ALS Environmental
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August 29, 2018

Analytical Report for Service Request No: K1806077

Amy Dahl
AECOM
1111 Third Avenue, Suite 1600
Seattle, WA 98101

RE: Portland Harbor Pre-Remedial Design Investigation / 60566335

Dear Amy,

Enclosed are the results of the sample(s) submitted to our laboratory June 27, 2018
For your reference, these analyses have been assigned our service request number **K1806077.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Howard Holmes
Project Manager

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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Client: AECOM
Project: Portland Harbor Pre-Remedial Design Investigation
Sample Matrix: Sediment

Service Request: K1806077
Date Received: 06/27/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt:

One sediment sample was received for analysis at ALS Environmental on 06/27/2018. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored frozen at -20ºC upon receipt at the laboratory.

Semivolatiles by GC/MS:

Method ALS SOP, OCP by GC/MS/MS 08/11/2018: The upper control was exceeded for cis-Nonachlor (167, 171, 59-138) in Laboratory Control Samples (LCS/DLCS) KQ1810488-01/02. The analyte in question was not detected above the MRL in the associated field sample. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Method ALS SOP, 08/11/2018:The upper control criterion was exceeded for cis-Nonachlor (172, 69-134) and trans-Nonachlor (144, 76-124) in Laboratory Control Sample (LCS)KQ1810488-03. The analytes in question were not detected in the associated field sample. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Approved by Noe D. Date 08/29/2018

Chain of Custody

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K1806277

ALS-Environmental-Kelso	SURFACE SEDIMENT CHAIN OF CUSTODY			
1317-S-13th-Ave				
Kelso, WA 98626				
Ph: 360-577-7222 Fax: 360-636-1068				

Client Contact	Project Contact: Amy Dahl / Chelsey Cook	Site Contact: Jennifer Ray	Date: 6/27/18	COC No: 1
AECOM	Tel: (206) 438-2261 / (206) 438-2010	Laboratory Contact: Howard-Holmes	Carrier: Courier	1 of 1 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			
Seattle, WA 98101	Calendar (C) or Work Days (W)			
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	[x] 21 days			
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	[ ] Other			
Portland, OR				
Project #: 60566335 Study: Surface Sediment				
Sample Type: SRS				

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	Pesticides, Total Solids 1669M, 160.3	Sample Specific Notes:
PDI-SG-B264-BL1	6/25/2018	10:36	SS		MM	6		x	

Container Type: WMG=Wide Mouth Glass Jar, P=HDPE, PP=Polypropylene, AG=amber glass, G=glass, RC=Resin Column

Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid

Fraction: D = Dissolved, PRT = Particulate, T = Total (unfiltered)

Sample Disposal

[ ] Return To Client [X] Disposal By Lab [X] Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	AECOM	6/27/18 11:45		FW	6/27/18 1141
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	FW	6/27/18 1350		FW	6/27/18 1356
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

PC 42

Cooler Receipt and Preservation Form

Client AECOM Service Request K18 C6077

Received: 6/27/18 Opened: 6/27/18 By: BR Unloaded: 6/27/18 By: BR

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	
						(NA)	(NA)	Filec
-0.1	-0.1	1.4	1.4	0.0	356			

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Total Solids

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Analytical Report

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor 2018/60566335	**Date Collected:**	06/25/18
Sample Matrix:	Sediment	**Date Received:**	06/27/18
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
PDI-SG-B264-BL1	K1806077-001	**41.0**	-	-	1	06/28/18 14:08	

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
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Analytical Report

