TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-76239-1
Client Project/Site: Portland Harbor Pre-Remedial Design
Revision: 2

For:
AECOM
1111 Third Ave
Suite 1600
Seattle, Washington 98101

Attn: Karen Mixon

M. Elaine Walker

Authorized for release by:
7/23/2018 1:11:39 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

Table of Contents

Job ID: 580-76239-1

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Portland Harbor Pre-Remedial Design
Report Number: 580-76239-1

REVISION 3: JULY 23, 2018
This revision was required to have the final, signed COC from the Seattle laboratory added to the report.

REVISION 2: MAY 16, 2018
This revision was required because the sample duplcate for total solids on sample PDI-SG-B020-BL1-D (580-76239-33) was missing from the report.

REVISION 1: APRIL 30, 2018
This revision was required to add the Grain size raw data, which was omitted from the original report. No other changes were made to the report.

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
Thirty-two samples were received on 4/2/2018 2:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 0.9º C, 1.4º C, 2.3º C, 2.8º C, 3.2º C, 4.4º C and 4.9º C.

The following sample was listed on the Chain-of-Custody (COC) for analysis but was not received: PDI-SG-B003-BL1 (580-76239-3). Per email from the client on 04/03/2018, this sample was shipped to ALS in error and it will be will be added to the COC for a subsequent sample delivery.

A sample container was provided to be archived frozen at the TestAmerica Sacramento laboratory pending potential additional analyses.

This report contains results for analyses performed at TestAmerica Seattle, WA.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

DIESEL AND EXTENDED RANGE ORGANICS
Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19),

Job ID: 580-76239-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for diesel and extended range organics in accordance with Method NWTPH-Dx. The samples were prepared on 04/04/2018 and 04/05/2018 and analyzed on 04/05/2018, 04/07/2018 and 04/11/2018.

Motor Oil (>C24-C36) exceeded the RPD limit for the duplicate of sample PDI-SG-B020-BL1-D DU (580-76239-33 DU). The LCS and LCSD recoveries met acceptance limits.

The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32), PDI-SG-B020-BL1-D (580-76239-33) and (580-76239-F-33-C DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICPMS)

Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for Metals (ICPMS) in accordance with 6020A_LL. The samples were prepared on 04/04/2018 and analyzed on 04/04/2018 and 04/05/2018.

Copper failed the recovery criteria high for the MSD of sample PDI-SG-B017-BL1MSD (580-76239-20) in batch 580-270666. The MS and associated LCS/LCSD recoveries met acceptance limits.

Cadmium exceeded the RPD limit for the duplicate of sample PDI-SG-B001-BL1DU (580-76239-1). The LCS/LCSD and MS/MSD recoveries and RPDs met acceptance limits.

Cadmium exceeded the RPD limit for the duplicate of sample PDI-SG-B017-BL1DU (580-76239-20). The LCS/LCSD and MS/MSD recoveries and RPDs met acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for total mercury in accordance with EPA SW-846 Method 7471A. The samples were prepared and analyzed on 04/06/2018, 04/18/2018 and 04/23/2018.

Job ID: 580-76239-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON

Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for Puget Sound Estuary Program total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 04/05/2018, 04/06/2018, 04/09/2018 and 04/16/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GRAIN SIZE

Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for grain size in accordance with ASTM D7928/D6913. The samples were analyzed on 04/05/2018.

Coarse Sand exceeded the RPD limit for the duplicate of sample PDI-SG-B026-BL1DU (580-76239-22). Medium Sand exceeded the RPD limit for the duplicate of sample PDI-SG-B008-BL1DU (580-76239-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples PDI-SG-B001-BL1 (580-76239-1), PDI-SG-B002-BL1 (580-76239-2), PDI-SG-B004-BL1 (580-76239-4), PDI-SG-B005-BL1 (580-76239-5), PDI-SG-B006-BL1 (580-76239-6), PDI-SG-B007-BL1 (580-76239-7), PDI-SG-B008-BL1 (580-76239-8), PDI-SG-B010-BL1 (580-76239-9), PDI-SG-B012-BL1 (580-76239-10), PDI-SG-B018-BL1 (580-76239-11), PDI-SG-B019-BL1 (580-76239-12), PDI-SG-B022-BL1 (580-76239-13), PDI-SG-B023-BL1 (580-76239-14), PDI-SG-B009-BL1 (580-76239-15), PDI-SG-B011-BL1 (580-76239-16), PDI-SG-B013-BL1 (580-76239-17), PDI-SG-B014-BL1 (580-76239-18), PDI-SG-B015-BL1 (580-76239-19), PDI-SG-B017-BL1 (580-76239-20), PDI-SG-B016-BL1 (580-76239-21), PDI-SG-B026-BL1 (580-76239-22), PDI-SG-B026-BL1-D (580-76239-23), PDI-SG-B027-BL1 (580-76239-24), PDI-SG-B029-BL1 (580-76239-25), PDI-SG-B032-BL1 (580-76239-26), PDI-SG-B020-BL1 (580-76239-27), PDI-SG-B021-BL1 (580-76239-28), PDI-SG-B024-BL1 (580-76239-29), PDI-SG-B025-BL1 (580-76239-30), PDI-SG-B034-BL1 (580-76239-31), PDI-SG-B036-BL1 (580-76239-32) and PDI-SG-B020-BL1-D (580-76239-33) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 04/04/2018 and 04/09/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F3	Duplicate RPD exceeds the control limit

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
F1	MS and/or MSD Recovery is outside acceptance limits.

Geotechnical

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: PDI-SG-B001-BL1
Date Collected: 03/30/18 13:35
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-1
Matrix: Solid
Percent Solids: 62.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		75	18	mg/Kg	☼	04/04/18 08:53	04/11/18 01:24	1
Motor Oil (>C24-C36)	39	J	75	26	mg/Kg	☼	04/04/18 08:53	04/11/18 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*04/04/18 08:53*	*04/11/18 01:24*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		0.33	0.066	mg/Kg	☼	04/04/18 10:04	04/04/18 22:44	5
Cadmium	0.23	J	0.26	0.051	mg/Kg	☼	04/04/18 10:04	04/04/18 22:44	5
Copper	28		0.66	0.15	mg/Kg	☼	04/04/18 10:04	04/04/18 22:44	5
Lead	8.7		0.33	0.032	mg/Kg	☼	04/04/18 10:04	04/04/18 22:44	5
Zinc	72		3.3	1.1	mg/Kg	☼	04/04/18 10:04	04/04/18 22:44	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.032	J	0.033	0.0099	mg/Kg	☼	04/06/18 10:48	04/06/18 13:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	4500		2000	44	mg/Kg			04/05/18 15:54	1
Total Solids	62.2		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	7.2				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	24.8				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.2				%			04/05/18 08:10	1
Silt	67.9				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B002-BL1

Date Collected: 03/30/18 17:45
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-2

Matrix: Solid
Percent Solids: 46.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	37	J	100	25	mg/Kg	☼	04/04/18 08:53	04/11/18 04:10	1
Motor Oil (>C24-C36)	230		100	35	mg/Kg	☼	04/04/18 08:53	04/11/18 04:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*04/04/18 08:53*	*04/11/18 04:10*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0		0.33	0.067	mg/Kg	☼	04/04/18 10:04	04/04/18 23:19	5
Cadmium	0.41		0.27	0.051	mg/Kg	☼	04/04/18 10:04	04/04/18 23:19	5
Copper	32		0.67	0.15	mg/Kg	☼	04/04/18 10:04	04/04/18 23:19	5
Lead	10		0.33	0.032	mg/Kg	☼	04/04/18 10:04	04/04/18 23:19	5
Zinc	100		3.3	1.1	mg/Kg	☼	04/04/18 10:04	04/04/18 23:19	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.061		0.052	0.015	mg/Kg	☼	04/06/18 10:48	04/06/18 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	17000		2000	44	mg/Kg			04/05/18 16:13	1
Total Solids	46.2		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.3				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	26.1				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.3				%			04/05/18 08:10	1
Silt	68.4				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B004-BL1

Date Collected: 03/30/18 14:05
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-4

Matrix: Solid
Percent Solids: 37.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	64	J	130	31	mg/Kg	☼	04/04/18 08:53	04/11/18 02:19	1
Motor Oil (>C24-C36)	390		130	44	mg/Kg	☼	04/04/18 08:53	04/11/18 02:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*74*		*50 - 150*	*04/04/18 08:53*	*04/11/18 02:19*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.6		0.49	0.098	mg/Kg	☼	04/04/18 10:04	04/04/18 23:23	5
Cadmium	0.39		0.39	0.076	mg/Kg	☼	04/04/18 10:04	04/04/18 23:23	5
Copper	40		0.98	0.22	mg/Kg	☼	04/04/18 10:04	04/04/18 23:23	5
Lead	11		0.49	0.047	mg/Kg	☼	04/04/18 10:04	04/04/18 23:23	5
Zinc	100		4.9	1.6	mg/Kg	☼	04/04/18 10:04	04/04/18 23:23	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.062	J	0.073	0.022	mg/Kg	☼	04/06/18 10:48	04/06/18 13:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	31000		2000	44	mg/Kg			04/05/18 16:18	1
Total Solids	37.5		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.9				%			04/05/18 08:10	1
Coarse Sand	0.2				%			04/05/18 08:10	1
Fine Sand	6.7				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.2				%			04/05/18 08:10	1
Silt	86.9				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B005-BL1

Date Collected: 03/30/18 16:03
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-5

Matrix: Solid
Percent Solids: 38.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	66	J	120	30	mg/Kg	☼	04/04/18 08:53	04/11/18 01:51	1
Motor Oil (>C24-C36)	390		120	43	mg/Kg	☼	04/04/18 08:53	04/11/18 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*50 - 150*	*04/04/18 08:53*	*04/11/18 01:51*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.2		0.53	0.11	mg/Kg	☼	04/04/18 10:04	04/04/18 23:27	5
Cadmium	0.31	J	0.42	0.081	mg/Kg	☼	04/04/18 10:04	04/04/18 23:27	5
Copper	38		1.1	0.23	mg/Kg	☼	04/04/18 10:04	04/04/18 23:27	5
Lead	11		0.53	0.051	mg/Kg	☼	04/04/18 10:04	04/04/18 23:27	5
Zinc	98		5.3	1.7	mg/Kg	☼	04/04/18 10:04	04/04/18 23:27	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.059		0.053	0.016	mg/Kg	☼	04/06/18 10:48	04/06/18 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	28000		2000	44	mg/Kg			04/05/18 16:23	1
Total Solids	38.6		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.9				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	9.1				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.2				%			04/05/18 08:10	1
Silt	84.7				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B006-BL1

Date Collected: 03/30/18 16:15
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-6

Matrix: Solid
Percent Solids: 41.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	51	J	110	28	mg/Kg	☼	04/04/18 08:53	04/11/18 02:46	1
Motor Oil (>C24-C36)	270		110	40	mg/Kg	☼	04/04/18 08:53	04/11/18 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*04/04/18 08:53*	*04/11/18 02:46*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		0.42	0.083	mg/Kg	☼	04/04/18 10:04	04/04/18 23:31	5
Cadmium	0.37		0.33	0.064	mg/Kg	☼	04/04/18 10:04	04/04/18 23:31	5
Copper	37		0.83	0.18	mg/Kg	☼	04/04/18 10:04	04/04/18 23:31	5
Lead	11		0.42	0.040	mg/Kg	☼	04/04/18 10:04	04/04/18 23:31	5
Zinc	100		4.2	1.3	mg/Kg	☼	04/04/18 10:04	04/04/18 23:31	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.066		0.056	0.017	mg/Kg	☼	04/06/18 10:48	04/06/18 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	20000		2000	44	mg/Kg			04/05/18 16:29	1
Total Solids	41.9		0.1	0.1	%			04/09/18 14:57	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	0.0				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	12.3				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.1				%			04/05/18 08:10	1
Silt	87.6				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B007-BL1

Date Collected: 03/30/18 17:07
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-7

