ALS Environmental
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August 06, 2018 **Analytical Report for Service Request No:** K1804586B

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 May 15, 2018
For your reference, these analyses have been assigned our service request number **K1804586.**

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

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 and Water

Service Request: K1804586
Date Received: 05/15/2018

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:

Ten sediment samples and one water sample were received for analysis at ALS Environmental on 05/15/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Semivolatiles by GC/MS:

Method 8270D, 06/13/2018:The control criteria for matrix spike recovery of Fluoranthene and Benzo(a)anthracene for sample PDI-SG-S158 were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Method 8270D, 06/13/2018:The Relative Percent Difference (RPD) for Naphthalene in the replicate matrix spike analyses of sample PDI-SG-S158 was outside control criteria. The error associated with an elevated RPD equated to a higher degree of variability. No further corrective action was taken.

Method 8270D, 06/13/2018:The recovery of Pyrene in the Duplicate Laboratory Control Sample (DLCS) KWG1802658-2 was outside the recovery control limits listed in the results summary. The DLCS is used to evaluate batch precision. The relative percent difference (RPD) was within control limits indicating the quality of the sample data was not significantly affected. No further corrective action was taken.

Method 8270D, 06/13/2018:The Method Blank KWG1802658-4 contained low levels of several compounds above the Method Reporting Limit (MRL). In accordance with ALS QA/QC policy, all sample results less than twenty times the level found in the Method Blank were flagged as estimated. Since the problem may indicate a potential bias in the analytical batch, all affected field samples were re-extracted and re-analyzed 28 days past the recommended hold time. The method blank met control criteria for the re-analysis. Both sets of results were reported. An "RE" suffix was appended to the sample name to designate the results from the re-analysis. The data was flagged to indicate the problem.

Method ALS SOP Organochlorine Pesticides by GC/MS/MS, 07/02/2018: The upper control criterion was exceeded for 2,4'-DDT in Laboratory Control Sample (LCS) KQ1806753-03: 120, 77-118. The analyte in question was not detected in the associated field samples. 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 Organochlorine Pesticides by GC/MS/MS, 07/20/2018: The upper control criterion was exceeded for 2,4'-DDT (120, 77-118) and 4,4'-DDT (123, 78-116) in Laboratory Control Sample (LCS) KQ1809004-03. 2,4'-DDT was not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. 4,4'-DDT was detected in samples PDI-SG-S247 (0.61 ug/Kg), PDI-SG-S246 (0.50 ug/Kg), and PDI-SG-S244 (0.54 ug/Kg) just above the MRL. The error associated with elevated recovery indicated a high bias. The data has been flagged to indicate the problem.

Semivoa GC:

No significant anomalies were noted with this analysis.

Approved by _____ Date 08/06/2018

Chain of Custody

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K1804586

SURFACE SEDIMENT
CHAIN OF CUSTODY

ALS-Environmental-Kelso 1317-S-13th-Ave Kelso, WA 98626 **Ph: 360-577-7222 Fax: 360-636-1068**	**Project Contact: Amy Dahl / Chelsey Cook** **Tel: (206) 438-2261 / (206) 438-2010**	**Site Contact: Jennifer Ray** **Laboratory Contact: Howard-Holmes**	**5/15/2018** COC No: 1 **Carrier: Courier** 1 of 1 pages
Client Contact AECOM 1111 3rd Ave Suite 1600 Seattle, WA 98101 Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland, OR Project #: 60566335 Study: Surface Sediment-SMA	**Analysis Turnaround Time** Calendar (C) or Work Days (W) _____ ☒ 21 days ☐ Other _____		

Sample Identification	Sample Date	Sample Time	Matrix	QC Sample	Sampler's Initials	Total No. of Cont.	Fraction	Pesticides, PAHs, Total Solids 1669M, 8270-SIM, 160.3	WQ - Pesticides 1669M	WQ - PAHs 8270-SIM	WQ - BEHP EPA 8270D-LL	WQ - Tributyltin Krone/Unger	Sample Specific Notes:
PDI-SG-S158	5/14/2018	13:15	SS		LS	1		X					
PDI-SG-S161	5/14/2018	16:30	SS		LS	1		X					
PDI-SG-S250	5/14/2018	10:40	SS		AM	1		X					
PDI-SG-S249	5/14/2018	12:00	SS		AM	1		X					
PDI-SG-S248	5/14/2018	12:50	SS		AM	1		X					
PDI-SG-S247	5/14/2018	14:10	SS		AM	1		X					
PDI-SG-S246	5/14/2018	15:15	SS		AM	1		X					
PDI-SG-S252	5/14/2018	9:45	SS		AM	1		X					
PDI-SG-S244	5/14/2018	15:50	SS		AM	1		X					
PDI-SG-S227	5/14/2018	16:50	SS		AM	1		X					
PDI-RB-VV-180514	5/14/2018	17:30	W		MT	8			X	X	X	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 ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:

SMA Study samples - Log in seperately from SS Study samples

Relinquished by:	Company: AECOM	Date/Time: 5/15/18 / 1155	Received by:	Company: HV	Date/Time: 5/15/18 1155
Relinquished by:	Company: HV	Date/Time: 5/17/18 1445	Received by:	Company: ALS	Date/Time: 5/15/18 1445
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

PC HH

Cooler Receipt and Preservation Form

Client Aecom Service Request **K18** 04586

Received: 5/15/18 Opened: 5/15/18 By: CG Unloaded: 5/15/18 By: CG

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 NA	Tracking Number NA	Filed
-0.3	-0.3	5.0	5.0	0.0	385	1		
2.4	2.4	4.9	4.9	0.0	390	T		

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:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18
Sample Matrix:	Sediment	**Date Received:**	05/15/18
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-S158	K1804586-001	**56.0**	-	-	1	05/22/18 12:52	
PDI-SG-S161	K1804586-002	**41.0**	-	-	1	05/22/18 12:52	
PDI-SG-S250	K1804586-003	**35.4**	-	-	1	05/22/18 12:52	
PDI-SG-S249	K1804586-004	**57.5**	-	-	1	05/22/18 12:52	
PDI-SG-S248	K1804586-005	**37.7**	-	-	1	05/22/18 12:52	
PDI-SG-S247	K1804586-006	**41.9**	-	-	1	05/22/18 12:52	
PDI-SG-S246	K1804586-007	**38.4**	-	-	1	05/22/18 12:52	
PDI-SG-S252	K1804586-008	**59.5**	-	-	1	05/22/18 12:52	
PDI-SG-S244	K1804586-009	**38.9**	-	-	1	05/22/18 12:52	
PDI-SG-S227	K1804586-010	**39.6**	-	-	1	05/22/18 12:52	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	AECOM	**Service Request:**	K1804586
Project	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18
Sample Matrix:	Sediment	**Date Received:**	05/15/18
		Date Analyzed:	05/22/18

Replicate Sample Summary
Inorganic Parameters

Sample Name:	PDI-SG-S247	**Units:**	Percent
Lab Code:	K1804586-006	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1804586-006DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	-	41.9	41.7	41.8	<1	20

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.

