

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: 580-79444-3

Client Project/Site: Portland Harbor Pre-Remedial Design

For:

AECOM 1111 Third Ave Suite 1600 Seattle, Washington 98101

Attn: Amy Dahl

M. Elains Walker

Authorized for release by: 8/26/2018 4:54:00 PM

Elaine Walker, Project Manager II (253)248-4972

elaine.walker@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-79444-3

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Case Narrative

Client: AECOM TestAmerica Job ID: 580-79444-3

Project/Site: Portland Harbor Pre-Remedial Design

Job ID: 580-79444-3

Laboratory: TestAmerica Seattle

Narrative

CASE NARRATIVE Client: AECOM

Project: Portland Harbor Pre-Remedial Design

Report Number: 580-79444-3

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

The samples were received on 8/8/2018 3:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.4° C, 1.5° C, 1.6° C, 1.7° C, 3.9° C and 4.2° C.

This report contains results for Atterberg Limits, performed by TestAmerica Burlington.

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.

LIQUID LIMIT. PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

Sample PDI-SC-S105-4to5.6 (580-79444-33) was analyzed for Liquid Limit, Plastic Limit and Plasticity Index of Soils in accordance with ASTM D4318. The samples were analyzed on 08/15/2018.

The following sample is not amenable to Liquid Limits, Plastic Limits, and Plasticity Index determination due to the physical properties of the sample: PDI-SC-S105-4to5.6 (580-79444-33). Values of zero, zero, and NP have been reported respectively for each determination.

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

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TestAmerica Seattle 8/26/2018

Definitions/Glossary

Client: AECOM TestAmerica Job ID: 580-79444-3

Project/Site: Portland Harbor Pre-Remedial Design

Method Detection Limit

Minimum Level (Dioxin)

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Not Detected at the reporting limit (or MDL or EDL if shown)

Relative Percent Difference, a measure of the relative difference between two points

Reporting Limit or Requested Limit (Radiochemistry)

Not Calculated

Quality Control

Glossary

MDL

ML

NC

ND

PQL

QC

RER

RL RPD

TEF

TEQ

| 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) |

TestAmerica Seattle

Client Sample Results

Client: AECOM TestAmerica Job ID: 580-79444-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S105-4to 5.6 Lab Sample ID: 580-79444-33

Date Collected: 08/08/18 09:05 Matrix: Solid

Date Received: 08/08/18 15:30

| Method: D4318 - Liquid Limit, | Plastic Limit and Plasti | city Index of | Soils | | | | |
|-------------------------------|--------------------------|---------------|----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Liquid Limit | 0 | | NONE | | | 08/15/18 17:22 | 1 |
| Plastic Limit | 0 | | NONE | | | 08/15/18 17:22 | 1 |
| Plasticity Index | NP | | NONE | | | 08/15/18 17:22 | 1 |

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Lab Chronicle

Client: AECOM TestAmerica Job ID: 580-79444-3

Project/Site: Portland Harbor Pre-Remedial Design

Client Sample ID: PDI-SC-S105-4to5.6 Lab Sample ID: 580-79444-33

Date Collected: 08/08/18 09:05 Matrix: Solid

Date Received: 08/08/18 15:30

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | D4318 | | | 132944 | 08/15/18 17:22 | MAP | TAL BUR |

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

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Accreditation/Certification Summary

Client: AECOM TestAmerica Job ID: 580-79444-3

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 | 07-31-19 |
| USDA | Federal | | P330-14-00126 | 02-10-20 |
| Washington | State Program | 10 | C553 | 02-17-19 |

Laboratory: TestAmerica Burlington

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 |
|-----------------------------------|---------------|------------|------------------------------|------------------------|
| ANAB | DoD ELAP | | L2336 | 02-25-20 |
| Connecticut | State Program | 1 | PH-0751 | 09-30-19 |
| DE Haz. Subst. Cleanup Act (HSCA) | State Program | 3 | NA | 02-01-19 |
| Maine | State Program | 1 | VT00008 | 04-17-19 |
| Minnesota | NELAP | 5 | 050-999-436 | 12-31-18 |
| New Hampshire | NELAP | 1 | 2006 | 12-18-18 |
| New Jersey | NELAP | 2 | VT972 | 06-30-19 |
| New York | NELAP | 2 | 10391 | 04-01-19 |
| Pennsylvania | NELAP | 3 | 68-00489 | 04-30-19 |
| Rhode Island | State Program | 1 | LAO00298 | 12-30-18 |
| US Fish & Wildlife | Federal | | LE-058448-0 | 07-31-19 |
| USDA | Federal | | P330-11-00093 | 07-24-20 |
| Vermont | State Program | 1 | VT-4000 | 12-31-18 |
| Virginia | NELAP | 3 | 460209 | 12-14-18 |