Matrix: Solid
Percent Solids: 36.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	93	J	130	31	mg/Kg	☼	04/04/18 08:53	04/11/18 03:14	1
Motor Oil (>C24-C36)	500		130	44	mg/Kg	☼	04/04/18 08:53	04/11/18 03:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*50 - 150*	*04/04/18 08:53*	*04/11/18 03:14*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		0.60	0.12	mg/Kg	☼	04/04/18 10:04	04/04/18 23:35	5
Cadmium	0.36	J	0.48	0.092	mg/Kg	☼	04/04/18 10:04	04/04/18 23:35	5
Copper	43		1.2	0.26	mg/Kg	☼	04/04/18 10:04	04/04/18 23:35	5
Lead	12		0.60	0.057	mg/Kg	☼	04/04/18 10:04	04/04/18 23:35	5
Zinc	110		6.0	1.9	mg/Kg	☼	04/04/18 10:04	04/04/18 23:35	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.061		0.057	0.017	mg/Kg	☼	04/06/18 10:48	04/06/18 13:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	33000		2000	44	mg/Kg			04/05/18 16:41	1
Total Solids	36.2		0.1	0.1	%			04/09/18 14:57	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	3.1				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	5.3				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.3				%			04/05/18 08:10	1
Silt	91.3				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B008-BL1

Date Collected: 03/31/18 10:27
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-8

Matrix: Solid
Percent Solids: 48.0

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	43	J	98	24	mg/Kg	☼	04/04/18 08:53	04/11/18 04:39	1
Motor Oil (>C24-C36)	240		98	34	mg/Kg	☼	04/04/18 08:53	04/11/18 04:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*04/04/18 08:53*	*04/11/18 04:39*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		0.42	0.083	mg/Kg	☼	04/04/18 10:04	04/04/18 23:39	5
Cadmium	0.27	J	0.33	0.064	mg/Kg	☼	04/04/18 10:04	04/04/18 23:39	5
Copper	30		0.83	0.18	mg/Kg	☼	04/04/18 10:04	04/04/18 23:39	5
Lead	8.7		0.42	0.040	mg/Kg	☼	04/04/18 10:04	04/04/18 23:39	5
Zinc	83		4.2	1.3	mg/Kg	☼	04/04/18 10:04	04/04/18 23:39	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050	J	0.054	0.016	mg/Kg	☼	04/06/18 10:48	04/06/18 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	18000		2000	44	mg/Kg			04/05/18 16:46	1
Total Solids	48.0		0.1	0.1	%			04/09/18 14:57	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.1				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	22.2				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.3				%			04/05/18 08:10	1
Silt	72.4				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B010-BL1

Date Collected: 03/31/18 11:36
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-9

Matrix: Solid
Percent Solids: 45.0

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110	26	mg/Kg	☼	04/04/18 10:12	04/05/18 03:10	1
Motor Oil (>C24-C36)	**110**		110	37	mg/Kg	☼	04/04/18 10:12	04/05/18 03:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*04/04/18 10:12*	*04/05/18 03:10*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.6**		0.40	0.080	mg/Kg	☼	04/04/18 10:04	04/04/18 23:42	5
Cadmium	**0.33**		0.32	0.061	mg/Kg	☼	04/04/18 10:04	04/04/18 23:42	5
Copper	**35**		0.80	0.18	mg/Kg	☼	04/04/18 10:04	04/04/18 23:42	5
Lead	**10**		0.40	0.038	mg/Kg	☼	04/04/18 10:04	04/04/18 23:42	5
Zinc	**93**		4.0	1.3	mg/Kg	☼	04/04/18 10:04	04/04/18 23:42	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.059**		0.058	0.017	mg/Kg	☼	04/06/18 10:48	04/06/18 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**21000**		2000	44	mg/Kg			04/05/18 16:52	1
Total Solids	**45.0**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**0.0**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**12.6**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.1**				%			04/05/18 08:10	1
Silt	**87.3**				%			04/05/18 08:10	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B012-BL1
Date Collected: 03/31/18 13:28
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-10
Matrix: Solid
Percent Solids: 45.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		100	25	mg/Kg	☼	04/04/18 10:12	04/05/18 03:53	1
Motor Oil (>C24-C36)	150		100	36	mg/Kg	☼	04/04/18 10:12	04/05/18 03:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*04/04/18 10:12*	*04/05/18 03:53*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		0.38	0.077	mg/Kg	☼	04/04/18 10:04	04/04/18 23:46	5
Cadmium	0.38		0.31	0.059	mg/Kg	☼	04/04/18 10:04	04/04/18 23:46	5
Copper	34		0.77	0.17	mg/Kg	☼	04/04/18 10:04	04/04/18 23:46	5
Lead	10		0.38	0.037	mg/Kg	☼	04/04/18 10:04	04/04/18 23:46	5
Zinc	94		3.8	1.2	mg/Kg	☼	04/04/18 10:04	04/04/18 23:46	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.064		0.054	0.016	mg/Kg	☼	04/06/18 10:48	04/06/18 13:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	20000		2000	44	mg/Kg			04/05/18 16:57	1
Total Solids	45.9		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.3				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	16.8				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.1				%			04/05/18 08:10	1
Silt	77.8				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B018-BL1

Date Collected: 03/31/18 14:20
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-11

Matrix: Solid
Percent Solids: 44.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	29	J	110	27	mg/Kg	☼	04/04/18 10:12	04/05/18 04:16	1
Motor Oil (>C24-C36)	280		110	38	mg/Kg	☼	04/04/18 10:12	04/05/18 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*04/04/18 10:12*	*04/05/18 04:16*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.8		0.45	0.089	mg/Kg	☼	04/04/18 10:04	04/04/18 23:50	5
Cadmium	0.35	J	0.36	0.069	mg/Kg	☼	04/04/18 10:04	04/04/18 23:50	5
Copper	37		0.89	0.20	mg/Kg	☼	04/04/18 10:04	04/04/18 23:50	5
Lead	11		0.45	0.043	mg/Kg	☼	04/04/18 10:04	04/04/18 23:50	5
Zinc	100		4.5	1.4	mg/Kg	☼	04/04/18 10:04	04/04/18 23:50	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.053		0.052	0.015	mg/Kg	☼	04/06/18 10:48	04/06/18 14:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	23000		2000	44	mg/Kg			04/05/18 17:02	1
Total Solids	44.6		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	0.0				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	14.5				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.1				%			04/05/18 08:10	1
Silt	85.4				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B019-BL1

Date Collected: 03/31/18 15:07
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-12

Matrix: Solid
Percent Solids: 47.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		100	25	mg/Kg	☼	04/04/18 10:12	04/05/18 04:39	1
Motor Oil (>C24-C36)	**190**		100	35	mg/Kg	☼	04/04/18 10:12	04/05/18 04:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*04/04/18 10:12*	*04/05/18 04:39*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.9**		0.35	0.070	mg/Kg	☼	04/04/18 10:04	04/05/18 00:10	5
Cadmium	**0.42**		0.28	0.054	mg/Kg	☼	04/04/18 10:04	04/05/18 00:10	5
Copper	**32**		0.70	0.15	mg/Kg	☼	04/04/18 10:04	04/05/18 00:10	5
Lead	**10**		0.35	0.034	mg/Kg	☼	04/04/18 10:04	04/05/18 00:10	5
Zinc	**99**		3.5	1.1	mg/Kg	☼	04/04/18 10:04	04/05/18 00:10	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.052**	**J**	0.058	0.017	mg/Kg	☼	04/06/18 10:48	04/06/18 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**20000**		2000	44	mg/Kg			04/05/18 17:07	1
Total Solids	**47.6**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**0.0**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**24.4**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.1**				%			04/05/18 08:10	1
Silt	**75.5**				%			04/05/18 08:10	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B022-BL1
Date Collected: 03/31/18 15:58
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-13
Matrix: Solid
Percent Solids: 45.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110	26	mg/Kg	☼	04/04/18 10:12	04/05/18 05:01	1
Motor Oil (>C24-C36)	**150**		110	37	mg/Kg	☼	04/04/18 10:12	04/05/18 05:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*04/04/18 10:12*	*04/05/18 05:01*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.1**		0.39	0.079	mg/Kg	☼	04/04/18 10:04	04/05/18 00:14	5
Cadmium	**0.35**		0.32	0.061	mg/Kg	☼	04/04/18 10:04	04/05/18 00:14	5
Copper	**34**		0.79	0.17	mg/Kg	☼	04/04/18 10:04	04/05/18 00:14	5
Lead	**10**		0.39	0.038	mg/Kg	☼	04/04/18 10:04	04/05/18 00:14	5
Zinc	**100**		3.9	1.3	mg/Kg	☼	04/04/18 10:04	04/05/18 00:14	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.058**		0.048	0.014	mg/Kg	☼	04/06/18 10:48	04/06/18 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**20000**		2000	44	mg/Kg			04/05/18 17:13	1
Total Solids	**45.5**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**0.0**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**24.4**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.2**				%			04/05/18 08:10	1
Silt	**75.4**				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B023-BL1

Date Collected: 03/31/18 16:52
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-14

Matrix: Solid
Percent Solids: 46.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		100	26	mg/Kg	☼	04/04/18 10:12	04/05/18 05:23	1
Motor Oil (>C24-C36)	**210**		100	37	mg/Kg	☼	04/04/18 10:12	04/05/18 05:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*04/04/18 10:12*	*04/05/18 05:23*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.4**		0.40	0.080	mg/Kg	☼	04/04/18 10:04	04/05/18 00:17	5
Cadmium	**0.45**		0.32	0.062	mg/Kg	☼	04/04/18 10:04	04/05/18 00:17	5
Copper	**36**		0.80	0.18	mg/Kg	☼	04/04/18 10:04	04/05/18 00:17	5
Lead	**11**		0.40	0.038	mg/Kg	☼	04/04/18 10:04	04/05/18 00:17	5
Zinc	**110**		4.0	1.3	mg/Kg	☼	04/04/18 10:04	04/05/18 00:17	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.051**		0.049	0.015	mg/Kg	☼	04/06/18 10:48	04/06/18 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**17000**		2000	44	mg/Kg			04/05/18 17:18	1
Total Solids	**46.9**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**5.0**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**34.0**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.6**				%			04/05/18 08:10	1
Silt	**60.4**				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B009-BL1

Date Collected: 03/31/18 10:30
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-15

Matrix: Solid
Percent Solids: 37.4

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	31	mg/Kg	☼	04/04/18 10:12	04/05/18 05:45	1
Motor Oil (>C24-C36)	**260**		120	44	mg/Kg	☼	04/04/18 10:12	04/05/18 05:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*04/04/18 10:12*	*04/05/18 05:45*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.7**		0.45	0.089	mg/Kg	☼	04/04/18 10:04	04/05/18 00:21	5
Cadmium	**0.36**		0.36	0.069	mg/Kg	☼	04/04/18 10:04	04/05/18 00:21	5
Copper	**41**		0.89	0.20	mg/Kg	☼	04/04/18 10:04	04/05/18 00:21	5
Lead	**11**		0.45	0.043	mg/Kg	☼	04/04/18 10:04	04/05/18 00:21	5
Zinc	**100**		4.5	1.4	mg/Kg	☼	04/04/18 10:04	04/05/18 00:21	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.065**		0.057	0.017	mg/Kg	☼	04/18/18 10:17	04/18/18 15:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**33000**		2000	44	mg/Kg			04/05/18 17:23	1
Total Solids	**37.4**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**0.0**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**5.8**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.4**				%			04/05/18 08:10	1
Silt	**93.9**				%			04/05/18 08:10	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B011-BL1
Date Collected: 03/31/18 11:52
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-16
Matrix: Solid
Percent Solids: 40.1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110	28	mg/Kg	☼	04/04/18 10:12	04/05/18 06:08	1
Motor Oil (>C24-C36)	**150**		110	40	mg/Kg	☼	04/04/18 10:12	04/05/18 06:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*04/04/18 10:12*	*04/05/18 06:08*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.5**		0.46	0.092	mg/Kg	☼	04/04/18 10:05	04/05/18 00:25	5
Cadmium	**0.44**		0.37	0.071	mg/Kg	☼	04/04/18 10:05	04/05/18 00:25	5
Copper	**40**		0.92	0.20	mg/Kg	☼	04/04/18 10:05	04/05/18 00:25	5
Lead	**13**		0.46	0.044	mg/Kg	☼	04/04/18 10:05	04/05/18 00:25	5
Zinc	**120**		4.6	1.5	mg/Kg	☼	04/04/18 10:05	04/05/18 00:25	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.072**		0.070	0.021	mg/Kg	☼	04/18/18 10:17	04/18/18 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**27000**		2000	44	mg/Kg			04/05/18 17:29	1
Total Solids	**40.1**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**5.9**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**6.6**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.2**				%			04/05/18 08:10	1
Silt	**87.2**				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B013-BL1