Organochlorine Pesticides

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Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 13:15
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S158	**Units:**	ug/Kg
Lab Code:	K1804586-001	**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	**2.2**	0.88	0.63	10	07/02/18 03:40	5/24/18	
2,4'-DDE	ND U	0.88	0.79	10	07/02/18 03:40	5/24/18	
2,4'-DDT	ND U	0.94	0.94	10	07/02/18 03:40	5/24/18	*
4,4'-DDD	**4.1**	0.88	0.35	10	07/02/18 03:40	5/24/18	
4,4'-DDE	**4.1**	0.88	0.70	10	07/02/18 03:40	5/24/18	
4,4'-DDT	ND U	0.88	0.47	10	07/02/18 03:40	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	78	5 - 120	07/02/18 03:40	
S_4,4'-DDT-d4	83	13 - 200	07/02/18 03:40	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 16:30
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S161	**Units:**	ug/Kg
Lab Code:	K1804586-002	**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	1.2	0.77	10	07/02/18 04:07	5/24/18	
2,4'-DDE	ND U	1.2	0.96	10	07/02/18 04:07	5/24/18	
2,4'-DDT	ND U	1.2	1.2	10	07/02/18 04:07	5/24/18	*
4,4'-DDD	**2.0**	1.2	0.43	10	07/02/18 04:07	5/24/18	
4,4'-DDE	**3.1**	1.2	0.85	10	07/02/18 04:07	5/24/18	
4,4'-DDT	**0.66 J**	1.2	0.57	10	07/02/18 04:07	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	73	5 - 120	07/02/18 04:07	
S_4,4'-DDT-d4	70	13 - 200	07/02/18 04:07	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 10:40
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S250	**Units:**	ug/Kg
Lab Code:	K1804586-003	**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	1.4	0.89	10	07/02/18 04:34	5/24/18	
2,4'-DDE	ND U	1.4	1.2	10	07/02/18 04:34	5/24/18	
2,4'-DDT	ND U	1.4	1.4	10	07/02/18 04:34	5/24/18	*
4,4'-DDD	**1.1 J**	1.4	0.49	10	07/02/18 04:34	5/24/18	
4,4'-DDE	**2.7**	1.4	0.98	10	07/02/18 04:34	5/24/18	
4,4'-DDT	ND U	1.4	0.66	10	07/02/18 04:34	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	71	5 - 120	07/02/18 04:34	
S_4,4'-DDT-d4	82	13 - 200	07/02/18 04:34	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 12:00
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S249	**Units:**	ug/Kg
Lab Code:	K1804586-004	**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	0.85	0.63	10	07/02/18 05:02	5/24/18	
2,4'-DDE	ND U	0.85	0.79	10	07/02/18 05:02	5/24/18	
2,4'-DDT	ND U	0.94	0.94	10	07/02/18 05:02	5/24/18	*
4,4'-DDD	**0.98**	0.85	0.35	10	07/02/18 05:02	5/24/18	
4,4'-DDE	**1.4**	0.85	0.70	10	07/02/18 05:02	5/24/18	
4,4'-DDT	ND U	0.85	0.47	10	07/02/18 05:02	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	81	5 - 120	07/02/18 05:02	
S_4,4'-DDT-d4	87	13 - 200	07/02/18 05:02	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 12:50
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S248	**Units:**	ug/Kg
Lab Code:	K1804586-005	**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	1.3	0.83	10	07/02/18 05:29	5/24/18	
2,4'-DDE	ND U	1.3	1.1	10	07/02/18 05:29	5/24/18	
2,4'-DDT	ND U	1.3	1.3	10	07/02/18 05:29	5/24/18	*
4,4'-DDD	**1.1 J**	1.3	0.46	10	07/02/18 05:29	5/24/18	
4,4'-DDE	**2.2**	1.3	0.92	10	07/02/18 05:29	5/24/18	
4,4'-DDT	**0.66 J**	1.3	0.62	10	07/02/18 05:29	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	65	5 - 120	07/02/18 05:29	
S_4,4'-DDT-d4	53	13 - 200	07/02/18 05:29	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 14:10
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S247	**Units:**	ug/Kg
Lab Code:	K1804586-006	**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	**0.77**	0.47	0.30	1	07/21/18 01:22	7/6/18	
2,4'-DDE	ND U	0.47	0.38	1	07/21/18 01:22	7/6/18	
2,4'-DDT	ND U	0.47	0.45	1	07/21/18 01:22	7/6/18	*
4,4'-DDD	**2.0**	0.47	0.17	1	07/21/18 01:22	7/6/18	
4,4'-DDE	**4.2**	0.47	0.33	1	07/21/18 01:22	7/6/18	
4,4'-DDT	**0.61**	0.47	0.23	1	07/21/18 01:22	7/6/18	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	53	5 - 120	07/21/18 01:22	
S_4,4'-DDT-d4	53	13 - 200	07/21/18 01:22	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 15:15
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S246	**Units:**	ug/Kg
Lab Code:	K1804586-007	**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	**0.36**	**J**	0.50	0.32	1	07/21/18 01:49	7/6/18	
2,4'-DDE	ND	U	0.50	0.40	1	07/21/18 01:49	7/6/18	
2,4'-DDT	ND	U	0.50	0.48	1	07/21/18 01:49	7/6/18	*
4,4'-DDD	**1.1**		0.50	0.18	1	07/21/18 01:49	7/6/18	
4,4'-DDE	**3.2**		0.50	0.36	1	07/21/18 01:49	7/6/18	
4,4'-DDT	**0.50**		0.50	0.24	1	07/21/18 01:49	7/6/18	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	58	5 - 120	07/21/18 01:49	
S_4,4'-DDT-d4	63	13 - 200	07/21/18 01:49	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 09:45
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S252	**Units:**	ug/Kg
Lab Code:	K1804586-008	**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	0.83	0.63	10	07/02/18 06:51	5/24/18	
2,4'-DDE	ND U	0.83	0.79	10	07/02/18 06:51	5/24/18	
2,4'-DDT	ND U	0.94	0.94	10	07/02/18 06:51	5/24/18	*
4,4'-DDD	**0.66 J**	0.83	0.35	10	07/02/18 06:51	5/24/18	
4,4'-DDE	**1.6**	0.83	0.70	10	07/02/18 06:51	5/24/18	
4,4'-DDT	ND U	0.83	0.47	10	07/02/18 06:51	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	66	5 - 120	07/02/18 06:51	
S_4,4'-DDT-d4	64	13 - 200	07/02/18 06:51	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 15:50
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S244	**Units:**	ug/Kg
Lab Code:	K1804586-009	**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	**0.37**	**J**	0.51	0.32	1	07/21/18 02:17	7/6/18	
2,4'-DDE	ND	U	0.51	0.41	1	07/21/18 02:17	7/6/18	
2,4'-DDT	ND	U	0.51	0.48	1	07/21/18 02:17	7/6/18	*
4,4'-DDD	**1.2**		0.51	0.18	1	07/21/18 02:17	7/6/18	
4,4'-DDE	**3.7**		0.51	0.36	1	07/21/18 02:17	7/6/18	
4,4'-DDT	**0.54**		0.51	0.24	1	07/21/18 02:17	7/6/18	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	56	5 - 120	07/21/18 02:17	
S_4,4'-DDT-d4	55	13 - 200	07/21/18 02:17	

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 16:50
Sample Matrix:	Sediment	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-SG-S227	**Units:**	ug/Kg
Lab Code:	K1804586-010	**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	1.3	0.79	10	07/02/18 07:45	5/24/18	
2,4'-DDE	ND U	1.3	1.0	10	07/02/18 07:45	5/24/18	
2,4'-DDT	ND U	1.3	1.2	10	07/02/18 07:45	5/24/18	*
4,4'-DDD	**1.1 J**	1.3	0.44	10	07/02/18 07:45	5/24/18	
4,4'-DDE	**3.1**	1.3	0.88	10	07/02/18 07:45	5/24/18	
4,4'-DDT	ND U	1.3	0.59	10	07/02/18 07:45	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	64	5 - 120	07/02/18 07:45	
S_4,4'-DDT-d4	68	13 - 200	07/02/18 07:45	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18 17:30
Sample Matrix:	Water	**Date Received:**	05/15/18 14:45
Sample Name:	PDI-RB-VV-180514	**Units:**	ng/L
Lab Code:	K1804586-011	**Basis:**	NA