Sample Summary

Client: AECOM

Project/Site: Portland Harbor Pre-Remedial Design

TestAmerica Job ID: 580-79444-3

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|--------------------|--------|----------------|----------------|
| 580-79444-33 | PDI-SC-S105-4to5.6 | Solid | 08/08/18 09:05 | 08/08/18 15:30 |

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| TestAmerica-Seattle 5755-8th-Street-East | | | | | | S | UB | SUI | RFA | CE | SED | IME | NT | | | | | | | | | | | | | | | |
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| Tacoma, WA 98424-1317 | | | | | | | CI | ΗΔΙ | N O | E C | UST | ימס | V | | | | | | | | | | | | | | | |
| Ph: 253-922-2310 Fax: 253-922-5047 | | | | | | | | | | | | OD. | | | | | 0.00.44.0 | | | | | | | COC N | a. 1 | | | |
| Client Contact | | | | y Dahl / Che | | | | | | nnifer l | | | | | $\overline{}$ | Date: | | d | | | | | | COCIN | o: 1 | | | |
| AECOM | | | | 61 / (206) 43 naround Tin | | | La | borato | ry Con | tact: E | laine-Wa | lker | | ТТ | | Carrie | r: Cou | ier | | | T | | T | | 01 (| pa | ges | |
| 1111 3rd Ave Suite 1600 | | | | Days (W) _V | | | | | | | ę n | | | | | | | | İ | | | | | | | | | |
| Seattle, WA 98101 | | Calendar (| C. JOI WOIK | Days (W) _V | Y | | \dashv | | | ļ | arb 160 | | | | | | İ | | | | | | | | | | | |
| Phone: (206) 438-2700 Fax: 1+(866) 495-5288 Project Name: Portland Harbor Pre-Remedial Design | | 21 | days | | | | | | | | nic 6 | | | | | | | | ŀ | | | | | l | | | | |
| Investigation and Baseline Sampling | | 21 | uays | | | | | | | £ | 1 Organ | 4318 | | | | ļ | | | | | | | | | | | | |
| Portland, OR | | Other | | | | | | | ļ | (/D69 | Totu 270D | M W | | | ĺ | | | | | | | | | | | | | |
| Project #: 60566335 Study: Subsurface Sediment | | | | | | | | | | 1792 | AHS. | AS | | | | | | ļ | | | | ļ | ١. | | | | | |
| Sample Type | | | | | | | | 1613B | | ASTM I | Aroclors, PAHs, Total Organic Carbon. Solids 8082A, 8270D-SIM, 9060, 160.3 | Limits | | | | | | | | | | | | | | : | | |
| Sample Identification | Fraction | PCDD/Fs | Archive | Grain wize | PCB Aro Total Sol | Atterberg Limits ASTM D4318 | | | | | | | | | | | | | Sample Sp | pecific | Notes: | | | | | | | |
| | -SC-S226 - 6 to 8 8/6/2018 15:05 SC ED 4 | | | | | | | | | | | | | | | | | | | | 77.77 | | | | | | | |
| | | | x x | x | x | x | | | | | | | | | | | | | | | | | | | | | | |
| | 16.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PDI-SC-S226 - 0 to 2 | 8/6/2018 | 14:50 | SC | | ED | | | x x | x x | х | x | | | | | | | | | | | | | | | | | |
| PDI-SC-S226 - 2 to 4 | 8/6/2018 | 14:55 | SC | | ED | | | x | x | x | x | | | | | | | | | | | | | | | | | |
| PDI-SC-S226 - 12 to 14 | 8/6/2018 | 15:20 | sc | | ED | | | x | x | x | х | | | | | | | | | | | | | | | | | |
| PDI-SC-S226 - 4 to 6 | 8/6/2018 | 15:00 | SC | | ED | | | x | x | x | x | | | | | | | | | | | | | | | | | |