Date Collected: 03/31/18 14:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-17

Matrix: Solid
Percent Solids: 45.6

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	30	J	100	26	mg/Kg	☼	04/04/18 10:12	04/05/18 06:30	1
Motor Oil (>C24-C36)	260		100	36	mg/Kg	☼	04/04/18 10:12	04/05/18 06:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*04/04/18 10:12*	*04/05/18 06:30*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6		0.41	0.082	mg/Kg	☼	04/04/18 10:05	04/05/18 00:29	5
Cadmium	0.33		0.33	0.063	mg/Kg	☼	04/04/18 10:05	04/05/18 00:29	5
Copper	34		0.82	0.18	mg/Kg	☼	04/04/18 10:05	04/05/18 00:29	5
Lead	10		0.41	0.039	mg/Kg	☼	04/04/18 10:05	04/05/18 00:29	5
Zinc	93		4.1	1.3	mg/Kg	☼	04/04/18 10:05	04/05/18 00:29	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.077		0.049	0.015	mg/Kg	☼	04/18/18 10:17	04/18/18 15:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	25000		2000	44	mg/Kg			04/06/18 17:18	1
Total Solids	45.6		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	5.4				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	18.3				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.4				%			04/05/18 08:10	1
Silt	75.8				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B014-BL1
Date Collected: 03/31/18 16:10
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-18
Matrix: Solid
Percent Solids: 40.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	29	mg/Kg	☼	04/04/18 10:12	04/05/18 07:14	1
Motor Oil (>C24-C36)	190		120	41	mg/Kg	☼	04/04/18 10:12	04/05/18 07:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*04/04/18 10:12*	*04/05/18 07:14*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.4		0.48	0.096	mg/Kg	☼	04/04/18 10:05	04/05/18 00:33	5
Cadmium	0.33	J	0.39	0.074	mg/Kg	☼	04/04/18 10:05	04/05/18 00:33	5
Copper	40		0.96	0.21	mg/Kg	☼	04/04/18 10:05	04/05/18 00:33	5
Lead	11		0.48	0.046	mg/Kg	☼	04/04/18 10:05	04/05/18 00:33	5
Zinc	100		4.8	1.6	mg/Kg	☼	04/04/18 10:05	04/05/18 00:33	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.060	J	0.063	0.019	mg/Kg	☼	04/18/18 10:17	04/18/18 15:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	31000		2000	44	mg/Kg			04/06/18 17:37	1
Total Solids	40.2		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.0				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	7.2				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.2				%			04/05/18 08:10	1
Silt	86.5				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B015-BL1

Date Collected: 03/31/18 15:11
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-19

Matrix: Solid
Percent Solids: 39.4

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	29	mg/Kg	☼	04/04/18 10:12	04/05/18 07:36	1
Motor Oil (>C24-C36)	**230**		120	41	mg/Kg	☼	04/04/18 10:12	04/05/18 07:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*50 - 150*	*04/04/18 10:12*	*04/05/18 07:36*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.5**		0.42	0.084	mg/Kg	☼	04/04/18 10:05	04/05/18 00:37	5
Cadmium	**0.31**	**J**	0.34	0.065	mg/Kg	☼	04/04/18 10:05	04/05/18 00:37	5
Copper	**40**		0.84	0.19	mg/Kg	☼	04/04/18 10:05	04/05/18 00:37	5
Lead	**11**		0.42	0.040	mg/Kg	☼	04/04/18 10:05	04/05/18 00:37	5
Zinc	**100**		4.2	1.4	mg/Kg	☼	04/04/18 10:05	04/05/18 00:37	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.060**	**J**	0.070	0.021	mg/Kg	☼	04/18/18 10:17	04/18/18 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**33000**		2000	44	mg/Kg			04/06/18 17:43	1
Total Solids	**39.4**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**12.1**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**15.1**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.2**				%			04/05/18 08:10	1
Silt	**72.7**				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B017-BL1

Date Collected: 03/31/18 17:07
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-20

Matrix: Solid
Percent Solids: 38.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	43	J	120	30	mg/Kg	☼	04/04/18 10:14	04/05/18 07:58	1
Motor Oil (>C24-C36)	330		120	43	mg/Kg	☼	04/04/18 10:14	04/05/18 07:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*04/04/18 10:14*	*04/05/18 07:58*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		0.45	0.090	mg/Kg	☼	04/04/18 10:46	04/05/18 01:08	5
Cadmium	0.40		0.36	0.069	mg/Kg	☼	04/04/18 10:46	04/05/18 01:08	5
Copper	42	F1	0.90	0.20	mg/Kg	☼	04/04/18 10:46	04/05/18 01:08	5
Lead	12		0.45	0.043	mg/Kg	☼	04/04/18 10:46	04/05/18 01:08	5
Zinc	110		4.5	1.5	mg/Kg	☼	04/04/18 10:46	04/05/18 01:08	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.069		0.049	0.015	mg/Kg	☼	04/18/18 10:17	04/18/18 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	30000		2000	44	mg/Kg			04/06/18 17:49	1
Total Solids	38.9		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	12.3				%			04/05/18 08:10	1
Coarse Sand	0.0				%			04/05/18 08:10	1
Fine Sand	4.8				%			04/05/18 08:10	1
Gravel	0.0				%			04/05/18 08:10	1
Medium Sand	0.2				%			04/05/18 08:10	1
Silt	82.6				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B016-BL1

Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-21

Matrix: Solid
Percent Solids: 64.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		76	19	mg/Kg	☼	04/05/18 09:37	04/07/18 02:01	1
Motor Oil (>C24-C36)	**34**	**J**	76	27	mg/Kg	☼	04/05/18 09:37	04/07/18 02:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*04/05/18 09:37*	*04/07/18 02:01*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.0**		0.27	0.054	mg/Kg	☼	04/04/18 10:46	04/05/18 01:43	5
Cadmium	**0.14**	**J**	0.22	0.042	mg/Kg	☼	04/04/18 10:46	04/05/18 01:43	5
Copper	**17**		0.54	0.12	mg/Kg	☼	04/04/18 10:46	04/05/18 01:43	5
Lead	**4.8**		0.27	0.026	mg/Kg	☼	04/04/18 10:46	04/05/18 01:43	5
Zinc	**50**		2.7	0.88	mg/Kg	☼	04/04/18 10:46	04/05/18 01:43	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**	**J**	0.033	0.0098	mg/Kg	☼	04/18/18 10:17	04/18/18 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**4500**		2000	44	mg/Kg			04/06/18 17:55	1
Total Solids	**64.7**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**6.4**				%			04/05/18 08:10	1
Coarse Sand	**0.0**				%			04/05/18 08:10	1
Fine Sand	**57.7**				%			04/05/18 08:10	1
Gravel	**0.0**				%			04/05/18 08:10	1
Medium Sand	**0.1**				%			04/05/18 08:10	1
Silt	**35.7**				%			04/05/18 08:10	1

Client Sample ID: PDI-SG-B026-BL1

Date Collected: 04/01/18 14:30
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-22

Matrix: Solid
Percent Solids: 60.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		76	19	mg/Kg	☼	04/05/18 09:37	04/07/18 02:23	1
Motor Oil (>C24-C36)	**83**		76	27	mg/Kg	☼	04/05/18 09:37	04/07/18 02:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*92*		*50 - 150*	*04/05/18 09:37*	*04/07/18 02:23*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.9**		0.24	0.048	mg/Kg	☼	04/04/18 10:46	04/05/18 01:47	5
Cadmium	**0.20**		0.19	0.037	mg/Kg	☼	04/04/18 10:46	04/05/18 01:47	5
Copper	**24**		0.48	0.11	mg/Kg	☼	04/04/18 10:46	04/05/18 01:47	5
Lead	**7.6**		0.24	0.023	mg/Kg	☼	04/04/18 10:46	04/05/18 01:47	5
Zinc	**77**		2.4	0.78	mg/Kg	☼	04/04/18 10:46	04/05/18 01:47	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.050**		0.041	0.012	mg/Kg	☼	04/18/18 10:17	04/18/18 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**11000**		2000	44	mg/Kg			04/09/18 10:28	1
Total Solids	**60.5**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**8.1**				%			04/05/18 09:31	1
Coarse Sand	**0.2**				%			04/05/18 09:31	1
Fine Sand	**37.4**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**17.8**				%			04/05/18 09:31	1
Silt	**36.5**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B026-BL1-D

Date Collected: 04/01/18 14:40
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-23

Matrix: Solid
Percent Solids: 58.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		79	20	mg/Kg	☼	04/05/18 09:37	04/07/18 02:46	1
Motor Oil (>C24-C36)	**95**		79	28	mg/Kg	☼	04/05/18 09:37	04/07/18 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*04/05/18 09:37*	*04/07/18 02:46*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.0**		0.23	0.047	mg/Kg	☼	04/04/18 10:46	04/05/18 01:51	5
Cadmium	**0.21**		0.19	0.036	mg/Kg	☼	04/04/18 10:46	04/05/18 01:51	5
Copper	**25**		0.47	0.10	mg/Kg	☼	04/04/18 10:46	04/05/18 01:51	5
Lead	**8.2**		0.23	0.022	mg/Kg	☼	04/04/18 10:46	04/05/18 01:51	5
Zinc	**79**		2.3	0.75	mg/Kg	☼	04/04/18 10:46	04/05/18 01:51	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.043**		0.043	0.013	mg/Kg	☼	04/18/18 10:17	04/18/18 15:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**12000**		2000	44	mg/Kg			04/16/18 14:55	1
Total Solids	**58.9**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**8.1**				%			04/05/18 09:31	1
Coarse Sand	**0.0**				%			04/05/18 09:31	1
Fine Sand	**36.1**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**17.4**				%			04/05/18 09:31	1
Silt	**38.3**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B027-BL1

Date Collected: 04/01/18 12:15
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-24

Matrix: Solid
Percent Solids: 56.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		81	20	mg/Kg	☼	04/05/18 09:37	04/07/18 03:08	1
Motor Oil (>C24-C36)	ND		81	28	mg/Kg	☼	04/05/18 09:37	04/07/18 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*04/05/18 09:37*	*04/07/18 03:08*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.4		0.30	0.059	mg/Kg	☼	04/04/18 10:46	04/05/18 01:55	5
Cadmium	0.15	J	0.24	0.046	mg/Kg	☼	04/04/18 10:46	04/05/18 01:55	5
Copper	23		0.59	0.13	mg/Kg	☼	04/04/18 10:46	04/05/18 01:55	5
Lead	6.3		0.30	0.029	mg/Kg	☼	04/04/18 10:46	04/05/18 01:55	5
Zinc	60		3.0	0.96	mg/Kg	☼	04/04/18 10:46	04/05/18 01:55	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.018	J	0.043	0.013	mg/Kg	☼	04/23/18 08:30	04/23/18 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	6800		2000	44	mg/Kg			04/09/18 12:35	1
Total Solids	56.5		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	6.2				%			04/05/18 09:31	1
Coarse Sand	0.1				%			04/05/18 09:31	1
Fine Sand	16.5				%			04/05/18 09:31	1
Gravel	4.8				%			04/05/18 09:31	1
Medium Sand	0.1				%			04/05/18 09:31	1
Silt	72.2				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B029-BL1

Date Collected: 04/01/18 16:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-25

Matrix: Solid
Percent Solids: 57.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		82	20	mg/Kg	☼	04/05/18 09:37	04/07/18 03:30	1
Motor Oil (>C24-C36)	**110**		82	29	mg/Kg	☼	04/05/18 09:37	04/07/18 03:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*93*		*50 - 150*	*04/05/18 09:37*	*04/07/18 03:30*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.5**		0.28	0.056	mg/Kg	☼	04/04/18 10:46	04/05/18 01:59	5
Cadmium	**0.15**	**J**	0.23	0.044	mg/Kg	☼	04/04/18 10:46	04/05/18 01:59	5
Copper	**20**		0.56	0.12	mg/Kg	☼	04/04/18 10:46	04/05/18 01:59	5
Lead	**7.9**		0.28	0.027	mg/Kg	☼	04/04/18 10:46	04/05/18 01:59	5
Zinc	**70**		2.8	0.91	mg/Kg	☼	04/04/18 10:46	04/05/18 01:59	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.043**		0.037	0.011	mg/Kg	☼	04/18/18 10:17	04/18/18 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**9400**		2000	44	mg/Kg			04/09/18 12:40	1
Total Solids	**57.5**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**2.8**				%			04/05/18 09:31	1
Coarse Sand	**0.0**				%			04/05/18 09:31	1
Fine Sand	**58.5**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**2.4**				%			04/05/18 09:31	1
Silt	**36.3**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B032-BL1