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	06/25/18 10:38
Sample Matrix:	Sediment	**Date Received:**	06/27/18 13:50
Sample Name:	PDI-SG-B264-BL1	**Units:**	ug/Kg
Lab Code:	K1806077-001	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.47	0.30	1	08/12/18 03:54	8/2/18	
2,4'-DDE	ND U	0.47	0.38	1	08/12/18 03:54	8/2/18	
2,4'-DDT	ND U	0.47	0.45	1	08/12/18 03:54	8/2/18	
4,4'-DDD	**0.86**	0.47	0.17	1	08/12/18 03:54	8/2/18	
4,4'-DDE	**1.9**	0.47	0.34	1	08/12/18 03:54	8/2/18	
4,4'-DDT	**0.52**	0.47	0.23	1	08/12/18 03:54	8/2/18	
Aldrin	ND U	0.47	0.38	1	08/12/18 03:54	8/2/18	
alpha-Chlordane	ND U	0.94	0.30	1	08/12/18 03:54	8/2/18	
cis-Nonachlor	ND U	0.47	0.46	1	08/12/18 03:54	8/2/18	*
Dieldrin	ND U	0.94	0.37	1	08/12/18 03:54	8/2/18	
gamma-BHC (Lindane)	ND U	0.47	0.15	1	08/12/18 03:54	8/2/18	
gamma-Chlordane	ND U	0.94	0.31	1	08/12/18 03:54	8/2/18	
Heptachlor	ND U	0.47	0.19	1	08/12/18 03:54	8/2/18	
trans-Nonachlor	ND U	0.94	0.28	1	08/12/18 03:54	8/2/18	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	79	5 - 120	08/12/18 03:54	
S_4,4'-DDT-d4	100	13 - 200	08/12/18 03:54	
S_Aldrin-13C12	17	10 - 143	08/12/18 03:54	
S_Endrin-13C12	64	20 - 157	08/12/18 03:54	
S_GBHCD6	22	5 - 124	08/12/18 03:54	
S_Heptachlor-13C10	22	10 - 177	08/12/18 03:54	
S_Heptachlrepox13C10	28	8 - 146	08/12/18 03:54	
S_Oxychlordane-13C10	30	5 - 144	08/12/18 03:54	

Analytical Report

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1810488-04	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.10	0.063	1	08/11/18 18:17	8/2/18	
2,4'-DDE	ND U	0.10	0.079	1	08/11/18 18:17	8/2/18	
2,4'-DDT	ND U	0.10	0.094	1	08/11/18 18:17	8/2/18	
4,4'-DDD	ND U	0.10	0.035	1	08/11/18 18:17	8/2/18	
4,4'-DDE	ND U	0.10	0.070	1	08/11/18 18:17	8/2/18	
4,4'-DDT	ND U	0.10	0.047	1	08/11/18 18:17	8/2/18	
Aldrin	ND U	0.10	0.079	1	08/11/18 18:17	8/2/18	
alpha-Chlordane	ND U	0.20	0.062	1	08/11/18 18:17	8/2/18	
cis-Nonachlor	ND U	0.10	0.097	1	08/11/18 18:17	8/2/18	
Dieldrin	ND U	0.20	0.077	1	08/11/18 18:17	8/2/18	
gamma-BHC (Lindane)	ND U	0.10	0.031	1	08/11/18 18:17	8/2/18	
gamma-Chlordane	ND U	0.20	0.064	1	08/11/18 18:17	8/2/18	
Heptachlor	ND U	0.10	0.039	1	08/11/18 18:17	8/2/18	
trans-Nonachlor	ND U	0.20	0.058	1	08/11/18 18:17	8/2/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	74	5 - 120	08/11/18 18:17	
S_4,4'-DDT-d4	85	13 - 200	08/11/18 18:17	
S_Aldrin-13C12	25	10 - 143	08/11/18 18:17	
S_Endrin-13C12	66	20 - 157	08/11/18 18:17	
S_GBHCD6	32	5 - 124	08/11/18 18:17	
S_Heptachlor-13C10	23	10 - 177	08/11/18 18:17	
S_Heptachlrepox13C10	34	8 - 146	08/11/18 18:17	
S_Oxychlordane-13C10	33	5 - 144	08/11/18 18:17	

Client: AECOM **Service Request:** K1806077

Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP

Extraction Method: EPA 3541

Sample Name	Lab Code	S_4,4'DDD-d4 5-120	S_4,4'-DDT-d4 13-200	S_Aldrin-13C12 10-143
Batch QC	K1805746-008	70	85	22
PDI-SG-B264-BL1	K1806077-001	79	100	17
Method Blank	KQ1810488-04	74	85	25
Lab Control Sample	KQ1810488-03	79	97	25
Batch QC	KQ1810488-01	77	98	23
Batch QC	KQ1810488-02	75	92	20