| PDI-SC-S226 - 14 to 15.8 | 8/6/2018 | 15:25 | SC | | ED | | | x | x | x | X | | | | | | | | | | | | | | | | | _ |
| PDI-SC-S222 - 0 to 2 | 8/7/2018 | 03 | te sc | | ED | | ╧ | x | x | х | х | | | | | | | | | | | | | | | | | |
| PDI-SC-S222 - 2 to 4 | 8/7/2018 | 9:50 | SC | | ED | | \bot | x | x | x | x | | | | | | | | | | | | | | | | | _ |
| PDI-SC-S222 - 4 to 5 | 8/7/2018 | 9:55 | SC | | ED | | _ | x | x | <u>x</u> | <u>x</u> | | | | \perp | | | | | | | | | | | | | - |
| PDI-SC-S222 - 5 to 7.2 | 8/7/2018 | 10:00 | SC | <u> </u> | ED | ₩/ | _ـــ | x | X | x | X | | | | | | | _ | 58 | 0-79 | 444 (| Chain | of Cu | stody | | | | _ |
| Container Type: WMG=Wide Mouth Glass Jar, | | | | | s, G=glass | , RC=Res | in Co | AG | AG | WMG | WMG | AG | *************************************** | | | | + | | — | | | | | i | | | | - |
| Preservative: HCl = Hydrochloric Acid, H3PO- | | ic Acid, HI | VO3 ≠ Nitri | CACIO | | | | Sam | ple Dis | leaces | | <u> </u> | | | | | | | | | | L | | L | | | | |
| Fraction: D = Dissolved, PRT = Particulate, T = Tot | иі (ипјитегеи) | | | | | | | 1 ' | • | n To C | lient | 5 | spos | sal By La | ab | X | rchiv | re For | 12 Mo | nths | | | | | | | | |
| Special Instructions/QC Requirements & Commen | s: Separat | e report | s for eacl | ı lab | | | | | | | | | | | (| e(o | 1. | 7,(| 0.4 | , ч | 02, | 16 | ,3, | 09 | | | | |
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| Relinguisted by | ATTO | DW | ١ | Date/Time | 18/1 | 445 | | Recei | wed by: | M | 11 | <u>V</u> | $\Delta\Delta$ | | | | C | Compar | X. | E | | | | Bate / S | 18 | 1 | 445 | <u>"</u> |
| Relinquisted by | Company: | - E- | | Bate Time | 8 / 10 | 330 | | Recei | wed by: | | | | 21 | 12_ | | L | | Compan / | 14 | 7 | 00 | | | Date/Tin | 1/18 | 1. | 63.0° |) |
| Relinquish | Company: | TO | W | Day/Time | 7 1 | 700 | ク | Reçe | yed by: | الد | Ul | , | , , , | | | | ٥ | TÁC | م | ī | ~ | | | Ďak/Ti | 1.19 | O | 120 | , |
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| TestAmerica-Seattle 5755-8th-Street-East | | | | | | SU | BS | UR | FA | CE | SED | IMI | ENT | ` | * | | | | | ****** | | | | | | | |
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| Tacoma, WA 98424-1317 | | | | | | | CH | A T | NΛ | TE C | UST | מה. | v | | | | | | | | | | | | | | |
| Ph: 253-922-2310 Fax: 253-922-5047 | | | | | | · · · · · · · · · · · · · · · · · · · | | | | | | Uυ | 1 | | | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | | |
| Client Contact AECOM | | ******* | | ny Dahl / Che | | | | | | nnifer l | | | | | *************************************** | | 8/8/18 | | | | | | CC | C No:1 | , , | | |
| THE 3rd Ave Suite 1600 | | | | 61 / (206) 43 rnaround Tir | | | Labo | rator | y Con | tact: E | laine-W | alker | Т | T | Τ | Carr | ier: Co | urier | T | T 1 | | | + | / of | 7_1 | ages | |
| Seattle, WA 98101 | | | | Days (W) | · | | | | | | , co | | ļ | | | | | | | | | | | | | | |