Date Collected: 04/01/18 17:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-26

Matrix: Solid
Percent Solids: 57.5

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		85	21	mg/Kg	☼	04/05/18 09:37	04/07/18 04:14	1
Motor Oil (>C24-C36)	**86**		85	30	mg/Kg	☼	04/05/18 09:37	04/07/18 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*50 - 150*	*04/05/18 09:37*	*04/07/18 04:14*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.2**		0.30	0.059	mg/Kg	☼	04/04/18 10:46	04/05/18 02:03	5
Cadmium	**0.21**	**J**	0.24	0.046	mg/Kg	☼	04/04/18 10:46	04/05/18 02:03	5
Copper	**26**		0.59	0.13	mg/Kg	☼	04/04/18 10:46	04/05/18 02:03	5
Lead	**8.8**		0.30	0.028	mg/Kg	☼	04/04/18 10:46	04/05/18 02:03	5
Zinc	**87**		3.0	0.95	mg/Kg	☼	04/04/18 10:46	04/05/18 02:03	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.047**		0.035	0.011	mg/Kg	☼	04/18/18 10:17	04/18/18 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**20000**		2000	44	mg/Kg			04/09/18 12:46	1
Total Solids	**57.5**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**5.3**				%			04/05/18 09:31	1
Coarse Sand	**0.9**				%			04/05/18 09:31	1
Fine Sand	**41.1**				%			04/05/18 09:31	1
Gravel	**2.2**				%			04/05/18 09:31	1
Medium Sand	**4.3**				%			04/05/18 09:31	1
Silt	**46.3**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B020-BL1

Date Collected: 04/01/18 10:44
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-27

Matrix: Solid
Percent Solids: 38.2

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	30	mg/Kg	☼	04/05/18 09:37	04/07/18 04:36	1
Motor Oil (>C24-C36)	**250**		120	43	mg/Kg	☼	04/05/18 09:37	04/07/18 04:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*94*		*50 - 150*	*04/05/18 09:37*	*04/07/18 04:36*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.1**		0.49	0.099	mg/Kg	☼	04/04/18 10:46	04/05/18 02:07	5
Cadmium	**0.32**	**J**	0.39	0.076	mg/Kg	☼	04/04/18 10:46	04/05/18 02:07	5
Copper	**39**		0.99	0.22	mg/Kg	☼	04/04/18 10:46	04/05/18 02:07	5
Lead	**11**		0.49	0.047	mg/Kg	☼	04/04/18 10:46	04/05/18 02:07	5
Zinc	**95**		4.9	1.6	mg/Kg	☼	04/04/18 10:46	04/05/18 02:07	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.056**	**J**	0.066	0.020	mg/Kg	☼	04/18/18 10:17	04/18/18 15:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**32000**		2000	44	mg/Kg			04/09/18 09:51	1
Total Solids	**38.2**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**8.4**				%			04/05/18 09:31	1
Coarse Sand	**0.1**				%			04/05/18 09:31	1
Fine Sand	**13.2**				%			04/05/18 09:31	1
Gravel	**0.1**				%			04/05/18 09:31	1
Medium Sand	**1.2**				%			04/05/18 09:31	1
Silt	**77.1**				%			04/05/18 09:31	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B021-BL1
Date Collected: 04/01/18 11:57
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-28
Matrix: Solid
Percent Solids: 40.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110	28	mg/Kg	☼	04/05/18 09:37	04/07/18 04:59	1
Motor Oil (>C24-C36)	200		110	40	mg/Kg	☼	04/05/18 09:37	04/07/18 04:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*04/05/18 09:37*	*04/07/18 04:59*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.6		0.44	0.089	mg/Kg	☼	04/04/18 10:46	04/05/18 02:11	5
Cadmium	0.35	J	0.36	0.068	mg/Kg	☼	04/04/18 10:46	04/05/18 02:11	5
Copper	42		0.89	0.20	mg/Kg	☼	04/04/18 10:46	04/05/18 02:11	5
Lead	11		0.44	0.043	mg/Kg	☼	04/04/18 10:46	04/05/18 02:11	5
Zinc	110		4.4	1.4	mg/Kg	☼	04/04/18 10:46	04/05/18 02:11	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.094		0.063	0.019	mg/Kg	☼	04/18/18 10:17	04/18/18 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	32000		2000	44	mg/Kg			04/09/18 09:57	1
Total Solids	40.9		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.0				%			04/05/18 09:31	1
Coarse Sand	0.0				%			04/05/18 09:31	1
Fine Sand	12.2				%			04/05/18 09:31	1
Gravel	0.0				%			04/05/18 09:31	1
Medium Sand	0.3				%			04/05/18 09:31	1
Silt	79.6				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B024-BL1
Date Collected: 04/01/18 13:15
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-29
Matrix: Solid
Percent Solids: 38.9

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	30	mg/Kg	☼	04/05/18 09:37	04/07/18 11:49	1
Motor Oil (>C24-C36)	**150**		120	43	mg/Kg	☼	04/05/18 09:37	04/07/18 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*04/05/18 09:37*	*04/07/18 11:49*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.9**		0.41	0.082	mg/Kg	☼	04/04/18 10:46	04/05/18 02:14	5
Cadmium	**0.36**		0.33	0.063	mg/Kg	☼	04/04/18 10:46	04/05/18 02:14	5
Copper	**44**		0.82	0.18	mg/Kg	☼	04/04/18 10:46	04/05/18 02:14	5
Lead	**12**		0.41	0.040	mg/Kg	☼	04/04/18 10:46	04/05/18 02:14	5
Zinc	**110**		4.1	1.3	mg/Kg	☼	04/04/18 10:46	04/05/18 02:14	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.073**		0.057	0.017	mg/Kg	☼	04/18/18 10:17	04/18/18 15:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**34000**		2000	44	mg/Kg			04/09/18 10:04	1
Total Solids	**38.9**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**10.7**				%			04/05/18 09:31	1
Coarse Sand	**0.1**				%			04/05/18 09:31	1
Fine Sand	**7.3**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**0.1**				%			04/05/18 09:31	1
Silt	**81.9**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B025-BL1

Date Collected: 04/01/18 14:21
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-30

Matrix: Solid
Percent Solids: 42.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		110	27	mg/Kg	☼	04/05/18 09:37	04/07/18 12:11	1
Motor Oil (>C24-C36)	**180**		110	39	mg/Kg	☼	04/05/18 09:37	04/07/18 12:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*04/05/18 09:37*	*04/07/18 12:11*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.9**		0.42	0.085	mg/Kg	☼	04/04/18 10:46	04/05/18 08:03	5
Cadmium	**0.31**	**J**	0.34	0.065	mg/Kg	☼	04/04/18 10:46	04/05/18 08:03	5
Copper	**36**		0.85	0.19	mg/Kg	☼	04/04/18 10:46	04/05/18 08:03	5
Lead	**9.7**		0.42	0.041	mg/Kg	☼	04/04/18 10:46	04/05/18 08:03	5
Zinc	**92**		4.2	1.4	mg/Kg	☼	04/04/18 10:46	04/05/18 08:03	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.057**		0.052	0.016	mg/Kg	☼	04/18/18 10:17	04/18/18 15:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**43000**		2000	44	mg/Kg			04/09/18 10:10	1
Total Solids	**42.7**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**7.6**				%			04/05/18 09:31	1
Coarse Sand	**0.2**				%			04/05/18 09:31	1
Fine Sand	**15.3**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**0.4**				%			04/05/18 09:31	1
Silt	**76.6**				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B034-BL1

Date Collected: 04/01/18 15:40
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-31

Matrix: Solid
Percent Solids: 39.7

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	30	mg/Kg	☼	04/05/18 09:37	04/07/18 12:33	1
Motor Oil (>C24-C36)	**120**		120	43	mg/Kg	☼	04/05/18 09:37	04/07/18 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*98*		*50 - 150*	*04/05/18 09:37*	*04/07/18 12:33*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.4**		0.41	0.083	mg/Kg	☼	04/04/18 10:46	04/05/18 07:51	5
Cadmium	**0.29**	**J**	0.33	0.064	mg/Kg	☼	04/04/18 10:46	04/05/18 07:51	5
Copper	**39**		0.83	0.18	mg/Kg	☼	04/04/18 10:46	04/05/18 07:51	5
Lead	**11**		0.41	0.040	mg/Kg	☼	04/04/18 10:46	04/05/18 07:51	5
Zinc	**100**		4.1	1.3	mg/Kg	☼	04/04/18 10:46	04/05/18 07:51	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.065**		0.058	0.017	mg/Kg	☼	04/18/18 10:17	04/18/18 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**22000**		2000	44	mg/Kg			04/09/18 10:16	1
Total Solids	**39.7**		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	**11.2**				%			04/05/18 09:31	1
Coarse Sand	**0.1**				%			04/05/18 09:31	1
Fine Sand	**10.9**				%			04/05/18 09:31	1
Gravel	**0.0**				%			04/05/18 09:31	1
Medium Sand	**0.2**				%			04/05/18 09:31	1
Silt	**77.6**				%			04/05/18 09:31	1

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B036-BL1
Date Collected: 04/01/18 16:38
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-32
Matrix: Solid
Percent Solids: 39.0

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		120	31	mg/Kg	☼	04/05/18 09:37	04/07/18 12:55	1
Motor Oil (>C24-C36)	200		120	44	mg/Kg	☼	04/05/18 09:37	04/07/18 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*04/05/18 09:37*	*04/07/18 12:55*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.3		0.44	0.088	mg/Kg	☼	04/04/18 10:46	04/05/18 07:55	5
Cadmium	0.31	J	0.35	0.067	mg/Kg	☼	04/04/18 10:46	04/05/18 07:55	5
Copper	37		0.88	0.19	mg/Kg	☼	04/04/18 10:46	04/05/18 07:55	5
Lead	10		0.44	0.042	mg/Kg	☼	04/04/18 10:46	04/05/18 07:55	5
Zinc	97		4.4	1.4	mg/Kg	☼	04/04/18 10:46	04/05/18 07:55	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.073		0.063	0.019	mg/Kg	☼	04/18/18 10:17	04/18/18 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	40000		2000	44	mg/Kg			04/09/18 10:22	1
Total Solids	39.0		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	10.4				%			04/05/18 09:31	1
Coarse Sand	0.1				%			04/05/18 09:31	1
Fine Sand	19.6				%			04/05/18 09:31	1
Gravel	0.0				%			04/05/18 09:31	1
Medium Sand	0.9				%			04/05/18 09:31	1
Silt	69.0				%			04/05/18 09:31	1

Client Sample ID: PDI-SG-B020-BL1-D

Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-33

Matrix: Solid
Percent Solids: 38.0

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	34	J	130	31	mg/Kg	☼	04/05/18 09:37	04/07/18 13:17	1
Motor Oil (>C24-C36)	410		130	44	mg/Kg	☼	04/05/18 09:37	04/07/18 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*04/05/18 09:37*	*04/07/18 13:17*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0		0.50	0.10	mg/Kg	☼	04/04/18 10:46	04/05/18 07:59	5
Cadmium	0.30	J	0.40	0.078	mg/Kg	☼	04/04/18 10:46	04/05/18 07:59	5
Copper	38		1.0	0.22	mg/Kg	☼	04/04/18 10:46	04/05/18 07:59	5
Lead	10		0.50	0.048	mg/Kg	☼	04/04/18 10:46	04/05/18 07:59	5
Zinc	94		5.0	1.6	mg/Kg	☼	04/04/18 10:46	04/05/18 07:59	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.054		0.050	0.015	mg/Kg	☼	04/18/18 10:17	04/18/18 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	57000		2000	44	mg/Kg			04/16/18 15:01	1
Total Solids	38.0		0.1	0.1	%			04/04/18 16:19	1