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.56	0.13	1	06/24/18 00:58	5/18/18	
2,4'-DDE	ND U	0.56	0.13	1	06/24/18 00:58	5/18/18	
2,4'-DDT	ND U	0.56	0.098	1	06/24/18 00:58	5/18/18	
4,4'-DDD	ND U	0.56	0.12	1	06/24/18 00:58	5/18/18	
4,4'-DDE	ND U	0.56	0.085	1	06/24/18 00:58	5/18/18	
4,4'-DDT	ND U	0.56	0.099	1	06/24/18 00:58	5/18/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	64	5 - 120	06/24/18 00:58	
S_4,4'-DDT-d4	62	13 - 200	06/24/18 00:58	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ1806551-03	**Basis:**	NA

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3535A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.50	0.11	1	06/23/18 23:35	5/18/18	
2,4'-DDE	ND U	0.50	0.11	1	06/23/18 23:35	5/18/18	
2,4'-DDT	ND U	0.50	0.087	1	06/23/18 23:35	5/18/18	
4,4'-DDD	ND U	0.50	0.10	1	06/23/18 23:35	5/18/18	
4,4'-DDE	ND U	0.50	0.075	1	06/23/18 23:35	5/18/18	
4,4'-DDT	ND U	0.50	0.088	1	06/23/18 23:35	5/18/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	80	5 - 120	06/23/18 23:35	
S_4,4'-DDT-d4	79	13 - 200	06/23/18 23:35	

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Analytical Report

Client:	AECOM	**Service Request:**	K1804586
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:	KQ1806753-04	**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	0.063	0.063	1	07/02/18 01:50	5/24/18	
2,4'-DDE	ND U	0.079	0.079	1	07/02/18 01:50	5/24/18	
2,4'-DDT	ND U	0.094	0.094	1	07/02/18 01:50	5/24/18	
4,4'-DDD	ND U	0.049	0.035	1	07/02/18 01:50	5/24/18	
4,4'-DDE	ND U	0.070	0.070	1	07/02/18 01:50	5/24/18	
4,4'-DDT	ND U	0.049	0.047	1	07/02/18 01:50	5/24/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	78	5 - 120	07/02/18 01:50	
S_4,4'-DDT-d4	81	13 - 200	07/02/18 01:50	

Analytical Report

Client:	AECOM	**Service Request:**	K1804586
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:	KQ1809004-04	**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	07/20/18 18:33	7/6/18	
2,4'-DDE	ND U	0.10	0.079	1	07/20/18 18:33	7/6/18	
2,4'-DDT	ND U	0.10	0.094	1	07/20/18 18:33	7/6/18	
4,4'-DDD	ND U	0.10	0.035	1	07/20/18 18:33	7/6/18	
4,4'-DDE	ND U	0.10	0.070	1	07/20/18 18:33	7/6/18	
4,4'-DDT	ND U	0.10	0.047	1	07/20/18 18:33	7/6/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	73	5 - 120	07/20/18 18:33	
S_4,4'-DDT-d4	68	13 - 200	07/20/18 18:33	

Client: AECOM **Service Request:** K1804586
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
Batch QC	K1803850-019	64	69
PDI-SG-S158	K1804586-001	78	83
PDI-SG-S161	K1804586-002	73	70
PDI-SG-S250	K1804586-003	71	82
PDI-SG-S249	K1804586-004	81	87
PDI-SG-S248	K1804586-005	65	53
PDI-SG-S247	K1804586-006	53	53
PDI-SG-S246	K1804586-007	58	63
PDI-SG-S252	K1804586-008	66	64
PDI-SG-S244	K1804586-009	56	55
PDI-SG-S227	K1804586-010	64	68
Method Blank	KQ1806753-04	78	81
Method Blank	KQ1809004-04	73	68
Lab Control Sample	KQ1806753-03	60	64
Lab Control Sample	KQ1809004-03	75	71
PDI-SG-S161	KQ1806753-01	75	81
PDI-SG-S161	KQ1806753-02	55	56
Batch QC	KQ1809004-01	77	78
Batch QC	KQ1809004-02	72	73

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335
Sample Matrix: Water

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
PDI-RB-VV-180514	K1804586-011	64	62
Method Blank	KQ1806551-03	80	79
Lab Control Sample	KQ1806551-01	76	76
Duplicate Lab Control Sample	KQ1806551-02	77	81

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**06/23/18 23:07

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

File ID: J:\MS21\Data\062318\062318F029.D\ **Lab Code:**KQ1808514-01
Instrument ID: K-MSMS-01 **Analysis Lot:**596042
Analysis Method: ALS SOP **Signal ID:**1

	Pyrene-d10	
	Area	**RT**
ICAL Result ==>	9,935	14.5042
Upper Limit ==>	19,871	15.00
Lower Limit ==>	4,968	14.00

Associated Analyses

Continuing Calibration Verification	KQ1808514-01	19185.1	14.5042
Method Blank	KQ1806551-03	18034.2	14.5042
Lab Control Sample	KQ1806551-01	20955.8	14.5042
Duplicate Lab Control Sample	KQ1806551-02	19091.9	14.5043
PDI-RB-VV-180514	K1804586-011	17654.6	14.5042

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**07/02/18 01:23

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

File ID: J:\MS21\Data\070118\070118F043.D\ **Lab Code:**KQ1808897-01
Instrument ID: K-MSMS-01 **Analysis Lot:**597148
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	ICAL Result ==>	5,789	14.2043
	Upper Limit ==>	11,577	14.70
	Lower Limit ==>	2,894	13.70
Associated Analyses			
Continuing Calibration Verification	KQ1808897-01	11411.2	14.2043
Method Blank	KQ1806753-04	22256.1	14.2043
Lab Control Sample	KQ1806753-03	20418.5	14.2043
PDI-SG-S161MS	KQ1806753-01	20842.1	14.2044
PDI-SG-S161DMS	KQ1806753-02	17702.9	14.2043
PDI-SG-S158	K1804586-001	19758.1	14.2043
PDI-SG-S161	K1804586-002	22586.6	14.2043
PDI-SG-S250	K1804586-003	19306.2	14.2043
PDI-SG-S249	K1804586-004	22752.4	14.2043
PDI-SG-S248	K1804586-005	20967.3	14.2043
PDI-SG-S252	K1804586-008	20191.6	14.2043
PDI-SG-S227	K1804586-010	22606.9	14.2043

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**07/20/18 18:06

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

File ID: J:\MS21\Data\072018\072018F021.D\ **Lab Code:**KQ1809858-01
Instrument ID: K-MSMS-01 **Analysis Lot:**599464
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	ICAL Result ==>	16,930	14.6139
	Upper Limit ==>	33,860	15.11
	Lower Limit ==>	8,465	14.11
Associated Analyses			
Continuing Calibration Verification	KQ1809858-01	27411.6	14.6397
Method Blank	KQ1809004-04	18399.8	14.6139
Lab Control Sample	KQ1809004-03	18883.7	14.6397
Batch QCMS	KQ1809004-01	23328.5	14.6397
Batch QCDMS	KQ1809004-02	25095.5	14.6397
Batch QC	K1803850-019	33106.7	14.6139
PDI-SG-S247	K1804586-006	44697	14.6397
PDI-SG-S246	K1804586-007	42320.5	14.6396
PDI-SG-S244	K1804586-009	42605.5	14.6397

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Collected:**	05/14/18
Sample Matrix:	Sediment	**Date Received:**	05/15/18
		Date Analyzed:	07/2/18
		Date Extracted:	05/24/18

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

Sample Name:	PDI-SG-S161	**Units:**	ug/Kg
Lab Code:	K1804586-002	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	EPA 3541		

		Matrix Spike KQ1806753-01			Duplicate Matrix Spike KQ1806753-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	ND U	3.04	2.42	125	3.35	2.42	139	32-169	10	40
2,4'-DDE	ND U	1.47	2.42	61	1.71	2.42	71	43-155	15	40
2,4'-DDT	ND U	2.58	2.42	106	2.81	2.42	116	55-161	9	40
4,4'-DDD	2.0	4.26	2.42	93	4.52	2.42	104	10-190	6	40
4,4'-DDE	3.1	5.24	2.42	89	5.18	2.42	86	35-162	1	40
4,4'-DDT	0.66 J	3.08	2.42	100	3.23	2.42	107	24-183	5	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.