Client: AECOM **Service Request:** K1806077

Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP

Extraction Method: EPA 3541

Sample Name	Lab Code	S_Endrin-13C12 20-157	S_GBHCD6 5-124	S_Heptachlor-13C10 10-177
Batch QC	K1805746-008	67	25	24
PDI-SG-B264-BL1	K1806077-001	64	22	22
Method Blank	KQ1810488-04	66	32	23
Lab Control Sample	KQ1810488-03	72	26	26
Batch QC	KQ1810488-01	77	25	24
Batch QC	KQ1810488-02	72	25	19

Client: AECOM **Service Request:** K1806077

Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP

Extraction Method: EPA 3541

Sample Name	Lab Code	S_Heptachlrepox13C10 8-146	S_Oxychlordane-13C10 5-144
Batch QC	K1805746-008	32	36
PDI-SG-B264-BL1	K1806077-001	28	30
Method Blank	KQ1810488-04	34	33
Lab Control Sample	KQ1810488-03	35	34
Batch QC	KQ1810488-01	36	35
Batch QC	KQ1810488-02	34	35

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:** 08/11/18 17:50

Internal Standard Area and RT SUMMARY
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\081118\081118F028.D\ **Lab Code:** KQ1811804-01
Instrument ID: K-MSMS-01 **Analysis Lot:** 602187
Analysis Method: ALS SOP **Signal ID:** 1

		Pyrene-d10	
		Area	**RT**
	ICAL Result ==>	46,754	14.366
	Upper Limit ==>	93,508	14.87
	Lower Limit ==>	23,377	13.87
Associated Analyses			
Continuing Calibration Verification	KQ1811804-01	89655.6	14.366
Method Blank	KQ1810488-04	66021.4	14.366
Lab Control Sample	KQ1810488-03	70871.6	14.366
Batch QCMS	KQ1810488-01	68849.2	14.366
Batch QCDMS	KQ1810488-02	68210.8	14.3661
Batch QC	K1805746-008	69817.6	14.366
PDI-SG-B264-BL1	K1806077-001	62619.8	14.366

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	N/A
Sample Matrix:	Sediment	**Date Received:**	N/A
		Date Analyzed:	08/11/18
		Date Extracted:	08/2/18

Duplicate Matrix Spike Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Batch QC	**Units:**	ug/Kg
Lab Code:	K1805746-008	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	EPA 3541		

		Matrix Spike KQ1810488-01			**Duplicate Matrix Spike** KQ1810488-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	0.38 J	10.2	10.6	93	10.3	10.4	95	32-169	1	40
2,4'-DDE	ND U	8.13	10.6	77	8.61	10.4	83	43-155	6	40
2,4'-DDT	ND U	8.59	10.6	81	8.68	10.4	83	55-161	<1	40
4,4'-DDD	0.99	10.4	10.6	90	10.6	10.4	93	10-190	2	40
4,4'-DDE	2.1	10.9	10.6	83	11.5	10.4	90	35-162	5	40
4,4'-DDT	0.66	10.5	10.6	93	10.6	10.4	95	24-183	1	40
Aldrin	ND U	10.8	10.6	102	11.8	10.4	114	52-151	9	40
alpha-Chlordane	ND U	14.2	10.6	134	13.4	10.4	129	31-156	6	40
cis-Nonachlor	ND U	17.6	10.6	167 *	17.8	10.4	171 *	27-144	<1	40
Dieldrin	ND U	6.83	10.6	65	7.43	10.4	71	28-150	8	40
gamma-BHC (Lindane)	ND U	9.70	10.6	92	9.51	10.4	91	64-135	2	40
gamma-Chlordane	ND U	13.0	10.6	123	12.7	10.4	122	31-158	2	40
Heptachlor	ND U	9.37	10.6	89	10.8	10.4	104	76-117	14	40
trans-Nonachlor	ND U	14.2	10.6	134	13.8	10.4	133	35-153	3	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	08/11/18
Sample Matrix:	Sediment	**Date Extracted:**	08/02/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	602187

