. Caps for volatile organic compound (VOC) vials will contain a Teflon-lined septum. The Teflon side of the septum must be facing the sample to prevent contamination of the sample through the septum.
3. The sampling team will wear appropriate nonpowdered latex or nitrile gloves (PVC or vinyl gloves can leave trace levels of phthalate or vinyl chloride). Gloves will be changed between wells or more often.
4. Tubing or hoses from the sampling systems must not touch or be placed in the sample bottles.
5. Semivolatile organic compound (SVOC) bottles and VOC vials must be filled so that they are headspace-free. These sample bottles therefore need to be slightly overfilled (water tension will maintain a convex water surface in the bottle). The caps for these bottles will be replaced gently, to eliminate air bubbles in the sample. The bottles must then be checked by inverting them and tapping them sharply with a finger. If air bubbles appear, open the bottle, add more water, and repeat the process until all air bubbles are gone. Do not empty the bottle and refill it, as VOC bottles already contain preservatives.
6. Sample bottles, caps, or septums that fall on the ground before filling will be discarded.
7. Metals sampling will be conducted with “clean technique.” Bottles will be bagged in plastic and the cap placed in the bag during sampling.

Table 2 shows sample bottle requirements and preservatives. Samples will be collected in the reverse order shown on Table 2, in the event sample volume is limited. The analytical laboratory will provide the sample containers and necessary preservation.

Table 2
Sample Bottle Requirements

Analytical Parameter	Required Bottle*	Preservative
Chloride	250 ml poly	
Dissolved metals	500 ml poly	HNO_3 to pH<2
VOCs	(3) x 40 mL VOA	HCl to pH <2
SVOCs	1 L amber glass	

2.1.4 WATER LEVEL MONITORING

HWA will measure ground water levels at each of the monitoring wells at the start of each sampling round in order to monitor changes in seasonal or long-term water elevations and ground water flow directions.

2.2 EQUIPMENT DECONTAMINATION

In order to mitigate the potential for cross-contamination, all nondedicated, sample-contacting, and downhole equipment used in the collection and sampling processes will be decontaminated before sample collection. Included are ground water level measurement devices. A water level probe must be dedicated to ground water monitoring well use only. Under no circumstance shall this dedicated probe be used to measure other fluid levels (e.g., leachate).

The following steps will constitute the decontamination procedure:

1. Wash items in a solution of non-phosphate (e.g., Alconox) detergent and tap water
2. Rinse with tap water
3. Rinse with deionized water
4. Air dry in a clean environment

Decontaminated equipment will be stored and transported in clean containers or wrapping.

2.3 SAMPLE PRESERVATION, STORAGE, AND SHIPMENT

2.3.1 SAMPLE PRESERVATION

The sample containers (including preservative, if required) will be prepared and provided by the analytical laboratory. Samples will be preserved consistent with analytical laboratory recommendations. After each bottle is filled and capped, the sample container will be inverted to

ensure complete mixing of the sample with the preservative. The sample container should not be shaken.

2.3.2 TEMPERATURE CONTROL

The sample container and samples will be cooled to 4°C, from the time the sample is collected through analysis. Samples will be maintained in temperature-regulated refrigerators, in coolers, or in sample coolers containing double-bagged or commercially frozen icepacks. The icepacks will be frozen solid before use.

2.3.3 SAMPLE PACKING AND STORAGE

Before the sample bottles are packed into the shipment coolers, the sample designations will be recorded in the appropriate spaces on the Chain-of-Custody form. After the samples are collected and the preservatives are added (when applicable), the bottles will be capped and placed in the sample cooler. The frozen icepacks will be placed into the sample cooler such that they are not in direct contact with the sample bottles. Glass containers should not be packed in contact with each other. Bottle holders, cushions, or bubble wrap will be used for glass bottles to protect them from breakage.

Bottles will be wiped clean with paper towels before placement in the sample cooler. The sample cooler must be kept as clean as possible to minimize the potential for cross-contamination. Bottle caps will be checked to ensure they are tight and will not become loose when inserted in the cooler. Bottle caps will not be taped.

The Chain-of-Custody form will be placed in a plastic bag, sealed, and placed inside the sample cooler or taped to the inside lid of the cooler. A copy of the Chain-of-Custody form will be retained for verification.

Samples will be stored at 4°C, in an enclosed cooler or dedicated refrigerator where possible, before shipment to the laboratory. Samples will be shipped daily to the laboratory to ensure proper temperature control and that holding time requirements are met.