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/02/18
Sample Matrix:	Sediment	**Date Extracted:**	05/24/18

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:	597148

Lab Control Sample
KQ1806753-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	2.16	2.00	108	73-122
2,4'-DDE	1.63	2.00	81	54-145
2,4'-DDT	2.40	2.00	120 *	77-118
4,4'-DDD	1.99	2.00	99	74-117
4,4'-DDE	2.25	2.00	112	66-132
4,4'-DDT	2.13	2.00	107	78-116

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/20/18
Sample Matrix:	Sediment	**Date Extracted:**	07/06/18

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:	599464

Lab Control Sample
KQ1809004-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	2.15	2.00	107	73-122
2,4'-DDE	1.79	2.00	90	54-145
2,4'-DDT	2.65	2.00	133 *	77-118
4,4'-DDD	2.19	2.00	110	74-117
4,4'-DDE	2.18	2.00	109	66-132
4,4'-DDT	2.47	2.00	123 *	78-116

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	06/24/18
Sample Matrix:	Water	**Date Extracted:**	05/18/18

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

Analysis Method:	ALS SOP	**Units:**	ng/L
Prep Method:	EPA 3535A	**Basis:**	NA
		Analysis Lot:	596042

	Lab Control Sample KQ1806551-01			Duplicate Lab Control Sample KQ1806551-02					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	21.4	20.0	107	22.6	20.0	113	79-113	6	30
2,4'-DDE	15.1	20.0	75	15.1	20.0	76	75-117	<1	30
2,4'-DDT	22.7	20.0	114	21.0	20.0	105	77-114	8	30
4,4'-DDD	17.8	20.0	89	18.0	20.0	90	78-114	<1	30
4,4'-DDE	19.3	20.0	97	20.4	20.0	102	76-115	6	30
4,4'-DDT	18.2	20.0	91	17.7	20.0	89	85-113	2	30

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	06/23/18 23:35
Sample Matrix:	Water	**Date Extracted:**	05/18/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1806551-03	**File ID:**	J:\MS21\Data\062318\062318F030.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	596042
Prep Method:	EPA 3535A	**Extraction Lot:**	314168

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1806551-01	J:\MS21\Data\062318\062318F031.D\	06/24/18 00:02
Duplicate Lab Control Sample	KQ1806551-02	J:\MS21\Data\062318\062318F032.D\	06/24/18 00:30
PDI-RB-VV-180514	K1804586-011	J:\MS21\Data\062318\062318F033.D\	06/24/18 00:58

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/02/18 01:50
Sample Matrix:	Sediment	**Date Extracted:**	05/24/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1806753-04	**File ID:**	J:\MS21\Data\070118\070118F044.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	597148
Prep Method:	EPA 3541	**Extraction Lot:**	314428

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1806753-03	J:\MS21\Data\070118\070118F045.D\	07/02/18 02:18
PDI-SG-S161MS	KQ1806753-01	J:\MS21\Data\070118\070118F046.D\	07/02/18 02:45
PDI-SG-S161DMS	KQ1806753-02	J:\MS21\Data\070118\070118F047.D\	07/02/18 03:12
PDI-SG-S158	K1804586-001	J:\MS21\Data\070118\070118F048.D\	07/02/18 03:40
PDI-SG-S161	K1804586-002	J:\MS21\Data\070118\070118F049.D\	07/02/18 04:07
PDI-SG-S250	K1804586-003	J:\MS21\Data\070118\070118F050.D\	07/02/18 04:34
PDI-SG-S249	K1804586-004	J:\MS21\Data\070118\070118F051.D\	07/02/18 05:02
PDI-SG-S248	K1804586-005	J:\MS21\Data\070118\070118F052.D\	07/02/18 05:29
PDI-SG-S252	K1804586-008	J:\MS21\Data\070118\070118F055.D\	07/02/18 06:51
PDI-SG-S227	K1804586-010	J:\MS21\Data\070118\070118F057.D\	07/02/18 07:45

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/20/18 18:33
Sample Matrix:	Sediment	**Date Extracted:**	07/06/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1809004-04	**File ID:**	J:\MS21\Data\072018\072018F022.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	599464
Prep Method:	EPA 3541	**Extraction Lot:**	317186

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1809004-03	J:\MS21\Data\072018\072018F023.D\	07/20/18 19:00
Batch QCMS	KQ1809004-01	J:\MS21\Data\072018\072018F024.D\	07/20/18 19:28
Batch QCDMS	KQ1809004-02	J:\MS21\Data\072018\072018F025.D\	07/20/18 19:55
Batch QC	K1803850-019	J:\MS21\Data\072018\072018F034.D\	07/21/18 00:01
PDI-SG-S247	K1804586-006	J:\MS21\Data\072018\072018F037.D\	07/21/18 01:22
PDI-SG-S246	K1804586-007	J:\MS21\Data\072018\072018F038.D\	07/21/18 01:49
PDI-SG-S244	K1804586-009	J:\MS21\Data\072018\072018F039.D\	07/21/18 02:17

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	06/24/18 00:02
Sample Matrix:	Water	**Date Extracted:**	05/18/18

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

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1806551-01	**File ID:**	J:\MS21\Data\062318\062318F031.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	596042
Prep Method:	EPA 3535A	**Extraction Lot:**	314168

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1806551-03	J:\MS21\Data\062318\062318F030.D\	06/23/18 23:35
Duplicate Lab Control Sample	KQ1806551-02	J:\MS21\Data\062318\062318F032.D\	06/24/18 00:30
PDI-RB-VV-180514	K1804586-011	J:\MS21\Data\062318\062318F033.D\	06/24/18 00:58

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QA/QC Report

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/02/18 02:18
Sample Matrix:	Sediment	**Date Extracted:**	05/24/18

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

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1806753-03	**File ID:**	J:\MS21\Data\070118\070118F045.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	597148
Prep Method:	EPA 3541	**Extraction Lot:**	314428

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1806753-04	J:\MS21\Data\070118\070118F044.D\	07/02/18 01:50
PDI-SG-S161MS	KQ1806753-01	J:\MS21\Data\070118\070118F046.D\	07/02/18 02:45
PDI-SG-S161DMS	KQ1806753-02	J:\MS21\Data\070118\070118F047.D\	07/02/18 03:12
PDI-SG-S158	K1804586-001	J:\MS21\Data\070118\070118F048.D\	07/02/18 03:40
PDI-SG-S161	K1804586-002	J:\MS21\Data\070118\070118F049.D\	07/02/18 04:07
PDI-SG-S250	K1804586-003	J:\MS21\Data\070118\070118F050.D\	07/02/18 04:34
PDI-SG-S249	K1804586-004	J:\MS21\Data\070118\070118F051.D\	07/02/18 05:02
PDI-SG-S248	K1804586-005	J:\MS21\Data\070118\070118F052.D\	07/02/18 05:29
PDI-SG-S252	K1804586-008	J:\MS21\Data\070118\070118F055.D\	07/02/18 06:51
PDI-SG-S227	K1804586-010	J:\MS21\Data\070118\070118F057.D\	07/02/18 07:45