Method: D7928/D6913 - ASTM D7928/D6913

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Clay	8.5				%			04/05/18 09:31	1
Coarse Sand	0.2				%			04/05/18 09:31	1
Fine Sand	13.0				%			04/05/18 09:31	1
Gravel	1.0				%			04/05/18 09:31	1
Medium Sand	1.1				%			04/05/18 09:31	1
Silt	76.2				%			04/05/18 09:31	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-270552/1-A
Matrix: Solid
Analysis Batch: 271090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		04/04/18 08:53	04/10/18 15:56	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		04/04/18 08:53	04/10/18 15:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*04/04/18 08:53*	*04/10/18 15:56*	*1*

Lab Sample ID: LCS 580-270552/2-A
Matrix: Solid
Analysis Batch: 271090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270552

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			500	477		mg/Kg		95	70 - 125		
Motor Oil (>C24-C36)			500	440		mg/Kg		88	70 - 119		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*89*		*50 - 150*

Lab Sample ID: LCSD 580-270552/3-A
Matrix: Solid
Analysis Batch: 271090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270552

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			500	494		mg/Kg		99	70 - 125	4	16
Motor Oil (>C24-C36)			500	451		mg/Kg		90	70 - 119	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*93*		*50 - 150*

Lab Sample ID: 580-76239-7 DU
Matrix: Solid
Analysis Batch: 271090

Client Sample ID: PDI-SG-B007-BL1
Prep Type: Total/NA
Prep Batch: 270552

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	93	J		89.9	J	mg/Kg	☼			3	35
Motor Oil (>C24-C36)	500			504		mg/Kg	☼			1	35

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*71*		*50 - 150*

Lab Sample ID: MB 580-270558/1-A
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270558

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		04/04/18 10:12	04/04/18 23:08	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		04/04/18 10:12	04/04/18 23:08	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-270558/1-A
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270558

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	92		50 - 150	04/04/18 10:12	04/04/18 23:08	1

Lab Sample ID: LCS 580-270558/2-A
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270558

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			500	432		mg/Kg		86	70 - 125		
Motor Oil (>C24-C36)			500	411		mg/Kg		82	70 - 119		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	76		50 - 150

Lab Sample ID: LCSD 580-270558/3-A
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			500	483		mg/Kg		97	70 - 125	11	16
Motor Oil (>C24-C36)			500	477		mg/Kg		95	70 - 119	15	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: 580-76239-9 DU
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: PDI-SG-B010-BL1
Prep Type: Total/NA
Prep Batch: 270558

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	ND			ND		mg/Kg	☼			NC	35
Motor Oil (>C24-C36)	110			126		mg/Kg	☼			16	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	81		50 - 150

Lab Sample ID: 580-76239-20 DU
Matrix: Solid
Analysis Batch: 270649

Client Sample ID: PDI-SG-B017-BL1
Prep Type: Total/NA
Prep Batch: 270558

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	43	J		34.3	J	mg/Kg	☼			23	35
Motor Oil (>C24-C36)	330			309		mg/Kg	☼			7	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	86		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-270680/1-A
Matrix: Solid
Analysis Batch: 270849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270680

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		04/05/18 09:37	04/06/18 21:57	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		04/05/18 09:37	04/06/18 21:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*105*		*50 - 150*	*04/05/18 09:37*	*04/06/18 21:57*	*1*

Lab Sample ID: LCS 580-270680/2-A
Matrix: Solid
Analysis Batch: 270849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270680

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
#2 Diesel (C10-C24)			500	490		mg/Kg		98	70 - 125		
Motor Oil (>C24-C36)			500	500		mg/Kg		100	70 - 119		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Lab Sample ID: LCSD 580-270680/3-A
Matrix: Solid
Analysis Batch: 270849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270680

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)			500	482		mg/Kg		96	70 - 125	2	16
Motor Oil (>C24-C36)			500	491		mg/Kg		98	70 - 119	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*93*		*50 - 150*

Lab Sample ID: 580-76239-33 DU
Matrix: Solid
Analysis Batch: 270849

Client Sample ID: PDI-SG-B020-BL1-D
Prep Type: Total/NA
Prep Batch: 270680

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
#2 Diesel (C10-C24)	34	J		43.9	J	mg/Kg	☼			27	35
Motor Oil (>C24-C36)	410			1100	F3	mg/Kg	☼			91	35

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*85*		*50 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-270557/22-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		04/04/18 10:05	04/04/18 22:32	5

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-270557/22-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.20	0.039	mg/Kg		04/04/18 10:05	04/04/18 22:32	5
Copper	ND		0.50	0.11	mg/Kg		04/04/18 10:05	04/04/18 22:32	5
Lead	ND		0.25	0.024	mg/Kg		04/04/18 10:05	04/04/18 22:32	5
Zinc	ND		2.5	0.81	mg/Kg		04/04/18 10:05	04/04/18 22:32	5

Lab Sample ID: LCS 580-270557/23-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	195		mg/Kg		97	80 - 120
Cadmium	5.00	4.68		mg/Kg		94	80 - 120
Copper	25.0	25.1		mg/Kg		101	80 - 120
Lead	50.0	47.2		mg/Kg		94	80 - 120
Zinc	200	194		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-270557/24-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270557

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	196		mg/Kg		98	80 - 120	0	20
Cadmium	5.00	5.00		mg/Kg		100	80 - 120	7	20
Copper	25.0	25.1		mg/Kg		101	80 - 120	0	20
Lead	50.0	47.7		mg/Kg		95	80 - 120	1	20
Zinc	200	193		mg/Kg		96	80 - 120	1	20

Lab Sample ID: 580-76239-1 MS
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA
Prep Batch: 270557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.5		193	201		mg/Kg	☼	102	80 - 120
Cadmium	0.23	J	4.84	5.19		mg/Kg	☼	102	80 - 120
Copper	28		24.2	52.5		mg/Kg	☼	102	80 - 120
Lead	8.7		48.4	57.1		mg/Kg	☼	100	80 - 120
Zinc	72		193	264		mg/Kg	☼	99	80 - 120

Lab Sample ID: 580-76239-1 MSD
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA
Prep Batch: 270557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.5		222	241		mg/Kg	☼	107	80 - 120	18	20
Cadmium	0.23	J	5.55	5.78		mg/Kg	☼	100	80 - 120	11	20
Copper	28		27.7	59.3		mg/Kg	☼	113	80 - 120	12	20
Lead	8.7		55.5	67.6		mg/Kg	☼	106	80 - 120	17	20
Zinc	72		222	306		mg/Kg	☼	106	80 - 120	15	20

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-76239-1 DU
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA
Prep Batch: 270557

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	3.5		3.60		mg/Kg	☼	4	20
Cadmium	0.23	J	0.157	J F5	mg/Kg	☼	39	20
Copper	28		24.7		mg/Kg	☼	12	20
Lead	8.7		7.28		mg/Kg	☼	17	20
Zinc	72		62.6		mg/Kg	☼	14	20

Lab Sample ID: MB 580-270567/18-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270567

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		04/04/18 10:46	04/05/18 00:56	5
Cadmium	ND		0.20	0.039	mg/Kg		04/04/18 10:46	04/05/18 00:56	5
Copper	ND		0.50	0.11	mg/Kg		04/04/18 10:46	04/05/18 00:56	5
Lead	ND		0.25	0.024	mg/Kg		04/04/18 10:46	04/05/18 00:56	5
Zinc	ND		2.5	0.81	mg/Kg		04/04/18 10:46	04/05/18 00:56	5

Lab Sample ID: LCS 580-270567/19-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270567

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	195		mg/Kg		98	80 - 120
Cadmium	5.00	4.90		mg/Kg		98	80 - 120
Copper	25.0	24.9		mg/Kg		100	80 - 120
Lead	50.0	48.2		mg/Kg		96	80 - 120
Zinc	200	191		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 580-270567/20-A
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270567

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	197		mg/Kg		99	80 - 120	1	20
Cadmium	5.00	4.92		mg/Kg		98	80 - 120	1	20
Copper	25.0	25.0		mg/Kg		100	80 - 120	0	20
Lead	50.0	48.6		mg/Kg		97	80 - 120	1	20
Zinc	200	190		mg/Kg		95	80 - 120	0	20

Lab Sample ID: 580-76239-20 MS
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B017-BL1
Prep Type: Total/NA
Prep Batch: 270567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	6.0		334	347		mg/Kg	☼	102	80 - 120
Cadmium	0.40		8.34	9.00		mg/Kg	☼	103	80 - 120
Copper	42	F1	41.7	87.8		mg/Kg	☼	111	80 - 120
Lead	12		83.4	98.9		mg/Kg	☼	104	80 - 120
Zinc	110		334	446		mg/Kg	☼	101	80 - 120

Lab Sample ID: 580-76239-20 MSD
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B017-BL1
Prep Type: Total/NA
Prep Batch: 270567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	6.0		308	333		mg/Kg	☼	106	80 - 120	4	20
Cadmium	0.40		7.71	8.85		mg/Kg	☼	110	80 - 120	2	20
Copper	42	F1	38.5	89.2	F1	mg/Kg	☼	124	80 - 120	2	20
Lead	12		77.1	95.6		mg/Kg	☼	109	80 - 120	3	20
Zinc	110		308	440		mg/Kg	☼	107	80 - 120	1	20

Lab Sample ID: 580-76239-20 DU
Matrix: Solid
Analysis Batch: 270666

Client Sample ID: PDI-SG-B017-BL1
Prep Type: Total/NA
Prep Batch: 270567

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	6.0		5.21		mg/Kg	☼	13	20
Cadmium	0.40		0.303	J F5	mg/Kg	☼	26	20
Copper	42	F1	35.9		mg/Kg	☼	15	20
Lead	12		10.3		mg/Kg	☼	15	20
Zinc	110		94.8		mg/Kg	☼	15	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-270806/22-A
Matrix: Solid
Analysis Batch: 270840

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 270806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		04/06/18 10:48	04/06/18 13:21	1

Lab Sample ID: LCS 580-270806/23-A
Matrix: Solid
Analysis Batch: 270840

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 270806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.165		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 580-270806/24-A
Matrix: Solid
Analysis Batch: 270840

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 270806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.149		mg/Kg		89	80 - 120	11	20

Lab Sample ID: 580-76239-1 MS
Matrix: Solid
Analysis Batch: 270840

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA
Prep Batch: 270806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.032	J	0.200	0.243		mg/Kg	☼	106	80 - 120

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 580-76239-1 MSD — **Client Sample ID: PDI-SG-B001-BL1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 270840 — **Prep Batch: 270806**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.032	J	0.203	0.252		mg/Kg	☼	109	80 - 120	3	20

Lab Sample ID: 580-76239-1 DU — **Client Sample ID: PDI-SG-B001-BL1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 270840 — **Prep Batch: 270806**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.032	J	0.0350		mg/Kg	☼	10	20

Lab Sample ID: MB 580-271649/22-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		04/18/18 10:17	04/18/18 14:54	1

Lab Sample ID: LCS 580-271649/23-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.172		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 580-271649/24-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.169		mg/Kg		101	80 - 120	1	20

Lab Sample ID: 580-76239-15 MS — **Client Sample ID: PDI-SG-B009-BL1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.065		0.299	0.396		mg/Kg	☼	111	80 - 120

Lab Sample ID: 580-76239-15 MSD — **Client Sample ID: PDI-SG-B009-BL1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.065		0.307	0.418		mg/Kg	☼	115	80 - 120	5	20

Lab Sample ID: 580-76239-15 DU — **Client Sample ID: PDI-SG-B009-BL1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 271754 — **Prep Batch: 271649**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.065		0.0644		mg/Kg	☼	0.8	20

Lab Sample ID: MB 580-271883/21-A
Matrix: Solid
Analysis Batch: 272085

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 271883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		04/23/18 08:30	04/23/18 15:32	1

Lab Sample ID: LCS 580-271883/22-A
Matrix: Solid
Analysis Batch: 272085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 271883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.151		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 580-271883/23-A
Matrix: Solid
Analysis Batch: 272085

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 271883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.144		mg/Kg		86	80 - 120	5	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-271127/3
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			04/05/18 15:47	1

Lab Sample ID: LCS 580-271127/4
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	4620	4620		mg/Kg		100	68 - 149

Lab Sample ID: LCSD 580-271127/5
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4620	4620		mg/Kg		100	68 - 149	0	32

Lab Sample ID: 580-76239-1 MS
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	4500		120000	118000		mg/Kg		95	68 - 149