2.4 QUALITY ASSURANCE/QUALITY CONTROL

Samples will be collected and analyzed with sufficient quality assurance/quality control (QA/QC) to ensure representative and reliable results. The overall QA objective for this investigation is to ensure that all decisions based on laboratory and field data are technically sound, statistically valid, and properly documented. Specific QA protocols will be executed and are described for all activities related to the collection of samples, the analyses of these samples by the laboratory, and the handling of data generated during the investigation. There are two parts to the QA/QC program for this project: field and laboratory.

2.4.1 FIELD

Field QA/QC includes proper documentation of field activities and sampling/handling procedures, as described in Section 2.6. Field QA/QC samples will consist of the following:

- One duplicate per 12 samples

2.4.1.1 Duplicates Samples

Duplicates are used to confirm analytical results from a given sample point. Duplicate samples are collected in the field using a matching set of laboratory-supplied bottles and sampling from the selected well, as requested. Each duplicate should be sampled by alternating between the regular and the duplicate sample bottles, proceeding in the designated sampling order (VOCs first). The well where the duplicate is collected must be identified on the field sampling data sheet. All duplicates shall be blind-labeled (i.e., the well designation is not listed on the sample bottle or Chain-of-Custody form). Once a duplicate is collected, it is handled and shipped in the same manner as the rest of the samples. Duplicate results will be reported in the laboratory results as separate samples, using the designation DUP-(#).

2.4.1.2 Trip Blanks

Trip blanks are used to detect contamination that may be introduced in bottle preparation, in transit to or from the sampling site, or in the field. Trip blanks will be analyzed for VOCs.

2.4.2 LABORATORY

Method-specific QA/QC samples may include the following:

- Method blanks
- Duplicates
- Instrument calibration verification standards
- Laboratory control samples
- Surrogate spiked samples
- Performance evaluation QC check samples

2.4.3 DATA EVALUATION

Data evaluation will include checking holding times, method blank results, surrogate recovery results, field and laboratory duplicate results, completeness, detection limits, laboratory control sample results, and Chain-of-Custody forms. After the data has been checked, it will be entered into the project database with any assigned data qualifiers.

2.5 FIELD DOCUMENTATION AND CHAIN-OF-CUSTODY

The following sections describe the recording system for documenting all site field activities, and the sample chain-of-custody procedures.

2.5.1 FIELD DOCUMENTATION

An accurate chronological recording of all field activities is vital to the documentation of any environmental investigation. To accomplish this, field team members will maintain field log books and data sheets providing a daily record of significant events, observations, deviations from the sampling plan and measurements collected during the field activities.

2.5.1.1 Field Sampling Data Sheet

A field sampling data sheet (example in Appendix A) will be filled out for each sample point. This sheet contains information regarding site and well conditions, sampling and purging procedures, and field measurements. At a minimum, the following information must be documented:

1. **Purging Information**, including date, time, well number, casing volume, elapsed time, discharge color (if different than for sampling), water level before and after purging. Note if the well was dry, purged dry, or was otherwise impossible to sample.
2. **Purging and Sampling Equipment**, including pump type and tubing material.
3. **Field Measurements**, including fluid surface elevation (depth to ground water or to leachate), temperature, pH, dissolved oxygen, and specific conductance.
4. **Additional Field Measurements**, as necessary.

2.5.2 SAMPLE IDENTIFICATION

Following sample collection, field personnel will affix labels to each sample container. Samplers will use waterproof ink, plastic bags, or clear tape to ensure labels remain legible even when wet. A sample label form that may be copied on to adhesive label paper is provided in Appendix A. Samplers will record the following information on the labels:

- Project name and number
- Sample identification number
- Date and time of collection
- Required test methods
- Name of sample collector

Sample numbering will follow the following format:

MW-29-0720 = monitoring well MW-29 collected on July 2020

DUP 1, DUP 2, etc. = duplicate (do not indicate which well a duplicate is from)

TB 1, TB 2, etc. = trip blank (indicate matrix for all blanks, e.g., ground water, surface water)

2.5.3 CHAIN-OF-CUSTODY RECORD

The objective of the chain-of-custody procedures is to allow the tracking of possession and handling of individual samples from the time of field collection through laboratory analysis. Once a sample is collected, it becomes part of the chain-of-custody process. A sample is "in custody" when: (1) it is in someone's possession, (2) it is within visual proximity of that person, (3) it is in that person's possession, but locked up and sealed (e.g., during transport), or (4) it is in a designated secure sample storage area. Sampling staff will complete a Chain-of-Custody form, which will accompany each batch of samples. The record will contain the following information:

- Project name and number
- Names of sampling team members
- Requested testing program
- Required turnaround time
- Sample number
- Date and time collected
- Sample type
- Matrix
- Number of containers
- Special Instructions
- Signatures of persons involved in the chain of possession

When sample custody is transferred to another individual, the samples must be relinquished by the present custodian and received by the new custodian. This will be recorded at the bottom of the Chain-of-Custody form where the persons involved will sign, date and note the time of transfer. An HWA Chain-of-Custody form is provided in Appendix A.