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/20/18 19:00
Sample Matrix:	Sediment	**Date Extracted:**	07/06/18

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

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MSMS-01
Lab Code:	KQ1809004-03	**File ID:**	J:\MS21\Data\072018\072018F023.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	599464
Prep Method:	EPA 3541	**Extraction Lot:**	317186

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1809004-04	J:\MS21\Data\072018\072018F022.D\	07/20/18 18:33
Batch QCMS	KQ1809004-01	J:\MS21\Data\072018\072018F024.D\	07/20/18 19:28
Batch QCDMS	KQ1809004-02	J:\MS21\Data\072018\072018F025.D\	07/20/18 19:55
Batch QC	K1803850-019	J:\MS21\Data\072018\072018F034.D\	07/21/18 00:01
PDI-SG-S247	K1804586-006	J:\MS21\Data\072018\072018F037.D\	07/21/18 01:22
PDI-SG-S246	K1804586-007	J:\MS21\Data\072018\072018F038.D\	07/21/18 01:49
PDI-SG-S244	K1804586-009	J:\MS21\Data\072018\072018F039.D\	07/21/18 02:17

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**06/23/18 23:07

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\062318\062318F029.D\ **Analytical Method:** ALS SOP
Instrument ID: K-MSMS-01 **Analysis Lot:** 596042

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1808514-01	J:\MS21\Data\062318\062318F029.D\	06/23/18 23:07	
Method Blank	KQ1806551-03	J:\MS21\Data\062318\062318F030.D\	06/23/18 23:35	
Lab Control Sample	KQ1806551-01	J:\MS21\Data\062318\062318F031.D\	06/24/18 00:02	
Duplicate Lab Control Sample	KQ1806551-02	J:\MS21\Data\062318\062318F032.D\	06/24/18 00:30	
PDI-RB-VV-180514	K1804586-011	J:\MS21\Data\062318\062318F033.D\	06/24/18 00:58	

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**07/02/18 01:23

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\070118\070118F043.D\ **Analytical Method:** ALS SOP
Instrument ID: K-MSMS-01 **Analysis Lot:** 597148

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1808897-01	J:\MS21\Data\070118\070118F043.D\	07/02/18 01:23	
Method Blank	KQ1806753-04	J:\MS21\Data\070118\070118F044.D\	07/02/18 01:50	
Lab Control Sample	KQ1806753-03	J:\MS21\Data\070118\070118F045.D\	07/02/18 02:18	
PDI-SG-S161	KQ1806753-01	J:\MS21\Data\070118\070118F046.D\	07/02/18 02:45	
PDI-SG-S161	KQ1806753-02	J:\MS21\Data\070118\070118F047.D\	07/02/18 03:12	
PDI-SG-S158	K1804586-001	J:\MS21\Data\070118\070118F048.D\	07/02/18 03:40	
PDI-SG-S161	K1804586-002	J:\MS21\Data\070118\070118F049.D\	07/02/18 04:07	
PDI-SG-S250	K1804586-003	J:\MS21\Data\070118\070118F050.D\	07/02/18 04:34	
PDI-SG-S249	K1804586-004	J:\MS21\Data\070118\070118F051.D\	07/02/18 05:02	
PDI-SG-S248	K1804586-005	J:\MS21\Data\070118\070118F052.D\	07/02/18 05:29	
PDI-SG-S252	K1804586-008	J:\MS21\Data\070118\070118F055.D\	07/02/18 06:51	
PDI-SG-S227	K1804586-010	J:\MS21\Data\070118\070118F057.D\	07/02/18 07:45	

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335 **Date Analyzed:**07/20/18 18:06

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS21\Data\072018\072018F021.D\ **Analytical Method:** ALS SOP
Instrument ID: K-MSMS-01 **Analysis Lot:** 599464

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1809858-01	J:\MS21\Data\072018\072018F021.D\	07/20/18 18:06	
Method Blank	KQ1809004-04	J:\MS21\Data\072018\072018F022.D\	07/20/18 18:33	
Lab Control Sample	KQ1809004-03	J:\MS21\Data\072018\072018F023.D\	07/20/18 19:00	
Batch QC	KQ1809004-01	J:\MS21\Data\072018\072018F024.D\	07/20/18 19:28	
Batch QC	KQ1809004-02	J:\MS21\Data\072018\072018F025.D\	07/20/18 19:55	
Batch QC	K1803850-019	J:\MS21\Data\072018\072018F034.D\	07/21/18 00:01	
PDI-SG-S247	K1804586-006	J:\MS21\Data\072018\072018F037.D\	07/21/18 01:22	
PDI-SG-S246	K1804586-007	J:\MS21\Data\072018\072018F038.D\	07/21/18 01:49	
PDI-SG-S244	K1804586-009	J:\MS21\Data\072018\072018F039.D\	07/21/18 02:17	

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/19/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800347 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800347-01		J:\MS21\Data\071918\071918F005.D	07/19/2018 10:46
02	KC1800347-02		J:\MS21\Data\071918\071918F006.D	07/19/2018 11:14
03	KC1800347-03		J:\MS21\Data\071918\071918F007.D	07/19/2018 11:43
04	KC1800347-04		J:\MS21\Data\071918\071918F008.D	07/19/2018 12:11
05	KC1800347-05		J:\MS21\Data\071918\071918F009.D	07/19/2018 12:40
06	KC1800347-06		J:\MS21\Data\071918\071918F010.D	07/19/2018 13:09
07	KC1800347-07		J:\MS21\Data\071918\071918F011.D	07/19/2018 13:37
08	KC1800347-08		J:\MS21\Data\071918\071918F012.D	07/19/2018 14:04
09	KC1800347-09		J:\MS21\Data\071918\071918F013.D	07/19/2018 14:31
10	KC1800347-10		J:\MS21\Data\071918\071918F014.D	07/19/2018 14:59

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4196	02	1.0	0.4572	03	2.0	0.4022	04	5.0	0.3774
05	10	0.3761	06	20	0.3903	07	40	0.3725	08	60	0.3898
09	80	0.371	10	100	0.3683						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.3186	02	1.0	0.3218	03	2.0	0.3204	04	5.0	0.2823
05	10	0.2862	06	20	0.2911	07	40	0.2844	08	60	0.2838
09	80	0.2812	10	100	0.2708						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4874	02	1.0	0.4627	03	2.0	0.4311	04	5.0	0.4146
05	10	0.4533	06	20	0.4498	07	40	0.4754	08	60	0.4595
09	80	0.464	10	100	0.422						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.6779	02	1.0	0.685	03	2.0	0.6055	04	5.0	0.5748
05	10	0.5557	06	20	0.5706	07	40	0.5473	08	60	0.5722
09	80	0.5669	10	100	0.5684						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.2772	02	1.0	0.3149	03	2.0	0.2785	04	5.0	0.2476
05	10	0.2401	06	20	0.2605	07	40	0.2512	08	60	0.261
09	80	0.2562	10	100	0.2436						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.6862	02	1.0	0.6551	03	2.0	0.6066	04	5.0	0.5986
05	10	0.6136	06	20	0.5888	07	40	0.6112	08	60	0.6076

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/19/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800347 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	80	0.6306	10	100	0.5833						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	4.426	02	5	4.402	03	5	4.466	04	5	4.605
05	5	4.466	06	5	4.856	07	5	4.539	08	5	4.701
09	5	4.671	10	5	5.424						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	10.18	02	5	9.779	03	5	9.812	04	5	9.947
05	5	9.58	06	5	9.679	07	5	9.53	08	5	9.293
09	5	9.616	10	5	10.2						