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-76239-1 MSD
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4500		120000	110000		mg/Kg		88	68 - 149	7	32

Lab Sample ID: 580-76239-1 DU
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	4500		4510		mg/Kg		0.1	50

Lab Sample ID: 580-76239-1 TRL
Matrix: Solid
Analysis Batch: 271127

Client Sample ID: PDI-SG-B001-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	TRL Result	TRL Qualifier	Unit	D	RSD	RSD Limit
Total Organic Carbon - Duplicates	4500		4630		mg/Kg		1	20

Lab Sample ID: MB 580-271130/3
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			04/06/18 17:10	1

Lab Sample ID: LCS 580-271130/4
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	4620	4880		mg/Kg		106	68 - 149

Lab Sample ID: LCSD 580-271130/5
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4620	5160		mg/Kg		112	68 - 149	6	32

Lab Sample ID: 580-76239-17 MS
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: PDI-SG-B013-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	25000		120000	131000		mg/Kg		88	68 - 149

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-76239-17 MSD
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: PDI-SG-B013-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	25000		120000	135000		mg/Kg		92	68 - 149	3	32

Lab Sample ID: 580-76239-17 DU
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: PDI-SG-B013-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	25000		26300		mg/Kg		6	50

Lab Sample ID: 580-76239-17 TRL
Matrix: Solid
Analysis Batch: 271130

Client Sample ID: PDI-SG-B013-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	TRL Result	TRL Qualifier	Unit	D	RSD	RSD Limit
Total Organic Carbon - Duplicates	25000		25800		mg/Kg		3	20

Lab Sample ID: MB 580-271691/3
Matrix: Solid
Analysis Batch: 271691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		2000	44	mg/Kg			04/16/18 14:47	1

Lab Sample ID: LCS 580-271691/4
Matrix: Solid
Analysis Batch: 271691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	4620	5240		mg/Kg		113	68 - 149

Lab Sample ID: LCSD 580-271691/5
Matrix: Solid
Analysis Batch: 271691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	4620	5350		mg/Kg		116	68 - 149	2	32

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-76239-32 DU
Matrix: Solid
Analysis Batch: 270645

Client Sample ID: PDI-SG-B036-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	39.0		39.3		%		0.8	20

Method: D 2216 - Percent Moisture (Continued)

Lab Sample ID: 580-76239-33 DU
Matrix: Solid
Analysis Batch: 270645

Client Sample ID: PDI-SG-B020-BL1-D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	38.0			36.4		%				4	20

Method: D7928/D6913 - ASTM D7928/D6913

Lab Sample ID: 580-76239-8 DU
Matrix: Solid
Analysis Batch: 270667

Client Sample ID: PDI-SG-B008-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	5.1			4.8		%				6	20
Coarse Sand	0.0			0.0		%				NC	20
Fine Sand	22.2			21.9		%				1	20
Gravel	0.0			0.0		%				NC	20
Medium Sand	0.3			0.4	F3	%				29	20
Silt	72.4			72.9		%				0.7	20

Lab Sample ID: 580-76239-22 DU
Matrix: Solid
Analysis Batch: 270679

Client Sample ID: PDI-SG-B026-BL1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Clay	8.1			7.9		%				2	20
Coarse Sand	0.2			0.1	F3	%				67	20
Fine Sand	37.4			37.9		%				1	20
Gravel	0.0			0.0		%				NC	20
Medium Sand	17.8			16.9		%				5	20
Silt	36.5			37.2		%				2	20

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B001-BL1
Lab Sample ID: 580-76239-1
Date Collected: 03/30/18 13:35
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 15:54	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B001-BL1
Lab Sample ID: 580-76239-1
Date Collected: 03/30/18 13:35
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 62.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 01:24	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 22:44	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:28	FCW	TAL SEA

Client Sample ID: PDI-SG-B002-BL1
Lab Sample ID: 580-76239-2
Date Collected: 03/30/18 17:45
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:13	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B002-BL1
Lab Sample ID: 580-76239-2
Date Collected: 03/30/18 17:45
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 46.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 04:10	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:19	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:41	FCW	TAL SEA

Client Sample ID: PDI-SG-B004-BL1

Lab Sample ID: 580-76239-4
Date Collected: 03/30/18 14:05
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:18	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B004-BL1

Lab Sample ID: 580-76239-4
Date Collected: 03/30/18 14:05
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 37.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 02:19	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:23	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:44	FCW	TAL SEA

Client Sample ID: PDI-SG-B005-BL1

Lab Sample ID: 580-76239-5
Date Collected: 03/30/18 16:03
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:23	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B005-BL1

Lab Sample ID: 580-76239-5
Date Collected: 03/30/18 16:03
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 38.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 01:51	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:27	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:46	FCW	TAL SEA

Client Sample ID: PDI-SG-B006-BL1

Lab Sample ID: 580-76239-6
Date Collected: 03/30/18 16:15
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:29	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270944	04/09/18 14:57	KMS	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B006-BL1

Lab Sample ID: 580-76239-6
Date Collected: 03/30/18 16:15
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 41.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 02:46	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:31	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:48	FCW	TAL SEA

Client Sample ID: PDI-SG-B007-BL1

Lab Sample ID: 580-76239-7
Date Collected: 03/30/18 17:07
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:41	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270944	04/09/18 14:57	KMS	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B007-BL1

Lab Sample ID: 580-76239-7
Date Collected: 03/30/18 17:07
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 36.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 03:14	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:35	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:51	FCW	TAL SEA

Client Sample ID: PDI-SG-B008-BL1

Lab Sample ID: 580-76239-8
Date Collected: 03/31/18 10:27
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:46	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270944	04/09/18 14:57	KMS	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B008-BL1

Lab Sample ID: 580-76239-8
Date Collected: 03/31/18 10:27
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 48.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270552	04/04/18 08:53	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	271090	04/11/18 04:39	ERZ	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:39	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:53	FCW	TAL SEA

Client Sample ID: PDI-SG-B010-BL1

Lab Sample ID: 580-76239-9
Date Collected: 03/31/18 11:36
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:52	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B010-BL1

Lab Sample ID: 580-76239-9
Date Collected: 03/31/18 11:36
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 45.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 03:10	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:42	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:55	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B012-BL1
Date Collected: 03/31/18 13:28
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 16:57	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B012-BL1
Date Collected: 03/31/18 13:28
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-10
Matrix: Solid
Percent Solids: 45.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 03:53	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:46	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 13:57	FCW	TAL SEA

Client Sample ID: PDI-SG-B018-BL1
Date Collected: 03/31/18 14:20
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:02	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B018-BL1
Date Collected: 03/31/18 14:20
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-11
Matrix: Solid
Percent Solids: 44.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 04:16	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/04/18 23:50	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 14:04	FCW	TAL SEA

Client Sample ID: PDI-SG-B019-BL1

Lab Sample ID: 580-76239-12
Date Collected: 03/31/18 15:07
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:07	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B019-BL1

Lab Sample ID: 580-76239-12
Date Collected: 03/31/18 15:07
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 47.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 04:39	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:10	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 14:06	FCW	TAL SEA

Client Sample ID: PDI-SG-B022-BL1

Lab Sample ID: 580-76239-13
Date Collected: 03/31/18 15:58
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:13	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B022-BL1

Lab Sample ID: 580-76239-13
Date Collected: 03/31/18 15:58
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 45.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 05:01	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:14	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 14:09	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B023-BL1

Lab Sample ID: 580-76239-14
Date Collected: 03/31/18 16:52
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:18	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B023-BL1

Lab Sample ID: 580-76239-14
Date Collected: 03/31/18 16:52
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 46.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 05:23	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:17	FCW	TAL SEA
Total/NA	Prep	7471A			270806	04/06/18 10:48	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	270840	04/06/18 14:11	FCW	TAL SEA

Client Sample ID: PDI-SG-B009-BL1

Lab Sample ID: 580-76239-15
Date Collected: 03/31/18 10:30
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:23	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B009-BL1

Lab Sample ID: 580-76239-15
Date Collected: 03/31/18 10:30
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 37.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 05:45	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:04	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:21	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:01	FCW	TAL SEA

Client Sample ID: PDI-SG-B011-BL1

Lab Sample ID: 580-76239-16

Date Collected: 03/31/18 11:52

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271127	04/05/18 17:29	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B011-BL1

Lab Sample ID: 580-76239-16

Date Collected: 03/31/18 11:52

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 40.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 06:08	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:05	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:25	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:10	FCW	TAL SEA

Client Sample ID: PDI-SG-B013-BL1

Lab Sample ID: 580-76239-17

Date Collected: 03/31/18 14:00

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/06/18 17:18	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B013-BL1

Lab Sample ID: 580-76239-17

Date Collected: 03/31/18 14:00

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 45.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 06:30	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:05	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:29	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:12	FCW	TAL SEA

Client Sample ID: PDI-SG-B014-BL1

Lab Sample ID: 580-76239-18

Date Collected: 03/31/18 16:10

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/06/18 17:37	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B014-BL1

Lab Sample ID: 580-76239-18

Date Collected: 03/31/18 16:10

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 40.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 07:14	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:05	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:33	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:15	FCW	TAL SEA

Client Sample ID: PDI-SG-B015-BL1

Lab Sample ID: 580-76239-19

Date Collected: 03/31/18 15:11

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/06/18 17:43	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B015-BL1

Lab Sample ID: 580-76239-19

Date Collected: 03/31/18 15:11

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 39.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:12	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 07:36	ADB	TAL SEA
Total/NA	Prep	3050B			270557	04/04/18 10:05	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 00:37	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:22	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B017-BL1
Date Collected: 03/31/18 17:07
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/06/18 17:49	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B017-BL1
Date Collected: 03/31/18 17:07
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-20
Matrix: Solid
Percent Solids: 38.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270558	04/04/18 10:14	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270649	04/05/18 07:58	ADB	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:08	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:24	FCW	TAL SEA

Client Sample ID: PDI-SG-B016-BL1
Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/06/18 17:55	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270667	04/05/18 08:10	HJM	TAL SEA

Client Sample ID: PDI-SG-B016-BL1
Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-21
Matrix: Solid
Percent Solids: 64.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 02:01	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:43	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:26	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B026-BL1
Date Collected: 04/01/18 14:30
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 10:28	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B026-BL1
Date Collected: 04/01/18 14:30
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-22
Matrix: Solid
Percent Solids: 60.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 02:23	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:47	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:29	FCW	TAL SEA

Client Sample ID: PDI-SG-B026-BL1-D
Date Collected: 04/01/18 14:40
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271691	04/16/18 14:55	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B026-BL1-D
Date Collected: 04/01/18 14:40
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-23
Matrix: Solid
Percent Solids: 58.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 02:46	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:51	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:31	FCW	TAL SEA

Client Sample ID: PDI-SG-B027-BL1

Lab Sample ID: 580-76239-24

Date Collected: 04/01/18 12:15

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 12:35	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B027-BL1

Lab Sample ID: 580-76239-24

Date Collected: 04/01/18 12:15

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 56.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 03:08	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:55	FCW	TAL SEA
Total/NA	Prep	7471A			271883	04/23/18 08:30	PAB	TAL SEA
Total/NA	Analysis	7471A		1	272085	04/23/18 16:32	FCW	TAL SEA

Client Sample ID: PDI-SG-B029-BL1

Lab Sample ID: 580-76239-25

Date Collected: 04/01/18 16:00

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 12:40	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B029-BL1

Lab Sample ID: 580-76239-25

Date Collected: 04/01/18 16:00

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 57.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 03:30	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 01:59	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:33	FCW	TAL SEA

Client Sample ID: PDI-SG-B032-BL1

Lab Sample ID: 580-76239-26

Date Collected: 04/01/18 17:00

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 12:46	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B032-BL1

Lab Sample ID: 580-76239-26

Date Collected: 04/01/18 17:00

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 57.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 04:14	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 02:03	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:35	FCW	TAL SEA

Client Sample ID: PDI-SG-B020-BL1

Lab Sample ID: 580-76239-27

Date Collected: 04/01/18 10:44

Matrix: Solid

Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 09:51	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B020-BL1

Lab Sample ID: 580-76239-27

Date Collected: 04/01/18 10:44

Matrix: Solid

Date Received: 04/02/18 14:35

Percent Solids: 38.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 04:36	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 02:07	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:38	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B021-BL1