| Phone: (206) 438-2700 Fax: 1+(866) 495-5288 | | | | ············ | | | | | | | Cart 9, 160 | | | | | | | | | | | | | | | | |
| Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling | | 21 | days | | | | | | | | rs, PAHs, Total Organic Carbon, 8082A, 8270D-SIM, 9060, 160.3 | 8.2 | | | | | | | | | | İ | | | | | |
| Portland, OR | | Other | | | | | | | | D7928/D6913 | ota! | 1 D4 | | | | | | | | | | | | | | | |
| Project #: 60566335 Study: Subsurface Sediment | 1 - | Other | | | | | | | | 928/I | Hs, T | STA | | | | | | | | | | | ŀ | | | | |
| Sample Type: | | | | | | | | 1613B | | ASTM D7 | Jors, PA. ds 8082A | Limits / | | | | | | | | | | | | | | | |
| Sample Identification | Sample Date | Sample Time | Matrix | QC Sample | Sampler's Initials | Total No. of Cont. | Fraction | PCDD/Fs 1 | Archive | Grain size | PCB Aroclor Total Solids | Atterberg Limits ASTM D4318 | | | | | | | | | | | | Sample | Specific | c Notes: | |
| PDI-SC-S222 - 5 to 7.2D | 8/7/2018 | 10:00 | SC | | EĐ | 3 | | x | x | M | l x | | | | | | | | | | | | | | | | S |
| PDI-SC-S222 - 7.2 to 9.2 | 8/7/2018 | 10:05 | SC | MS/MSD | ED | 6 | | x | х | x | x | | | | | <u> </u> | | | | | | | | | | | |
| PDI-SC-S222 - 9.2 to 11.2 | 8/7/2018 | 10.10 | SC | | ED | 4 | | x | x | x | x | | | | | | | | | | | | | | | | |
| PDI-SC-S222 - 11 to 13.2 | 8/7/2018 | 10:15 | SC | | ED | Ы | 1 | x | <u> </u> | x | T x | † | | | | | | | | | - | | | | | | |
| PDI-SC-S222 - 13° to 15.2 | 8/7/2018 | 10:20 | SC | | ED | Ú | 1 | · v | x | x | 1 | T | | | | | ļ | | | | | | | ····· | | | |
| PDI-SC-S248 - 0 to 2 | 8/7/2018 | 16:45 | SC | | ED | 4 | 1 | x | x | x | x | | | | | | | | | _ | | | | | | | |
| PDI-SC-S248 - 2 to 4 | 8/7/2018 | 16:50 | SC | MSIME | ED | 6 | 1 | X | x | <u> </u> | , | | † | | | <u> </u> | | | | | | | | | | | |
| PDI-SC-S248 - 4 to 6.2 | 8/7/2018 | 16:55 | SC | | £D | | 1 | x | x | x | x | | | | | - | | | | | | | | *************************************** | | | |
| PDI-SC-S219 - 0 to 2 | 8/7/2018 | 11:40 | SC | | ED | | - | x | × | x | X | | | | | | | | | | | | | *************************************** | | | |
| PDI-SC-S219 - 2 to 4 | 8/7/2018 | 779 | - 2 | - Augustian - Augu | EÐ | | T | х | x | x | x | | | | | | | | | | | | | ***** | | | |
| PDI-SC-S219 - 4 to 5.2 | 8/7/2018 | 11:50 | SC | 10 | ED | | 1 | | x | x | x | | | | | | | | | | | | | | | | |
| PDI-Se-S139 - 0 to 2 | 8/7/2018 | 14:20 | SC | | ED | | T | x | × | | | | | *************************************** | | | | | | | | | 1 | *************************************** | | | |
| Container Type: WMG=Wide Mouth Glass Jar, | | | · | - | s, G=glass | , RC=Resin (| Col | AG | AG | WMG | WMG | AG | | | | | | | | | | | | | | | |
| Preservative: HCI = Hydrochloric Acid, H3PO4 | | ic Acid, Hi | NO3 = Nitrio | Acid | | | 4 | | | | | | | | | | | | | | | | | | | | |