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/19/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800347 **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	7.1	≤20	0.3924	0.01
2,4'-DDE	TRG	Average RF	% RSD	6.4	≤20	0.2941	0.01
2,4'-DDT	TRG	Average RF	% RSD	5.1	≤20	0.452	0.01
4,4'-DDD	TRG	Average RF	% RSD	8.3	≤20	0.5924	0.01
4,4'-DDE	TRG	Average RF	% RSD	8.5	≤20	0.2631	0.01
4,4'-DDT	TRG	Average RF	% RSD	5.1	≤20	0.6182	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	6.6	≤	4.656	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	2.9	≤	9.762	0.01

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/1/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800370 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800370-01		J:\MS21\Data\070118\070118F004.D	07/01/2018 07:58
02	KC1800370-02		J:\MS21\Data\070118\070118F005.D	07/01/2018 08:25
03	KC1800370-03		J:\MS21\Data\070118\070118F006.D	07/01/2018 08:53
04	KC1800370-04		J:\MS21\Data\070118\070118F007.D	07/01/2018 09:21
05	KC1800370-05		J:\MS21\Data\070118\070118F008.D	07/01/2018 09:48
06	KC1800370-06		J:\MS21\Data\070118\070118F009.D	07/01/2018 10:15
07	KC1800370-07		J:\MS21\Data\070118\070118F010.D	07/01/2018 10:42
08	KC1800370-08		J:\MS21\Data\070118\070118F011.D	07/01/2018 11:10
09	KC1800370-09		J:\MS21\Data\070118\070118F012.D	07/01/2018 11:37
10	KC1800370-10		J:\MS21\Data\070118\070118F013.D	07/01/2018 12:05

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5133	02	1.0	0.4351	03	2.0	0.4615	04	5.0	0.4018
05	10	0.4015	06	20	0.4162	07	40	0.4069	08	60	0.4264
09	80	0.4273	10	100	0.4456						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5598	02	1.0	0.3492	03	2.0	0.4037	04	5.0	0.3441
05	10	0.3222	06	20	0.3382	07	40	0.353	08	60	0.3617
09	80	0.3721	10	100	0.39						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.6355	02	1.0	0.6047	03	2.0	0.489	04	5.0	0.4451
05	10	0.4482	06	20	0.4866	07	40	0.4999	08	60	0.5445
09	80	0.5368	10	100	0.4927						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.6588	02	1.0	0.7291	03	2.0	0.6549	04	5.0	0.5686
05	10	0.5919	06	20	0.6104	07	40	0.5897	08	60	0.5848
09	80	0.5689	10	100	0.5961						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.368	02	1.0	0.3091	03	2.0	0.2859	04	5.0	0.2708
05	10	0.266	06	20	0.2909	07	40	0.283	08	60	0.2876
09	80	0.2874	10	100	0.3061						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.5828	02	1.0	0.7667	03	2.0	0.7092	04	5.0	0.6262
05	10	0.664	06	20	0.6432	07	40	0.6476	08	60	0.6905

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/1/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800370 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	80	0.6363	10	100	0.6039						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	5.085	02	5	6.639	03	5	6.514	04	5	6.744
05	5	6.21	06	5	6.792	07	5	6.319	08	5	5.734
09	5	6.007	10	5	6.797						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	9.063	02	5	10.84	03	5	11.31	04	5	11.19
05	5	10.81	06	5	10.86	07	5	10.24	08	5	9.836
09	5	10.05	10	5	9.874						

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/1/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800370 **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	7.8	≤20	0.4335	0.01
2,4'-DDE	TRG	Average RF	% RSD	17.9	≤20	0.3794	0.01
2,4'-DDT	TRG	Average RF	% RSD	12.1	≤20	0.5183	0.01
4,4'-DDD	TRG	Average RF	% RSD	8.3	≤20	0.6153	0.01
4,4'-DDE	TRG	Average RF	% RSD	9.7	≤20	0.2955	0.01
4,4'-DDT	TRG	Average RF	% RSD	8.2	≤20	0.657	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	8.8	≤	6.284	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	6.8	≤	10.41	0.01

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 6/22/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800289 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800289-01		J:\MS21\Data\062218\062218F010a.D	06/22/2018 23:29
02	KC1800289-02		J:\MS21\Data\062218\062218F011a.D	06/23/2018 00:00
03	KC1800289-03		J:\MS21\Data\062218\062218F012a.D	06/23/2018 00:30
04	KC1800289-04		J:\MS21\Data\062218\062218F013a.D	06/23/2018 01:01
05	KC1800289-05		J:\MS21\Data\062218\062218F014a.D	06/23/2018 01:32
06	KC1800289-06		J:\MS21\Data\062218\062218F015a.D	06/23/2018 02:03
07	KC1800289-07		J:\MS21\Data\062218\062218F016a.D	06/23/2018 02:34
08	KC1800289-08		J:\MS21\Data\062218\062218F017a.D	06/23/2018 03:05
09	KC1800289-09		J:\MS21\Data\062218\062218F018a.D	06/23/2018 03:37
10	KC1800289-10		J:\MS21\Data\062218\062218F019a.D	06/23/2018 04:09

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4721	02	1.0	0.4508	03	2.0	0.3846	04	5.0	0.3893
05	10	0.3914	06	20	0.4054	07	40	0.3823	08	60	0.3838
09	80	0.4029	10	100	0.382						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.3623	02	1.0	0.2681	03	2.0	0.2612	04	5.0	0.2856
05	10	0.2684	06	20	0.2743	07	40	0.2516	08	60	0.2796
09	80	0.2955	10	100	0.2636						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.4741	02	1.0	0.4121	03	2.0	0.4966	04	5.0	0.4631
05	10	0.4429	06	20	0.4689	07	40	0.4282	08	60	0.4486
09	80	0.4483	10	100	0.4613						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8668	02	1.0	0.7121	03	2.0	0.6938	04	5.0	0.6301
05	10	0.6183	06	20	0.6351	07	40	0.608	08	60	0.6204
09	80	0.641	10	100	0.6396						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.2923	02	1.0	0.2827	03	2.0	0.2293	04	5.0	0.2402
05	10	0.2434	06	20	0.2357	07	40	0.2359	08	60	0.2339
09	80	0.2472	10	100	0.2422						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8167	02	1.0	0.7254	03	2.0	0.6836	04	5.0	0.6742
05	10	0.6381	06	20	0.6653	07	40	0.6244	08	60	0.6384

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 6/22/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800289 **Signal ID:** 1
Instrument ID: K-MSMS-01

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	80	0.6525	10	100	0.6675						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	6.924	02	5	6.228	03	5	6.315	04	5	6.033
05	5	6.039	06	5	6.132	07	5	6.306	08	5	6.733
09	5	6.475	10	5	5.949						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	13.13	02	5	11.67	03	5	12.08	04	5	11.77
05	5	10.96	06	5	11.3	07	5	11.13	08	5	12.14
09	5	11.48	10	5	10.83						

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 6/22/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1800289 **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	7.8	≤20	0.4045	0.01
2,4'-DDE	TRG	Average RF	% RSD	11.1	≤20	0.281	0.01
2,4'-DDT	TRG	Average RF	% RSD	5.3	≤20	0.4544	0.01
4,4'-DDD	TRG	Average RF	% RSD	11.7	≤20	0.6665	0.01
4,4'-DDE	TRG	Average RF	% RSD	8.6	≤20	0.2483	0.01
4,4'-DDT	TRG	Average RF	% RSD	8.3	≤20	0.6786	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	5.0	≤	6.313	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	5.8	≤	11.65	0.01