Lab Sample ID: 580-76239-28
Date Collected: 04/01/18 11:57
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 09:57	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B021-BL1

Lab Sample ID: 580-76239-28
Date Collected: 04/01/18 11:57
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 40.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 04:59	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 02:11	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:40	FCW	TAL SEA

Client Sample ID: PDI-SG-B024-BL1

Lab Sample ID: 580-76239-29
Date Collected: 04/01/18 13:15
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 10:04	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B024-BL1

Lab Sample ID: 580-76239-29
Date Collected: 04/01/18 13:15
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 38.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 11:49	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 02:14	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:42	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B025-BL1

Lab Sample ID: 580-76239-30
Date Collected: 04/01/18 14:21
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 10:10	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B025-BL1

Lab Sample ID: 580-76239-30
Date Collected: 04/01/18 14:21
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 42.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 12:11	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 08:03	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:49	FCW	TAL SEA

Client Sample ID: PDI-SG-B034-BL1

Lab Sample ID: 580-76239-31
Date Collected: 04/01/18 15:40
Matrix: Solid
Date Received: 04/02/18 14:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 10:16	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B034-BL1

Lab Sample ID: 580-76239-31
Date Collected: 04/01/18 15:40
Matrix: Solid
Date Received: 04/02/18 14:35
Percent Solids: 39.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 12:33	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 07:51	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:52	FCW	TAL SEA

Lab Chronicle

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Client Sample ID: PDI-SG-B036-BL1
Date Collected: 04/01/18 16:38
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271130	04/09/18 10:22	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B036-BL1
Date Collected: 04/01/18 16:38
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-32
Matrix: Solid
Percent Solids: 39.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 12:55	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 07:55	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:54	FCW	TAL SEA

Client Sample ID: PDI-SG-B020-BL1-D
Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-33
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060_PSEP		1	271691	04/16/18 15:01	MP	TAL SEA
Total/NA	Analysis	D 2216		1	270645	04/04/18 16:19	TTN	TAL SEA
Total/NA	Analysis	D7928/D6913		1	270679	04/05/18 09:31	HJM	TAL SEA

Client Sample ID: PDI-SG-B020-BL1-D
Date Collected: 04/01/18 11:00
Date Received: 04/02/18 14:35

Lab Sample ID: 580-76239-33
Matrix: Solid
Percent Solids: 38.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			270680	04/05/18 09:37	TTN	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	270849	04/07/18 13:17	CJ	TAL SEA
Total/NA	Prep	3050B			270567	04/04/18 10:46	ASJ	TAL SEA
Total/NA	Analysis	6020B		5	270666	04/05/18 07:59	FCW	TAL SEA
Total/NA	Prep	7471A			271649	04/18/18 10:17	ASJ	TAL SEA
Total/NA	Analysis	7471A		1	271754	04/18/18 15:56	FCW	TAL SEA

Laboratory References:
TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: AECOM
TestAmerica Job ID: 580-76239-1
Project/Site: Portland Harbor Pre-Remedial Design

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Sample Summary

Client: AECOM
Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-76239-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-76239-1	PDI-SG-B001-BL1	Solid	03/30/18 13:35	04/02/18 14:35
580-76239-2	PDI-SG-B002-BL1	Solid	03/30/18 17:45	04/02/18 14:35
580-76239-4	PDI-SG-B004-BL1	Solid	03/30/18 14:05	04/02/18 14:35
580-76239-5	PDI-SG-B005-BL1	Solid	03/30/18 16:03	04/02/18 14:35
580-76239-6	PDI-SG-B006-BL1	Solid	03/30/18 16:15	04/02/18 14:35
580-76239-7	PDI-SG-B007-BL1	Solid	03/30/18 17:07	04/02/18 14:35
580-76239-8	PDI-SG-B008-BL1	Solid	03/31/18 10:27	04/02/18 14:35
580-76239-9	PDI-SG-B010-BL1	Solid	03/31/18 11:36	04/02/18 14:35
580-76239-10	PDI-SG-B012-BL1	Solid	03/31/18 13:28	04/02/18 14:35
580-76239-11	PDI-SG-B018-BL1	Solid	03/31/18 14:20	04/02/18 14:35
580-76239-12	PDI-SG-B019-BL1	Solid	03/31/18 15:07	04/02/18 14:35
580-76239-13	PDI-SG-B022-BL1	Solid	03/31/18 15:58	04/02/18 14:35
580-76239-14	PDI-SG-B023-BL1	Solid	03/31/18 16:52	04/02/18 14:35
580-76239-15	PDI-SG-B009-BL1	Solid	03/31/18 10:30	04/02/18 14:35
580-76239-16	PDI-SG-B011-BL1	Solid	03/31/18 11:52	04/02/18 14:35
580-76239-17	PDI-SG-B013-BL1	Solid	03/31/18 14:00	04/02/18 14:35
580-76239-18	PDI-SG-B014-BL1	Solid	03/31/18 16:10	04/02/18 14:35
580-76239-19	PDI-SG-B015-BL1	Solid	03/31/18 15:11	04/02/18 14:35
580-76239-20	PDI-SG-B017-BL1	Solid	03/31/18 17:07	04/02/18 14:35
580-76239-21	PDI-SG-B016-BL1	Solid	04/01/18 11:00	04/02/18 14:35
580-76239-22	PDI-SG-B026-BL1	Solid	04/01/18 14:30	04/02/18 14:35
580-76239-23	PDI-SG-B026-BL1-D	Solid	04/01/18 14:40	04/02/18 14:35
580-76239-24	PDI-SG-B027-BL1	Solid	04/01/18 12:15	04/02/18 14:35
580-76239-25	PDI-SG-B029-BL1	Solid	04/01/18 16:00	04/02/18 14:35
580-76239-26	PDI-SG-B032-BL1	Solid	04/01/18 17:00	04/02/18 14:35
580-76239-27	PDI-SG-B020-BL1	Solid	04/01/18 10:44	04/02/18 14:35
580-76239-28	PDI-SG-B021-BL1	Solid	04/01/18 11:57	04/02/18 14:35
580-76239-29	PDI-SG-B024-BL1	Solid	04/01/18 13:15	04/02/18 14:35
580-76239-30	PDI-SG-B025-BL1	Solid	04/01/18 14:21	04/02/18 14:35
580-76239-31	PDI-SG-B034-BL1	Solid	04/01/18 15:40	04/02/18 14:35
580-76239-32	PDI-SG-B036-BL1	Solid	04/01/18 16:38	04/02/18 14:35
580-76239-33	PDI-SG-B020-BL1-D	Solid	04/01/18 11:00	04/02/18 14:35

Walker, M Elaine

From: Dahl, Amy <amy.dahl@aecom.com>
Sent: Thursday, April 05, 2018 10:39 AM
To: Walker, M Elaine
Cc: Cook, Chelsey; Sahlberg, Ian; Mixon, Karen; McClelland, Michelle
Subject: RE: TestAmerica sample confirmation files from 580-76239-1 Portland Harbor

External Email

Hi Elaine,

For the charge code, please cross out the old charge code and replace new charge code (60566335) with initials, date, and note "per AECOM".

Thanks!

Amy Dahl, PhD
Chemist, Environment, Pacific Northwest
D +1-206-438-2261
amy.dahl@aecom.com

AECOM
1111 Third Avenue, Suite 1600
Seattle, WA 98101, United States
T +1-206-438-2700
aecom.com

From: Walker, M Elaine [mailto:Elaine.Walker@testamericainc.com]
Sent: Thursday, April 05, 2018 9:37 AM
To: Dahl, Amy
Cc: Cook, Chelsey; Sahlberg, Ian; Mixon, Karen; McClelland, Michelle
Subject: RE: TestAmerica sample confirmation files from 580-76239-1 Portland Harbor

Oh sorry, the screen method that's logged is an internal code that the samples need for the Congeners method. All of the samples now have this method logged.

I'll look at the cooler checklist. I can get rid of all those blank pages.

I am going to re-run all 3 logins now and send them to you to review in a few minutes.

I still need to review the login for the samples received yesterday.

Thanks,
M. ELAINE WALKER
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East

Tacoma, WA 98424
Tel 253.248.4972 | Fax 253.922.5047
www.testamericainc.com

From: Walker, M Elaine
Sent: Thursday, April 05, 2018 9:07 AM
To: 'Dahl, Amy'
Cc: Cook, Chelsey; Sahlberg, Ian; Mixon, Karen; McClelland, Michelle
Subject: RE: TestAmerica sample confirmation files from 580-76239-1 Portland Harbor

Oh yes, please. It was changed during login because it was different on the COC. Thanks for catching that.

There were some changes to the login and I still need to split into 3 separate reports and confirm everything else. The metals method will be changed. As soon as I get all the revisions to the logins, I'll re-send 3 individual ones. Sorry, I should have waited to send the confirmation, but I wanted you to start taking a look at it so we can get start-up bugs worked out right away.

Thanks,
M. ELAINE WALKER
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East
Tacoma, WA 98424
Tel 253.248.4972 | Fax 253.922.5047
www.testamericainc.com

From: Dahl, Amy [mailto:amy.dahl@aecom.com]
Sent: Wednesday, April 04, 2018 5:58 PM
To: Walker, M Elaine
Cc: Cook, Chelsey; Sahlberg, Ian; Mixon, Karen; McClelland, Michelle
Subject: RE: TestAmerica sample confirmation files from 580-76239-1 Portland Harbor

-External Email-

Elaine, the sample acknowledgment looks good. Please note that the correct charge code for this project is 60566335. Do you need me to revise the COC?

Additional questions/notes:

- As noted by Karen, method for PCBs should be 1668A not 1668C.
- Method for total metals should be 6020B not 6020A. We noticed low level was indicated on the login. Please confirm QAPP limits in Table 2b will be met and if the method reference is correct or needs to be changed.
- Why was "Screen_1668" added to samples 16 to 33 and not 1 to 15?

- There are a lot of blank pages in the cooler check list. Can you change the format so there are not so many pages?

Thank you,

Amy Dahl, PhD
Chemist, Environment, Pacific Northwest
D +1-206-438-2261
amy.dahl@aecom.com

AECOM
1111 Third Avenue, Suite 1600
Seattle, WA 98101, United States
T +1-206-438-2700
aecom.com

From: Walker, Elaine [mailto:elaine.walker@testamericainc.com]
Sent: Tuesday, April 03, 2018 4:56 PM
To: Dahl, Amy; Cook, Chelsey; Sahlberg, Ian; Mixon, Karen; McClelland, Michelle
Subject: TestAmerica sample confirmation files from 580-76239-1 Portland Harbor

Hello,

Attached please find the sample confirmation files for job 580-76239-1; Portland Harbor.

Please note - The following sample was listed on the Chain-of-Custody (COC) for analysis but was not received: PDI-SG-B003-BL1 (580-76239-3). Per email from the client, this sample was inadvertently received at ALS. This sample will be delivered with the next set of samples and has been removed from this COC per request.