| Fraction: D = Dissolved, PRT = Particulate, T = Tota | ai (unjiiterea) | | | | | | S | - | e Disp Batur | o osai 1 To Cli | Sont | Γ. | 7 | sal By L | -6 | | 77 | | 12 Mc | 46 - | | | | | | | |
| Special Instructions/QC Requirements & Comment | e Senarat | e renort | s for each | ılah | | | -11- | | NOLUTT. | 1 10 01 | iciii | | \ B00. | oai iby i | .au | <u> </u> | X Irchi | ve ror | 72 IVIC | ntns | | | | | | | |
| | s. Separat | · · · · · | 3 101 411 | | | | | | | | | | | | | | | | | | | | | | | | |
| Relinganified by | Company | 1 5 | | Date/Time | 100 | 1448 | R | ecerte | d by: | W. | · , | Λ / | 1 | . / | | |] | Compa | _ K | 6, | | | Date | Time io | 11 | JUC | <u> </u> |
| Relinguished by: | Company: | $\frac{22}{C}$ | 1 | Date/Time | | | R | eceiv | | ما لا کا' مسیر | Sy s | / | r | <u> </u> | - | | | Compa | | <u> </u> | | | Date | Vime / | | 1 | <u>/_</u> |
| Relinguished by | Company | 700 | | 88 Date/Times | ع لا | 530 | R | eceive | مر محاله: | | <u>///</u> | 0 | * 1 P | 1 | 2 | | | Compa | 4 | 101 | Y | | 18 1002 | <u>/8/18</u> | | [J] | \mathcal{L} |
| Mean | 1/1 | TUK | | 8/8/18 | 3 1 | 900 | | 2 | in | iH | John | 2 | | | | | | 7/ | 50 | 2 | | | \mathcal{S} | 9-18 | | 920 | 2 |
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| TestAmerica-Sentile 5755-8th-Street-East | | | | | " | S | UB | SUI | RFA | CE | SED | IMI | ENT | ` | | | | ****** | | ····· | | | | 7 | | | |
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| Tacoma, WA 98424-1317 | | | | | | _ | | | | | | | | | | | | | | | | | | | | | |
| Ph: 253-922-2310 Fax: 253-922-5047 | | | | | | | | | | | CUST | OD | Y | | | | | | | | | | | | | | |
| Client Contact | <u> </u> | | Contact: A | | | | | | | conifer | | | | | | _ | 8/8/1 | | | | | | | COC No | | | |
| AECOM 1111 3rd Ave Suite 1600 | | Tel: | (296) 438-23 Analysis Tu | | | | ها | borata | ry Con | tact: I | Slaine-W | alker | ī | 1 | Т- | Care | ter: Co | urier | | | | | т | 10 | of L | page | es |
| Seattle, WA 98101 | 1 | Calendar (| C) or Work | | | | 1 | | | | é n | | | | | | | | | | | | 1 | | | | |
| Phone. (206) 438-2700 Fax: 1±(866) 495-5288 Project Name. Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling | · G | 2 | l days | | | | | | | | Aroclors, PAN, Total Organic Carbon Solids 8082A, 8279D-SIM, 9060, 169.3 | 318 | | | | | | | | | | | | | | | |
| Portland, OR | lπ | Other | | | | | | | | 106913 | 15.0 | 4 | | | | | | | | | 1 | | | j | | | |
| Project # 60566335 Study Subsurface Sediment | 1 - | O11101 | | | | | | | | 1 | 7 2 | E S | | | ŀ | | İ | | | | | ļ | | ĺ | | | |
| Sample Type | | | | | | | 1 | B(13B | | ASTM D79 | ors. PA | Limits ASTM D4318 | | | h. 1 | A | 10 | | | | | | | | | | |
| Sample Identification | Sample Date | Sample Time | Matrix | QC Sample | Sampler's Initials | Total No. of Cont. | Praction | PCDD/Fs to | Archive | Grain size A | PCB Aroci Tetal Selid | Atterberg | | 1 | 3 | 19/1 | 80 | | | | | | | S: | ımple Sp | ecific No | otes: |