Lab Control Sample
KQ1810488-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	1.85	2.00	93	73-122
2,4'-DDE	1.54	2.00	77	54-145
2,4'-DDT	1.66	2.00	83	77-118
4,4'-DDD	1.76	2.00	88	74-117
4,4'-DDE	1.62	2.00	81	66-132
4,4'-DDT	1.96	2.00	98	78-116
Aldrin	1.84	2.00	92	74-122
alpha-Chlordane	2.58	2.00	129	74-130
cis-Nonachlor	3.44	2.00	172 *	69-134
Dieldrin	1.42	2.00	71	62-131
gamma-BHC (Lindane)	1.80	2.00	90	79-116
gamma-Chlordane	2.41	2.00	121	76-128
Heptachlor	1.91	2.00	96	81-114
trans-Nonachlor	2.87	2.00	144 *	76-124

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	08/11/18 18:17
Sample Matrix:	Sediment	**Date Extracted:**	08/02/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1810488-04	**File ID:**	J:\MS21\Data\081118\081118F029.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	602187
Prep Method:	EPA 3541	**Extraction Lot:**	319012

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1810488-03	J:\MS21\Data\081118\081118F030.D\	08/11/18 18:44
Batch QCMS	KQ1810488-01	J:\MS21\Data\081118\081118F031.D\	08/11/18 19:11
Batch QCDMS	KQ1810488-02	J:\MS21\Data\081118\081118F032.D\	08/11/18 19:39
Batch QC	K1805746-008	J:\MS21\Data\081118\081118F042.D\	08/12/18 00:13
PDI-SG-B264-BL1	K1806077-001	J:\MS21\Data\081118\081118F050.D\	08/12/18 03:54

Client:	AECOM	**Service Request:**	K1806077
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	08/11/18 18:44
Sample Matrix:	Sediment	**Date Extracted:**	08/02/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1810488-03	**File ID:**	J:\MS21\Data\081118\081118F030.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	602187
Prep Method:	EPA 3541	**Extraction Lot:**	319012

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1810488-04	J:\MS21\Data\081118\081118F029.D\	08/11/18 18:17
Batch QCMS	KQ1810488-01	J:\MS21\Data\081118\081118F031.D\	08/11/18 19:11
Batch QCDMS	KQ1810488-02	J:\MS21\Data\081118\081118F032.D\	08/11/18 19:39
Batch QC	K1805746-008	J:\MS21\Data\081118\081118F042.D\	08/12/18 00:13
PDI-SG-B264-BL1	K1806077-001	J:\MS21\Data\081118\081118F050.D\	08/12/18 03:54

Client: AECOM **Service Request:**K1806077
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**08/11/18 17:50

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\081118\081118F028.D\ **Analytical Method:** ALS SOP
Instrument ID: K-MSMS-01 **Analysis Lot:** 602187

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1811804-01	J:\MS21\Data\081118\081118F028.D\	08/11/18 17:50	
Method Blank	KQ1810488-04	J:\MS21\Data\081118\081118F029.D\	08/11/18 18:17	
Lab Control Sample	KQ1810488-03	J:\MS21\Data\081118\081118F030.D\	08/11/18 18:44	
Batch QC	KQ1810488-01	J:\MS21\Data\081118\081118F031.D\	08/11/18 19:11	
Batch QC	KQ1810488-02	J:\MS21\Data\081118\081118F032.D\	08/11/18 19:39	
Batch QC	K1805746-008	J:\MS21\Data\081118\081118F042.D\	08/12/18 00:13	
PDI-SG-B264-BL1	K1806077-001	J:\MS21\Data\081118\081118F050.D\	08/12/18 03:54	