Sampling team members will keep sample coolers in locked vehicles while not in active use or visual range. If couriers are used to transport samples, Chain-of-Custody seals will be affixed to sample coolers.

2.6 INVESTIGATION-DERIVED WASTE

Purge water from the wells will be collected and discharged to the leachate wet wells. Solid waste (e.g., disposable bailers, gloves, etc.) will be disposed of as ordinary municipal waste.

2.7 CALIBRATION AND USE OF METERS

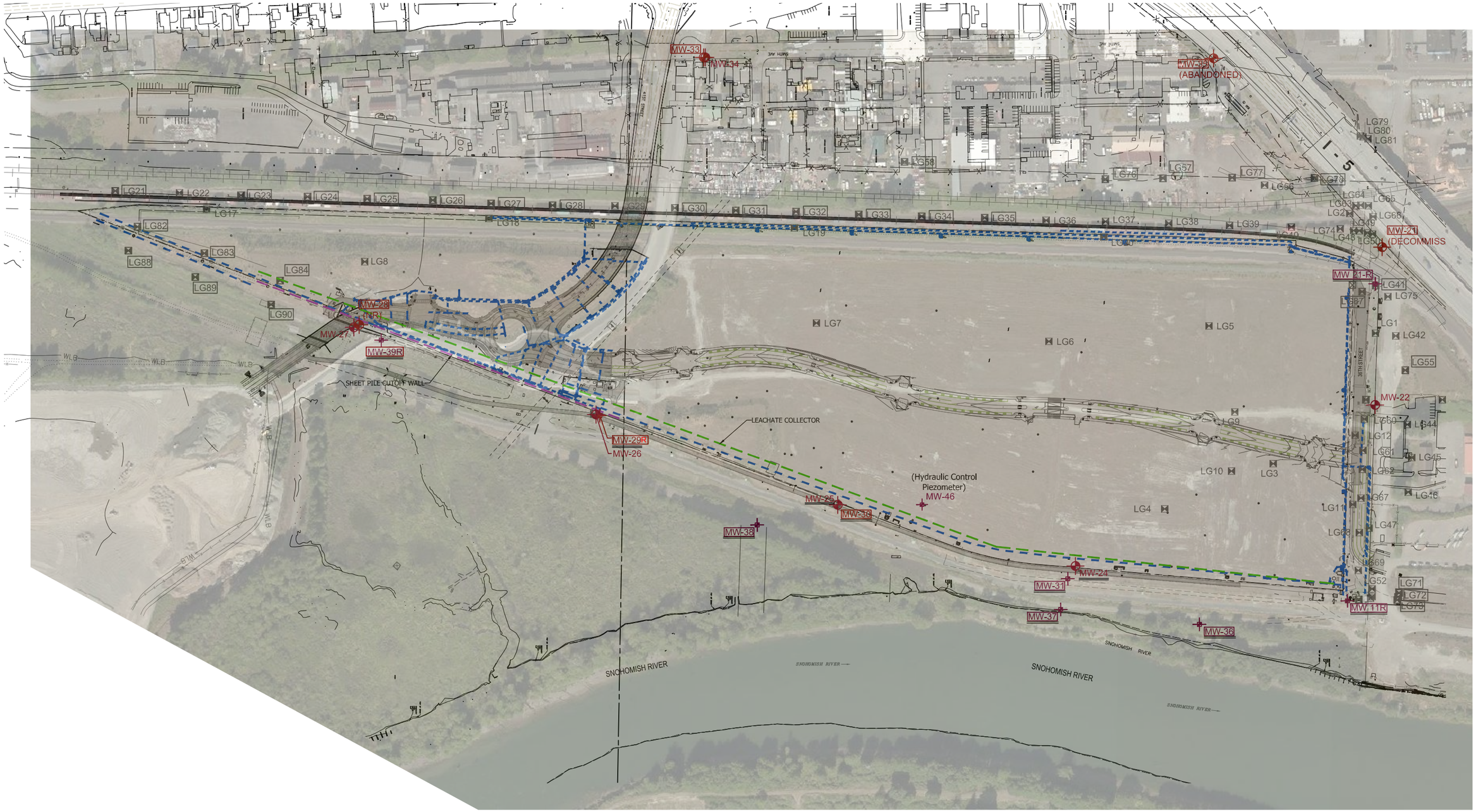
Before being taken to the field, equipment must be cleaned and checked for malfunctions. Meters must be calibrated each morning before they are used in the field, following manufacturers' procedures. Equipment will be calibrated at least daily. All field monitoring equipment will be calibrated consistent with manufacturers' procedures using instrument calibration standards prepared according to the manufacture's specifications. In all cases, proper documentation must be made of all calibration procedures for each sampling event, including calibration methodology (one- or two-point calibration, difference, standard concentration, and expiration date).