| PDI-SC-\$139 - 0 to 2 | 8/7/2018 | 14 20 | sc | | EĐ | 4 | | x | x | x | ۱ ۵ | Ī | | 7 | | | | | | | | | | | | | |
| PDI-SC-S139 - 2 to 4.1 | 8/7/2018 | 14.25 | SC | YSMSB | ED | 1 | Π | x | 3 | × | * | | | | | | | | | | | | | | | | *** |
| PDI-SC-S139 - 4.1 to 5.9 | 8/7/2018 | 14 30 | SC | | ED | 3 | | х | x | 1 | x | T | | | | | | | | | | | | | | | |
| PDI-SC-S117 - 4.1 to 5.9D | 8/7/2018 | 14.30 | SC | | ED | 4 | | x | x | ĸ | * | | | | | | | | | | | | | | | | **** |
| PDI-SC-S117 - 0 to 2 | 8/7/2018 | 16 00 | sc | | ED | 1 | | x | X | x | × | | | | | | | | | | | | | | | ***** | |
| PDI-SC-S117 - 2 to 4 | 8/7/2018 | 16 05 | \$C | | ED | | | ¥ | x | x | x | | | | | | | | | | | | | | | | *************************************** |
| PDI-SC-S117 - 4 to 6 | 8/7/2018 | 16 10 | sc | | ED | | | x | x | x | x | | | | | | | 1 | | | | | | PATRICTURE | | *************************************** | |
| PDI-SC-S219 - 0 to 2 | 8/7/2018 | 11:40 | sc | | ED | | | X. | x | x | x | | | | | | | | | | | | | | | | ***** |
| PDI-SC-S219 - 2 to 4 | 8/7/2018 | 11 45 | SC | | EĐ | | | x | x | x | x | | | | | | | | | | | | | | *************************************** | | |
| PDI-SC-S219 - 4 to 5.2 | 8/7/2018 | 11:50 | sc | | EÐ | J | Ш | ì | x | x |). | | | | | | | | | | | | | | | | |
| PDI-SC-\$105 - 0 to 2 | 8/8/2018 | 8:55 | SC | | EÐ | V | | х | x | , | 3 | | | | | | | | | | | | | | | | |
| PDI-SC-S105 - 2 to 4 | 8/8/2018 | 9.00 | SC | MS/MSD | ED | 6 | | ì. | X | x | x | | | | | | | | | | | | | | | | |
| Container Type: WMG=Wide Mouth Glass Jar, | | | | | s, G=glass, | RC=Resin | Col | AG | AG | WMG | WMG | AC | | | | | | | | | | | | | | | |
| Preservative: HCl = Hydrochloric Acid, H3PO4 Fraction: D = Dissolved, PRT = Particulate, T = Tuta | | c Acid, Hi | IO3 = Nitrio | Acid | | | _ | | In 177. | | | | | | | | | | | | | | | | | | |
| rracnon: I) = INSSONVER, FRI = FRIICUIAIE, I = FOIA | і (инуніства) | | | | | | ı | - | le Disp Return | oosar 1 To Cl | iont | T v | - - | al By L | ah. | Γ. | Techi | e For | 40 44 | nthe | | | | | | | |
| Special Instructions/QC Requirements & Comments | : Separate | report | for each | lab | | | | | | | V-14 | | phos | a cy L | <i></i> | 12 | , jishi | e rui | 12 1716 | aras | | | | | | | |
| 4 | | | | | | | | | | | | | _1_ | | | | | | | | | | | | 1 | | |
| Relinguished by | Company | 85 | 1.1 | Date/Time | 118/ | 144 | 5 | Receiy | d by | M | 4/ | λ | Æ | | · | | 7 | `ompan | 1. | Ē | | | ſ | ST & | 18 | 141 | 15 |
| Relinguished by | Company . | 2-, | | Date time | 8 | 530 | , | Receiv | by. | _// | Ü | | 18 | - | | | | ompan | 7 | - T- [2 | W. | 2 | I | rate June | 18 | K | ₹ ₀ |
| Relinghing by: | Соправу | | | Date/Time | | | | Receive | Le | in | H | by | | | | | ſ | ompan 12 | Se. | <u>a</u> | | | ľ | 49. | 14 | 09 | 20 |
| | | | | | | | | | 6 | 0 | • | | | | | | | | | | | | | - • | | | |