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800383-01		J:\MS21\Data\080818\080818F007.D	08/08/2018 09:40
02	KC1800383-02		J:\MS21\Data\080818\080818F008.D	08/08/2018 10:07
03	KC1800383-03		J:\MS21\Data\080818\080818F009.D	08/08/2018 10:34
04	KC1800383-04		J:\MS21\Data\080818\080818F010.D	08/08/2018 11:01
05	KC1800383-05		J:\MS21\Data\080818\080818F011.D	08/08/2018 11:29
06	KC1800383-06		J:\MS21\Data\080818\080818F012.D	08/08/2018 11:56
07	KC1800383-07		J:\MS21\Data\080818\080818F013.D	08/08/2018 12:24
08	KC1800383-08		J:\MS21\Data\080818\080818F014.D	08/08/2018 12:51
09	KC1800383-09		J:\MS21\Data\080818\080818F015.D	08/08/2018 13:18
10	KC1800383-10		J:\MS21\Data\080818\080818F017.D	08/08/2018 13:55

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5477	02	1.0	0.5496	03	2.0	0.5262	04	5.0	0.4703
05	10	0.4637	06	20	0.4781	07	40	0.4704	08	60	0.4754
09	80	0.4787	10	100	0.5019						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4932	02	1.0	0.4756	03	2.0	0.4244	04	5.0	0.3937
05	10	0.3865	06	20	0.4	07	40	0.4142	08	60	0.4024
09	80	0.4056	10	100	0.4321						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8213	02	1.0	0.7949	03	2.0	0.8055	04	5.0	0.7268
05	10	0.6951	06	20	0.7234	07	40	0.7269	08	60	0.722
09	80	0.6962	10	100	0.754						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5588	02	1.0	0.5829	03	2.0	0.5159	04	5.0	0.4659
05	10	0.4382	06	20	0.4684	07	40	0.4609	08	60	0.4862
09	80	0.4835	10	100	0.5075						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.3817	02	1.0	0.3376	03	2.0	0.3532	04	5.0	0.296
05	10	0.3056	06	20	0.3178	07	40	0.3125	08	60	0.3218
09	80	0.3163	10	100	0.3435						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.7602	02	1.0	0.7698	03	2.0	0.7411	04	5.0	0.6687
05	10	0.6714	06	20	0.6892	07	40	0.6891	08	60	0.6963

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	80	0.6815	10	100	0.7118						

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.9343	02	1.0	1.201	03	2.0	1.209	04	5.0	0.9343
05	10	0.9082	06	20	0.8937	07	40	0.8465	08	60	0.8802
09	80	0.874	10	100	0.8685						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.253	02	1.0	1.499	03	2.0	1.305	04	5.0	1.086
05	10	1.041	06	20	1.128	07	40	1.102	08	60	1.145
09	80	1.11	10	100	1.086						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8296	02	1.0	1.085	03	2.0	0.945	04	5.0	0.9513
05	10	0.9422	06	20	0.9044	07	40	0.9338	08	60	0.9405
09	80	0.8842	10	100	1.017						

alpha-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.93	02	1.0	2.749	03	2.0	2.442	04	5.0	2.512
05	10	2.393	06	20	2.712	07	40	2.423	08	60	2.595
09	80	2.684	10	100	2.333						

cis-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.399	02	1.0	2.254	03	2.0	2.1	04	5.0	2.012
05	10	2.121	06	20	2.292	07	40	1.949	08	60	2.103
09	80	2.21	10	100	1.939						

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.7904	02	1.0	0.7526	03	2.0	0.6278	04	5.0	0.5925
05	10	0.5801	06	20	0.5771	07	40	0.562	08	60	0.5689
09	80	0.5759	10	100	0.5959						

gamma-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.243	02	1.0	3.899	03	2.0	3.356	04	5.0	2.789
05	10	2.748	06	20	2.996	07	40	2.679	08	60	2.774
09	80	3.067	10	100	2.591						

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.643	02	1.0	2.483	03	2.0	2.027	04	5.0	1.876

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	10	1.992	06	20	1.966	07	40	1.856	08	60	1.95
09	80	2.041	10	100	1.825						