Logbooks should be maintained for all field meters. The logbooks must contain the same information as those for permanent laboratory instruments (serial number, name and model of meter, year purchased, etc.). The books also must contain quality control (QC) results, maintenance performed by the factory, and calibration notes for each day the equipment is used. Instruments used to measure pH and electrical conductivity should be calibrated at least once each day of sampling. Temperature-measuring devices should be calibrated against a standardized laboratory thermometer at a frequency recommended by the manufacturer. Additional data (e.g., turbidity, dissolved oxygen) should be calibrated in accordance with manufacturer recommendations and documented.

2.8 FIELD MEASUREMENTS

2.8.1 STATIC WATER LEVEL MEASUREMENTS

The depth-to-water should be recorded to the nearest hundredth of a foot (0.01 ft). Water levels should be measured before and after purging to assess drawdown effects at each well, and to produce a representative static ground water contour map. To alleviate potential errors, previous water level data should be used for comparison during field activities. Water levels are preferably measured before purging a well and as close in time as possible, to minimize interference from drawdown or barometric pressure effects.



EXPLORATION LEGEND

- MW-12 — SHALLOW MONITORING WELLS
- MW-12 — DEEP MONITORING WELLS
- MW-12 — WELLS TO BE MONITORED

0 150 300 450 600

SCALE: 1" = 300'

BASE MAP PROVIDED BY: BING AND SURVEYOR

H:\HWA GEOTECHNICAL\2016-061-21 EVERGREEN\HAZMAT\2015-061 EVERETT RIVERFRONT - HAZMAT 10.18.2019.DWG <2> Plotted: 10/21/2019 4:42 PM

HWA GEOSCIENCES INC. DBE/MWBE

EVERETT LANDFILL
EVERETT, WASHINGTON

GROUNDWATER MONITORING WELLS

DRAWN BY:	FIGURE NO.:
CF / BFM	1
CHECK BY:	PROJECT NO.:
AS	2015-061-21 TASK 600

APPENDIX A

SAMPLING DOCUMENTATION

Chain-of-Custody Form

Field Sampling Data Sheet

HWA GEOSCIENCES INC.

21312 30th Drive SE, Suite 110, Bothell, Washington 98021-7010
Tel 425.774.0106 Fax 425.774.2714 www.hwageo.com

Chain of Custody and Laboratory Anaylsis Request

DATE: _____

PAGE: ___ of ___

PROJECT NAME: _____ #: _____

SAMPLERS NAME: _____ PHONE: _____

SAMPLERS SIGNATURE: _____ DATE: _____

HWA CONTACT: _____ PHONE: _____

ANALYSIS REQUESTED

TURNAROUND TIME

☐ DAYS

☐ STANDARD

HWA SAMPLE ID	DATE	TIME	MATRIX	LAB ID	# OF BOTTLE	EDD	REMARKS

PRINT NAME	SIGNATURE	COMPANY	DATE	TIME	REMARKS
Relinquished by:					
Received by:					
Relinquished by:					
Received by:					

DISTRIBUTION: WHITE - Return to HWA GeoSciences; YELLOW - Retain by Lab; PINK - Retain by Sampler

HWA GEOSCIENCES INC.
21312 30th Drive SE, Suite 110, Bothell, WA 98021
Tel: 425-774-0106 / Fax: 425-774-2714

FIELD SAMPLING DATA SHEET

Project Name: _____ Well Number:_____

Project Number:_____ Sample Number:_____

Project Location:_____ Weather: _____

Client/Contact:_____ Date:_____

WELL MONITORING:

Time	Pump Depth	Depth to Water	Measuring Point (TOC?)	Measuring Point Elevation	Water Level Elevation	Gallons in Well (Case Volume)

(2" dia=0.163 gal/ft)
(4" dia=0.653 gal/ft)

WELL PURGING:

Time	Method	Gallons	Case Volume	pH	Conductivity	Temperature	Dissolved Oxygen		

WELL SAMPLING:

Time	Sampling Method	Sample Analysis	Container Number	Container Volume	Container Type	Field Filtered (Y/N)	Preservative	Iced (Y/N)

COMMENTS/NOTES: (Include equipment used: Bailers, Filters, Well Probe, pH/Conductivity, Meter, etc.)

Total # of Bottles:_____ Sampler**:**_____ Signature:_____