Please feel free to contact me if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

ELAINE M WALKER
Project Manager

TestAmerica Seattle
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 253.248.4972
www.testamericainc.com

Reference: [238062]
Attachments: 4

Revised COC 4/3/2018 - EW

580-76239 Chain of Custody

SURFACE SEDIMENT
CHAIN OF CUSTODY

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	1 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone: (206) 438-2700 Fax: 1-(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other			Cooler ID: date/cooler #
Portland, OR				
Project #: 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes
PDI-SG-B001-BL1	5-30-18	13:35	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B002-BL1		17:45	SRS	6		SS	NM		1	1	1	1	1	1	
~~PDI-SG-B003-BL1~~		~~12:42~~	~~SRS~~	~~6~~		~~SS~~	~~DH~~		~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	new 4/3/18 - not received
PDI-SG-B004-BL1		14:05	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B005-BL1		16:03	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B006-BL1		16:15	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B007-BL1	5-30-18	17:07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B008-BL1	5-31-18	10:27	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B010-BL1	5/31/18	11:36	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B012-BL1		13:28	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B018-BL1		14:20	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B019-BL1	5/31/18	15:07	SRS	6		SS	NM		1	1	1	1	1	1	
									AG	AG	G	G	G	AG	
									None	None	None	None	None	None	

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

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

Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal

☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Separate reports from each lab

2.3, 0.9, 3.2, 4.4, 4.9, 2.8, 1.4

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Michaela McCoog	AECOM	4-2-18 1415	Jessica Nye	M.E.	4/2/18 1415
Relinquished by: Jessica Nye	Company: M.E.	Date/Time: 4/2/18 1435	Received by:	Company: TA-POR	Date/Time: 4/2/18 1435
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	2 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone (206) 438-2700 Fax 1(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other _____			Cooler ID: date/cooler #
Portland, OR				
Project #: 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes
PDI-SG-B022-BL1	3-31-18	15 58	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B023-BL1	3/31/18	16 52	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B009-BL1		10 30	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B011-BL1		11 52	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B013-BL1		14 00	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B014-BL1		16 10	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B015-BL1	↓	15 11	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B017-BL1	3-31-18	17 07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B016-BL1	4-1-18	11 00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1	4-1-18	14 30	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1-D		14 40	SRS	5		SS	NM		1	1	1		1	1	
PDI-SG-B027-BL1	↓	12:15	SRS	6		SS	NM		1	1	1	1	1	1	
Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column									AG	AG	G	G	G	AG	
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid									None	None	None	None	None	None	

Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal
☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Seperate reports for each lab

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Michael McCoog	AECOM	4-2-18 1415	Melissa Nye	M.E.	4/2/18 1415
Melissa Nye	M.E.	4/2/18 1435		TA-PDX	4/2/18 1435
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	3 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone (206) 438-2700 Fax 1+(866) 495-5288	☐			Charge #: 60554349
Project Name Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling				Cooler ID: date/cooler #
Portland, OR	☐ Other _____			
Project # 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes
PDI-SG-B029-BL1	4-1-18	16 00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B032-BL1	↓	17 00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B020-BL1	4-1-18	10 44	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B021-BL1		11 57	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B024-BL1		13 15	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B025-BL1		14 21	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B034-BL1		15 40	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B036-BL1	↓	16 38	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B020-BL1-D	4-1-18	11:00	SRS	5		SS	DH		1	1	1		1	1	
				6					1	1	1	1	1	1	
				5					1	1	1		1	1	
				6					1	1	1	1	1	1	
Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column									AG	AG	G	G	G	AG	
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid									None	None	None	None	None	None	

Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal
☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Separate reports for each lab

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Michael Mayo	AECOM	4-2-18 1415	Jennifer Ray	M.E.	4/2/18 1415
Jennifer Ray	M.E.	4/2/18 1435		TA-POR	4/2/18 1435
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT CHAIN OF CUSTODY

580-76239 Chain of Custody

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No.
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	1 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone (206) 438-2700 Fax: 1+(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other			Cooler ID: date/cooler #
Portland, OR				
Project #: 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes
PDI-SG-B001-BL1	5-30-18	13 35	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B002-BL1		17 45	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B003-BL1		12 42	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B004-BL1		14 05	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B005-BL1		16 03	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B006-BL1		16 15	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B007-BL1	5-30-18	17 07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B008-BL1	5-31-18	10 27	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B010-BL1	5/31/18	11 36	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B012-BL1		13 28	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B018-BL1		14 20	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B019-BL1	5/31/18	15 07	SRS	6		SS	NM		1	1	1	1	1	1	
Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column									AG	AG	G	G	G	AG	
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid									None	None	None	None	None	None	

Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:

separate reports from each lab

2.3, 0.9, 3.2, 4.4, 4.9, 2.8, 1.4

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michaela McCoog	AECOM	4-2-18 1415	Jessica Nye	M.E.	4/2/18 1415
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jessica Nye	M.E.	4/2/18 1435		TA-POR	4/2/18 1435
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TA-POR	4/2/18 1700	Tom Stanton	TA-Spo	4/3/18 0945

-0.3/-0.4
IR5 -1.7/-1.8
-2.0/-2.1

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	2 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other			Cooler ID: date/cooler #
Portland, OR				
Project #: 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes:
PDI-SG-B022-BL1	3-31-18	15 58	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B023-BL1	3/31/18	16 52	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B009-BL1	"	10 30	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B011-BL1	"	11 52	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B013-BL1	"	14 00	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B014-BL1	"	16 10	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B015-BL1	"	15 11	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B017-BL1	3-31-18	17:07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B016-BL1	4-1-18	11 00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1	4-1-18	14 30	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1-D	"	14 40	SRS	5		SS	NM		1	1	1		1	1	
PDI-SG-B027-BL1	"	12 15	SRS	6		SS	NM		1	1	1	1	1	1	
Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column									AG	AG	G	G	G	AG	
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid									None	None	None	None	None	None	

Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Seperate reports for each lab

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Mc	AECOM	4-2-18 1415	Jessica Mc	M.E.	4/2/18 1415
Jessica Mc	M.E.	4/2/18 1435		TA-POR	4/2/18 1435
	TAPOR	4/2/18 1700	Tom Blum	TA-Sea	4/3/18 0945

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No:
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine-Walker	Carrier:	3 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone: (206) 438-2700 Fax: 1+(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other _____			Cooler ID: date/cooler #
Portland, OR				
Project #: 60554349				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive											Sample Specific Notes
PDI-SG-B029-BL1	4-1-18	16:00	SRS	6		SS	NM		1	1	1	1	1	1											
PDI-SG-B032-BL1	↓	17:00	SRS	6		SS	NM		1	1	1	1	1	1											
PDI-SG-B020-BL1	4-1-18	10:44	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B021-BL1		11:57	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B024-BL1		13:15	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B025-BL1		14:21	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B034-BL1		15:40	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B036-BL1	↓	16:38	SRS	6		SS	DH		1	1	1	1	1	1											
PDI-SG-B020-BL1-D	4-1-18	11:00	SRS	5		SS	DH		1	1	1		1	1											
				6					1	1	1	1	1	1											
				5					1	1	1		1	1											
				6					1	1	1	1	1	1											
									AG	AG	G	G	G	AG											
									None	None	None	None	None	None											

Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal
☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:
Separate reports for each lab

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Mroy	AECOM	4-2-18 1415		M.E.	4/2/18 1415
	M.E.	4/2/18 1435		TA-POR	4/2/18 1435
	TA Port	4/2/18 1700	Tom Stanton	TA-Sea	4/3/18 0945

Revised COC #2 - 4/5/2018 - EW

Revised COC 4/3/2018 - EW

580-76239 Chain of Custody

SURFACE SEDIMENT CHAIN OF CUSTODY

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoog	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine Walker	Carrier	1 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone: (206) 438-2700 Fax: 1-(866) 495-5286	☐			Charge #: 60554340
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other _____			Cooler ID: date/cooler #
Portland, OR				
Project #: ~~60554340~~ 60566335 EW - Per AECOM 4/5/18				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Fraction	PCB Congeners	PCB BWs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes.
PDI-SG-B001-BL1	3/30/18	13:35	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B002-BL1		17:45	SRS	6		SS	NM		1	1	1	1	1	1	
~~PDI-SG-B003-BL1~~		~~12:42~~	~~SRS~~	~~6~~		~~SS~~	~~DH~~		~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	~~1~~	new 4/3/18 - not received
PDI-SG-B004-BL1		14:05	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B005-BL1		16:03	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B006-BL1		16:15	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B007-BL1	3-30-18	17:07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B008-BL1	3/31/18	10:27	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B010-BL1	3/31/18	11:36	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B012-BL1		13:28	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B018-BL1		14:20	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B019-BL1	3/31/18	15:07	SRS	6		SS	NM		1	1	1	1	1	1	
									AG	AG	G	G	G	AG	
									None	None	None	None	None	None	

Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Separate reports from each lab

2.3, 0.9, 3.2, 4.4, 4.9, 2.8, 1.4

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michaela McCoog	AECOM	4-2-18 1415	Jessica Nye	M.E.	4/2/18 1415
Relinquished by: Jessica Nye	Company: M.E.	Date/Time: 4/2/18 1435	Received by:	Company: TA-POR	Date/Time: 4/2/18 1435
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

TestAmerica-Sacramento
880 Riverside Parkway
West Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCoag	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine Walker	Carrier:	2 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Tests:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Event:
Phone (206) 438-2700 Fax 1+(866) 495-5288	☐			Charge #: 605543.10
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling	☐ Other _____			Cooler ID: date-cooler #
Portland, OR				
Project #: ~~605543.10~~ 605536.335 EW				
PO# AECOM - 4/5/18				

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Preserv.	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain size	Total organic carbon, Total solids	Archive	Sample Specific Notes
PDI-SG-B022-BL1	3-31-18	15 58	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B023-BL1	3/31/18	16 52	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B009-BL1		10 30	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B011-BL1		11 52	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B013-BL1		14 00	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B014-BL1		16 10	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B015-BL1	↓	15 11	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B017-BL1	3-31-18	17 07	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B016-BL1	4-1-18	11 00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1	4-1-18	14 30	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B026-BL1-D		14 40	SRS	5		SS	NM		1	1	1		1	1	
PDI-SG-B027-BL1	↓	12 15	SRS	6		SS	NM		1	1	1	1	1	1	
									AG	AG	G	G	G	AG	
									None	None	None	None	None	None	

Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Rasin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal: ☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Seperate reports for each lab

Relinquished by:	Company	Date/Time	Received by	Company	Date/Time
[signature]	AECOM	4-2-18 1415	[signature]	M.E.	4/2/18 1415
Relinquished by: [signature]	Company M.E.	Date/Time 4/2/18 1435	Received by: [signature]	Company TA-Por	Date/Time 4/2/18 1435
Relinquished by:	Company	Date/Time	Received by:	Company	Date/Time

TestAmerica-Sacramento
880-Riverside-Parkway
West-Sacramento, CA 95605-1500
Ph: 916-373-5600 Fax: 0

SURFACE SEDIMENT
CHAIN OF CUSTODY

Client Contact	Project Contact: Karen Mixon / Amy Dahl	Site Contact: Jennifer Ray / Michaela McCaig	Date: 4-2-18	COC No
AECOM	Tel: (206) 438-2234 / (206) 438-2261	Elaine Walker	Carrier:	3 of 3 COCs
1111 3rd Ave Suite 1600	Analysis Turnaround Time			Task:
Seattle, WA 98101	Calendar (C) or Work Days (W)			Events:
Phone (206) 438-2700 Fax 1+(866) 495-5288	☐			Charge #: 60554349
Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling				Cooler ID: data.cooler.a
Portland, OR	☐ Other _____			
Project #: ~~60554349~~ 60566335 SW				

PM AECOM 4/5/18

Sample Identification	Sample Date	Sample Time	Sample Type	Total No. of Cont.	QC Sample	Matrix	Sampler's Initials	Filtration	PCB Congeners	PCDD/Fs	TPH Diesel, Metals, Mercury	Grain Size	Total organic carbon, Total solids	Archive	Sample Specific Notes:
PDI-SG-B029-BL1	4-1-18	16:00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B032-BL1	↓	17:00	SRS	6		SS	NM		1	1	1	1	1	1	
PDI-SG-B020-BL1	4-1-18	10:44	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B021-BL1		11:57	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B024-BL1		13:13	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B025-BL1		14:21	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B034-BL1		13:40	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B036-BL1	↓	16:38	SRS	6		SS	DH		1	1	1	1	1	1	
PDI-SG-B020-BL1-D	4-1-18	11:00	SRS	5		SS	DH		1	1	1		1	1	
				6					1	1	1	1	1	1	
				5					1	1	1		1	1	
				6					1	1	1	1	1	1	
									AG	AG	G	G	G	AG	
									None	None	None	None	None	None	

Container Type: WMG = Wide Mouth Glass Jar, P = HDPE, PP = Polypropylene, G = glass, RC = Resin Column
Preservative: HCl = Hydrochloric Acid, H3PO4 = Phosphoric Acid, HNO3 = Nitric Acid
Fraction: D = Dissolved, P = Particulate, T = Total (unfiltered), FF = Field Filtered

Sample Disposal: ☐ Return To Client X Disposal By Lab X Archive For 12 Months

Special Instructions/QC Requirements & Comments:

Separate reports for each lab

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Michael McCoy	AECOM	4-2-18 1415	Jennifer Ray	M.E.	4/2/18 1415
Relinquished by: Jennifer Ray	Company: M.E.	Date/Time: 4/2/18 1435	Received by:	Company: TA-POR	Date/Time: 4/2/18 1435
Relinquished by	Company	Date/Time:	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-76239-1

Login Number: 76239
List Number: 1
Creator: Gonzales, Steve

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	