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/19/2018

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

Calibration ID: KC1800347 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800347-11		J:\MS21\Data\071918\071918F015.D	07/19/2018 15:26

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	18.3	3.924E-1	3.598E-1	-8.305	±25	Average RF
2,4'-DDE	20.0	19.4	2.941E-1	2.852E-1	-3.030	±25	Average RF
2,4'-DDT	20.0	18.0	4.52E-1	4.06E-1	-10.178	±25	Average RF
4,4'-DDD	20.0	18.6	5.924E-1	5.496E-1	-7.234	±25	Average RF
4,4'-DDE	20.0	17.9	2.631E-1	2.36E-1	-10.300	±25	Average RF
4,4'-DDT	20.0	19.7	6.182E-1	6.091E-1	-1.465	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.45	9.762E0	1.064E1	109	50-200	Average RF
S_4,4'-DDT-d4	5.00	5.32	4.656E0	4.949E0	106	50-200	Average RF

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 7/1/2018

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

Calibration ID: KC1800370 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800370-11		J:\MS21\Data\070118\070118F014.D	07/01/2018 12:32

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	18.9	4.335E-1	4.106E-1	-5.298	±25	Average RF
2,4'-DDE	20.0	18.5	3.794E-1	3.504E-1	-7.648	±25	Average RF
2,4'-DDT	20.0	17.0	5.183E-1	4.394E-1	-15.221	±25	Average RF
4,4'-DDD	20.0	19.6	6.153E-1	6.029E-1	-2.015	±25	Average RF
4,4'-DDE	20.0	19.5	2.955E-1	2.876E-1	-2.673	±25	Average RF
4,4'-DDT	20.0	19.3	6.57E-1	6.335E-1	-3.578	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.08	1.041E1	1.057E1	102	50-200	Average RF
S_4,4'-DDT-d4	5.00	5.15	6.284E0	6.475E0	103	50-200	Average RF

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation **Calibration Date:** 6/22/2018

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

Calibration ID: KC1800289 **Signal ID:** 1
Instrument ID: K-MSMS-01

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800289-11		J:\MS21\Data\062218\062218F020a.D	06/23/2018 04:41
12	KC1800289-12		J:\MS21\Data\062218\062218F020a.D	06/23/2018 04:41

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	18.6	4.045E-1	3.771E-1	-6.776	±25	Average RF
2,4'-DDE	20.0	18.3	2.81E-1	2.566E-1	-8.662	±25	Average RF
2,4'-DDT	20.0	17.4	4.544E-1	3.945E-1	-13.189	±25	Average RF
4,4'-DDD	20.0	18.6	6.665E-1	6.191E-1	-7.108	±25	Average RF
4,4'-DDE	20.0	20.3	2.483E-1	2.519E-1	1.47	±25	Average RF
4,4'-DDT	20.0	18.6	6.786E-1	6.325E-1	-6.792	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.78	1.165E1	1.113E1	95.6	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.91	6.313E0	6.194E0	98.2	50-200	Average RF

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	06/23/18 23:07

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

Analysis Method:	ALS SOP	**Calibration Date:**	6/22/2018
File ID:	J:\MS21\Data\062318\062318F029.D\	**Calibration ID:**	KC1800289
Signal ID:	1	**Analysis Lot:**	596042
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	19.3	0.4045	0.3901	-3.5	NA	±25	Average RF
2,4'-DDE	20.0	16.3	0.281	0.2284	-18.7	NA	±25	Average RF
2,4'-DDT	20.0	19.9	0.4544	0.4523	-0.5	NA	±25	Average RF
4,4'-DDD	20.0	17.0	0.6665	0.5676	-14.8	NA	±25	Average RF
4,4'-DDE	20.0	18.8	0.2483	0.2331	-6.1	NA	±25	Average RF
4,4'-DDT	20.0	18.0	0.6786	0.6093	-10.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.25	11.6487	9.9117	85.1	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.18	6.3133	5.279	83.6	NA	50-200	Average RF

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/02/18 01:23

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

Analysis Method:	ALS SOP	**Calibration Date:**	7/1/2018
File ID:	J:\MS21\Data\070118\070118F043.D\	**Calibration ID:**	KC1800370
Signal ID:	1	**Analysis Lot:**	597148
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	19.9	0.4335	0.4303	-0.7	NA	±25	Average RF
2,4'-DDE	20.0	18.0	0.3794	0.3407	-10.2	NA	±25	Average RF
2,4'-DDT	20.0	21.4	0.5183	0.5556	7.2	NA	±25	Average RF
4,4'-DDD	20.0	18.9	0.6153	0.5803	-5.7	NA	±25	Average RF
4,4'-DDE	20.0	19.5	0.2955	0.2888	-2.3	NA	±25	Average RF
4,4'-DDT	20.0	20.1	0.657	0.6595	0.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.10	10.4072	8.531	82.0	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	3.93	6.2842	4.9402	78.6	NA	50-200	Average RF

Client:	AECOM	**Service Request:**	K1804586
Project:	Portland Harbor Pre-Remedial Design Investigation/60566335	**Date Analyzed:**	07/20/18 18:06

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

Analysis Method:	ALS SOP	**Calibration Date:**	7/19/2018
File ID:	J:\MS21\Data\072018\072018F021.D\	**Calibration ID:**	KC1800347
Signal ID:	1	**Analysis Lot:**	599464
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	21.5	0.3924	0.4226	7.7	NA	±25	Average RF
2,4'-DDE	20.0	22.4	0.2941	0.3288	11.8	NA	±25	Average RF
2,4'-DDT	20.0	22.6	0.452	0.5098	12.8	NA	±25	Average RF
4,4'-DDD	20.0	19.8	0.5924	0.5869	-0.9	NA	±25	Average RF
4,4'-DDE	20.0	22.0	0.2631	0.29	10.2	NA	±25	Average RF
4,4'-DDT	20.0	19.9	0.6182	0.6141	-0.7	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.10	9.7616	8.0111	82.1	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.32	4.6555	4.0266	86.5	NA	50-200	Average RF

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**596042
Instrument ID:K-MSMS-01

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS21\Data\062318\062318F029.D\	Continuing Calibration Verification	KQ1808514-01	6/23/2018	23:07:52	
J:\MS21\Data\062318\062318F030.D\	Method Blank	KQ1806551-03	6/23/2018	23:35:14	
J:\MS21\Data\062318\062318F031.D\	Lab Control Sample	KQ1806551-01	6/24/2018	00:02:28	
J:\MS21\Data\062318\062318F032.D\	Duplicate Lab Control Sample	KQ1806551-02	6/24/2018	00:30:33	
J:\MS21\Data\062318\062318F033.D\	PDI-RB-VV-180514	K1804586-011	6/24/2018	00:58:13	
J:\MS21\Data\062318\062318F034.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	01:25:35	
J:\MS21\Data\062318\062318F035.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	01:52:52	
J:\MS21\Data\062318\062318F036.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	02:20:07	
J:\MS21\Data\062318\062318F037.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	02:47:21	
J:\MS21\Data\062318\062318F038.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	03:15:06	
J:\MS21\Data\062318\062318F039.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	03:43:35	
J:\MS21\Data\062318\062318F040.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	04:10:46	
J:\MS21\Data\062318\062318F041.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	04:38:07	
J:\MS21\Data\062318\062318F042.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	05:05:16	
J:\MS21\Data\062318\062318F043.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	05:32:32	
J:\MS21\Data\062318\062318F044.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	05:59:48	
J:\MS21\Data\062318\062318F045.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	06:27:04	
J:\MS21\Data\062318\062318F046.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	06:54:19	
J:\MS21\Data\062318\062318F047.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	07:21:35	
J:\MS21\Data\062318\062318F048.D\	ZZZZZZZ	ZZZZZZZ	6/24/2018	07:48:47	