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 8/8/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
2,4'-DDD	TRG	Average RF	% RSD	6.7	≤20	0.4962	0.01
2,4'-DDE	TRG	Average RF	% RSD	8.4	≤20	0.4228	0.01
2,4'-DDT	TRG	Average RF	% RSD	6.1	≤20	0.7466	0.01
4,4'-DDD	TRG	Average RF	% RSD	9.1	≤20	0.4968	0.01
4,4'-DDE	TRG	Average RF	% RSD	7.8	≤20	0.3286	0.01
4,4'-DDT	TRG	Average RF	% RSD	5.2	≤20	0.7079	0.01
Aldrin	TRG	Average RF	% RSD	14.1	≤20	0.955	0.01
Dieldrin	TRG	Average RF	% RSD	11.8	≤20	1.175	0.01
Heptachlor	TRG	Average RF	% RSD	7.4	≤20	0.9433	0.01
alpha-Chlordane	TRG	Average RF	% RSD	7.4	≤20	2.577	0.01
cis-Nonachlor	TRG	Average RF	% RSD	7.1	≤20	2.138	0.01
gamma-BHC (Lindane)	TRG	Average RF	% RSD	13.0	≤20	0.6223	0.01
gamma-Chlordane	TRG	Average RF	% RSD	13.2	≤20	3.014	0.01
trans-Nonachlor	TRG	Average RF	% RSD	11.0	≤20	1.966	0.01

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 8/8/2018

Initial Calibration Verification Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800383 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800383-11		J:\MS21\Data\080818\080818F018.D	08/08/2018 14:19

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	18.2	4.962E-1	4.504E-1	-9.239	±25	Average RF
2,4'-DDE	20.0	18.9	4.228E-1	3.998E-1	-5.445	±25	Average RF
2,4'-DDT	20.0	18.2	7.466E-1	6.791E-1	-9.043	±25	Average RF
4,4'-DDD	20.0	19.2	4.968E-1	4.781E-1	-3.771	±25	Average RF
4,4'-DDE	20.0	18.9	3.286E-1	3.112E-1	-5.300	±25	Average RF
4,4'-DDT	20.0	19.5	7.079E-1	6.892E-1	-2.635	±25	Average RF
Aldrin	20.0	19.8	9.55E-1	9.467E-1	-0.872	±25	Average RF
alpha-Chlordane	20.0	24.0	2.577E0	3.09E0	19.88	±25	Average RF
cis-Nonachlor	20.0	20.0	2.138E0	2.143E0	0.226	±25	Average RF
Dieldrin	20.0	19.7	1.175E0	1.158E0	-1.531	±25	Average RF
gamma-BHC (Lindane)	20.0	18.4	6.223E-1	5.718E-1	-8.119	±25	Average RF
gamma-Chlordane	20.0	21.4	3.014E0	3.224E0	6.96	±25	Average RF
Heptachlor	20.0	19.5	9.433E-1	9.21E-1	-2.363	±25	Average RF
trans-Nonachlor	20.0	21.4	1.966E0	2.1E0	6.83	±25	Average RF

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:** 08/11/18 17:50

Continuing Calibration Verification (CCV) Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Calibration Date:** 8/8/2018
File ID: J:\MS21\Data\081118\081118F028.D\ **Calibration ID:** KC1800383
Signal ID: 1 **Analysis Lot:** 602187
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	19.3	0.4962	0.4792	-3.4	NA	±25	Average RF
2,4'-DDE	20.0	20.4	0.4228	0.4316	2.1	NA	±25	Average RF
2,4'-DDT	20.0	19.5	0.7466	0.7272	-2.6	NA	±25	Average RF
4,4'-DDD	20.0	16.8	0.4968	0.4163	-16.2	NA	±25	Average RF
4,4'-DDE	20.0	17.7	0.3286	0.2902	-11.7	NA	±25	Average RF
4,4'-DDT	20.0	20.0	0.7079	0.7095	0.2	NA	±25	Average RF
Aldrin	20.0	19.3	0.955	0.9197	-3.7	NA	±25	Average RF
alpha-Chlordane	20.0	17.1	2.5772	2.1976	-14.7	NA	±25	Average RF
cis-Nonachlor	20.0	17.7	2.138	1.8951	-11.4	NA	±25	Average RF
Dieldrin	20.0	17.8	1.1755	1.0475	-10.9	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	18.5	0.6223	0.5772	-7.3	NA	±25	Average RF
gamma-Chlordane	20.0	16.8	3.0141	2.5361	-15.9	NA	±25	Average RF
Heptachlor	20.0	17.2	0.9433	0.8101	-14.1	NA	±25	Average RF
trans-Nonachlor	20.0	16.3	1.9658	1.6043	-18.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.43	NA	NA	88.6	NA	50-200	
S_4,4'-DDT-d4	5.00	4.67	NA	NA	93.3	NA	50-200	
S_Aldrin-13C12	20.0	14.8	NA	NA	74.2	NA	50-200	
S_Endrin-13C12	20.0	16.5	NA	NA	82.7	NA	50-200	
S_GBHCD6	20.0	17.2	NA	NA	85.8	NA	50-200	
S_Heptachlor-13C10	20.0	17.5	NA	NA	87.4	NA	50-200	
S_Heptachlrepox13C10	20.0	14.6	NA	NA	72.9	NA	50-200	
S_Oxychlordane-13C10	20.0	15.9	NA	NA	79.4	NA	50-200	