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**597148
Instrument ID:K-MSMS-01

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS21\Data\070118\070118F043.D\	Continuing Calibration Verification	KQ1808897-01	7/2/2018	01:23:52	
J:\MS21\Data\070118\070118F044.D\	Method Blank	KQ1806753-04	7/2/2018	01:50:57	
J:\MS21\Data\070118\070118F045.D\	Lab Control Sample	KQ1806753-03	7/2/2018	02:18:18	
J:\MS21\Data\070118\070118F046.D\	PDI-SG-S161 MS	KQ1806753-01	7/2/2018	02:45:34	
J:\MS21\Data\070118\070118F047.D\	PDI-SG-S161 DMS	KQ1806753-02	7/2/2018	03:12:45	
J:\MS21\Data\070118\070118F048.D\	PDI-SG-S158	K1804586-001	7/2/2018	03:40:06	
J:\MS21\Data\070118\070118F049.D\	PDI-SG-S161	K1804586-002	7/2/2018	04:07:21	
J:\MS21\Data\070118\070118F050.D\	PDI-SG-S250	K1804586-003	7/2/2018	04:34:59	
J:\MS21\Data\070118\070118F051.D\	PDI-SG-S249	K1804586-004	7/2/2018	05:02:15	
J:\MS21\Data\070118\070118F052.D\	PDI-SG-S248	K1804586-005	7/2/2018	05:29:27	
J:\MS21\Data\070118\070118F055.D\	PDI-SG-S252	K1804586-008	7/2/2018	06:51:18	
J:\MS21\Data\070118\070118F057.D\	PDI-SG-S227	K1804586-010	7/2/2018	07:45:47	
J:\MS21\Data\070118\070118F059.D\	ZZZZZZZ	ZZZZZZZ	7/2/2018	08:40:54	
J:\MS21\Data\070118\070118F060.D\	ZZZZZZZ	ZZZZZZZ	7/2/2018	09:08:09	
J:\MS21\Data\070118\070118F061.D\	ZZZZZZZ	ZZZZZZZ	7/2/2018	09:35:25	

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**599464
Instrument ID:K-MSMS-01

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS21\Data\072018\072018F021.D\	Continuing Calibration Verification	KQ1809858-01	7/20/2018	18:06:32	
J:\MS21\Data\072018\072018F022.D\	Method Blank	KQ1809004-04	7/20/2018	18:33:41	
J:\MS21\Data\072018\072018F023.D\	Lab Control Sample	KQ1809004-03	7/20/2018	19:00:53	
J:\MS21\Data\072018\072018F024.D\	Batch QC MS	KQ1809004-01	7/20/2018	19:28:02	
J:\MS21\Data\072018\072018F025.D\	Batch QC DMS	KQ1809004-02	7/20/2018	19:55:09	
J:\MS21\Data\072018\072018F026.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	20:22:21	
J:\MS21\Data\072018\072018F027.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	20:49:31	
J:\MS21\Data\072018\072018F028.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	21:16:44	
J:\MS21\Data\072018\072018F029.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	21:43:56	
J:\MS21\Data\072018\072018F030.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	22:11:12	
J:\MS21\Data\072018\072018F031.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	22:38:22	
J:\MS21\Data\072018\072018F032.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	23:05:56	
J:\MS21\Data\072018\072018F033.D\	ZZZZZZZ	ZZZZZZZ	7/20/2018	23:33:08	
J:\MS21\Data\072018\072018F034.D\	Batch QC	K1803850-019	7/21/2018	00:01:05	
J:\MS21\Data\072018\072018F035.D\	ZZZZZZZ	ZZZZZZZ	7/21/2018	00:28:17	
J:\MS21\Data\072018\072018F036.D\	ZZZZZZZ	ZZZZZZZ	7/21/2018	00:55:28	
J:\MS21\Data\072018\072018F037.D\	PDI-SG-S247	K1804586-006	7/21/2018	01:22:41	
J:\MS21\Data\072018\072018F038.D\	PDI-SG-S246	K1804586-007	7/21/2018	01:49:53	
J:\MS21\Data\072018\072018F039.D\	PDI-SG-S244	K1804586-009	7/21/2018	02:17:05	
J:\MS21\Data\072018\072018F040.D\	ZZZZZZZ	ZZZZZZZ	7/21/2018	02:44:17	
J:\MS21\Data\072018\072018F041.D\	ZZZZZZZ	ZZZZZZZ	7/21/2018	03:11:29	
J:\MS21\Data\072018\072018F042.D\	ZZZZZZZ	ZZZZZZZ	7/21/2018	03:38:41	

Prep Summary Report

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 317186
Analytical Method: ALS SOP **Extraction Date:** 07/06/18 10:30

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
Batch QC	K1803850-019	NA	NA	5.081 g	1 mL	58.0
PDI-SG-S247	K1804586-006	5/14/18	5/15/18	5.092 g	1 mL	41.9
PDI-SG-S246	K1804586-007	5/14/18	5/15/18	5.174 g	1 mL	38.4
PDI-SG-S244	K1804586-009	5/14/18	5/15/18	5.067 g	1 mL	38.9
Matrix Spike	KQ1809004-01MS	NA	NA	5.059 g	1 mL	58.0
Duplicate Matrix Spike	KQ1809004-02DMS	NA	NA	5.079 g	1 mL	58.0
Lab Control Sample	KQ1809004-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1809004-04MB	NA	NA	10 g	1 mL	

Prep Summary Report

Client: AECOM **Service Request:**K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 314428
Analytical Method: ALS SOP **Extraction Date:** 05/24/18 17:57

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
PDI-SG-S158	K1804586-001	5/14/18	5/15/18	20.399 g	1 mL	56.0
PDI-SG-S161	K1804586-002	5/14/18	5/15/18	20.143 g	1 mL	41.0
PDI-SG-S250	K1804586-003	5/14/18	5/15/18	20.186 g	1 mL	35.4
PDI-SG-S249	K1804586-004	5/14/18	5/15/18	20.411 g	1 mL	57.5
PDI-SG-S248	K1804586-005	5/14/18	5/15/18	20.330 g	1 mL	37.7
PDI-SG-S252	K1804586-008	5/14/18	5/15/18	20.360 g	1 mL	59.5
PDI-SG-S227	K1804586-010	5/14/18	5/15/18	20.148 g	1 mL	39.6
Matrix Spike	KQ1806753-01MS	5/14/18	5/15/18	20.116 g	1 mL	41.0
Duplicate Matrix Spike	KQ1806753-02DMS	5/14/18	5/15/18	20.174 g	1 mL	41.0
Lab Control Sample	KQ1806753-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1806753-04MB	NA	NA	20.4620 g	1 mL	

Client: AECOM **Service Request:** K1804586
Project: Portland Harbor Pre-Remedial Design Investigation/60566335
Sample Matrix: Water

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3535A **Extraction Lot:** 314168
Analytical Method: ALS SOP **Extraction Date:** 05/18/18 14:07

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
PDI-RB-VV-180514	K1804586-011	5/14/18	5/15/18	890.0000 mL	1 mL	
Lab Control Sample	KQ1806551-01LCS	NA	NA	1000 mL	1 mL	
Duplicate Lab Control Sample	KQ1806551-02DLCS	NA	NA	1000 mL	1 mL	
Method Blank	KQ1806551-03MB	NA	NA	1000 mL	1 mL	