Client: AECOM **Service Request:**K1806077
Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**602187
Instrument ID:K-MSMS-01

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS21\Data\081118\081118F028.D\	Continuing Calibration Verification	KQ1811804-01	8/11/2018	17:50:02	
J:\MS21\Data\081118\081118F029.D\	Method Blank	KQ1810488-04	8/11/2018	18:17:18	
J:\MS21\Data\081118\081118F030.D\	Lab Control Sample	KQ1810488-03	8/11/2018	18:44:35	
J:\MS21\Data\081118\081118F031.D\	Batch QC MS	KQ1810488-01	8/11/2018	19:11:50	
J:\MS21\Data\081118\081118F032.D\	Batch QC DMS	KQ1810488-02	8/11/2018	19:39:06	
J:\MS21\Data\081118\081118F033.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	20:06:23	
J:\MS21\Data\081118\081118F034.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	20:34:36	
J:\MS21\Data\081118\081118F035.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	21:01:58	
J:\MS21\Data\081118\081118F036.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	21:29:24	
J:\MS21\Data\081118\081118F037.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	21:56:45	
J:\MS21\Data\081118\081118F038.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	22:23:59	
J:\MS21\Data\081118\081118F039.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	22:51:20	
J:\MS21\Data\081118\081118F040.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	23:18:39	
J:\MS21\Data\081118\081118F041.D\	ZZZZZZZ	ZZZZZZZ	8/11/2018	23:46:02	
J:\MS21\Data\081118\081118F042.D\	Batch QC	K1805746-008	8/12/2018	00:13:15	
J:\MS21\Data\081118\081118F043.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	00:40:33	
J:\MS21\Data\081118\081118F044.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	01:07:52	
J:\MS21\Data\081118\081118F045.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	01:35:26	
J:\MS21\Data\081118\081118F046.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	02:03:14	
J:\MS21\Data\081118\081118F047.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	02:31:00	
J:\MS21\Data\081118\081118F048.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	02:58:48	
J:\MS21\Data\081118\081118F049.D\	ZZZZZZZ	ZZZZZZZ	8/12/2018	03:26:34	
J:\MS21\Data\081118\081118F050.D\	PDI-SG-B264-BL1	K1806077-001	8/12/2018	03:54:21	

Prep Summary Report

Client: AECOM **Service Request:** K1806077
Project: Portland Harbor Pre-Remedial Design Investigation/60566335
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 319012
Analytical Method: ALS SOP **Extraction Date:** 08/02/18 20:07

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
Batch QC	K1805746-008	NA	NA	5.191 g	1 mL	37.7
PDI-SG-B264-BL1	K1806077-001	6/25/18	6/27/18	5.170 g	1 mL	41.0
Matrix Spike	KQ1810488-01MS	NA	NA	5.020 g	1 mL	37.7
Duplicate Matrix Spike	KQ1810488-02DMS	NA	NA	5.098 g	1 mL	37.7
Lab Control Sample	KQ1810488-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1810488-04MB	NA	NA	10 g	1 mL	