| TestAmerica-Seattle 5755-8th-Street-East | 1 | | | | | SU | JBS | SUF | RFA | CE | SED | IMI | ENT | • | | | | | | | | | | | | |
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| Tacoma, WA 98424-1317 | | | | | | | CF | TAT | N O | F C | UST | 'OD | Y | | | | | | | | | | | | | |
| Ph: 253-922-2310 Fax: 253-922-5047 Client Contact | | Project | Contact: Am | w Dahl/Che | Jean Coali | | | | | nnifer l | | | | | | lo | 0/0/10 | | | | | | COC No: I | | | |
| AECOM | | | (206) 438-22 | | | | | ~~~~ | | ~~~~~~ | laine-W | albar | | | | | 8/8/18 er: Cou | nia- | | | | | COC No: 1 | . | | |
| 1111 3rd Ave Suite 1600 | | | Analysis Tu | | | | | 0.210 |) Com | lact. E | iariic-vv | aikei | 1 | | T | Carri | er. C.001 | rier | T | | 1 | | 1-3-0 | | pages | |
| Seattle, WA 98101 | | | C) or Work | | | 2 | 1 | | | | bon, | | | | | | | | | i | | | | | | |
| Phone: (206) 438-2700 Fax: 1+(866) 495-5288 | | | | | | *************************************** | | | | | Car. | | | | ĺ | | | | 1 | | | |] | | | |
| Project Name: Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling | x | 21 | days | | | | | | | | ganic Carbon, 1, 9060, 160.3 | | | | | | | | | | | | | | | |
| | | | | | | | | | | 516 | ors, PAHs, Total Organ s 8082A, 8270D-SIM, 9 | Limits ASTM D4318 | | | | | | | | | | | | | | |
| Portland, OR Project #: 60566335 Study: Subsurface Sediment | | Other | · | | | | | | İ | 28/D6 | s, To 8270 | ТМ | | | | | | | İ | | | | | | | |
| Sample Type: | | | · · · · · · · · · · · · · · · · · · · | | | | - | | | f D 79 | PAH 82A. | its A.S | | | | | | | | l | | | | | | |
| | | | | | | | | 1613B | | ASTN | clors, ids 80 | Lim | < | s. | | | | | | | | | | | | |
| Sample Identification | Sample Date | Sample Time | Matrix | QC Sample | Sampler's Initials | Total No. of Cont. | Fraction | PCDD/Fs | Archive | Grain size | PCB Aroclor Total Solids | Atterberg | WQ-PCBA | WQ-PAHs | WQ-D/F | WQ-TOC | | | | | | | Sam | ple Specifi | ic Notes: | |
| PDI-SC-S105 - 4 to 5.6 | 8/8/2018 | 9:05 | SC | | ED | 5 | 1055(3.03 | X | x | X | x | x | | | | | | | | | * | | | The Special | | - |
| PDI-SC-S105 - 5.6 to 6.6 | 8/8/2018 | 9:10 | SC | | ED | 4 | | x | х | x | x | | | | | | | | | | | | | | | * |
| PDI-SC-S191 - 0 to 2 | 8/8/2018 | 10 15 | SC | | ED | U | | x | x | х | x | | | | | | | | | | | | | | | *************************************** |
| PDI-SC-S191 - 2 to 4 | 8/8/2018 | 10:20 | SC | | ED | 4 | | x | x | x | x | | | | | | | | 1 | | | | | *************************************** | | |
| PDI-SC-S191 - 4 to 6 | 8/8/2018 | 10:25 | SC | | ED | 4 | | x | x | х | x | | | | | | | | | | | 1 | | | | |
| PDI-SC-S191 - 6 to 8.1 | 8/8/2018 | 10:30 | SC | | ED | 4 | | x | x | х | x | | | | | | | | | | | | | *************************************** | | |
| PDI-SC-S192 - 0 to 1.5 | 8/8/2018 | 11:20 | SC | | ED | 19 | | x | x | x | x | | | | | | | | | | | | | | | |
| PDI-SC-S192 - 1.5 to 3 | 8/8/2018 | 11:25 | SC | | ED | 4 | | x | х | х | x | | | | | | | | | | | | | M-1 | | |
| PDI-SC-S192 - 3 to 4.2 | 8/8/2018 | 11:30 | SC | | ED | 4 | | x | x | х | x | | | | | | | | | | | | | | | |
| PDI-RB-SS-180807 | 8/7/2018 | 13:00 | W | | СЗ | 7 | Ш | | | | | | x | x | x | x | | | | | | | | | | |
| PDI-RB-SS-180808 | 8/8/2018 | 10:55 | W | | ED | 7 | | | | | | | x | х | x | х | | | | | | | | | | |
| PDI-123-55-180806 | 8/6/18 | | W | | 50 | 3 | | | | | | | χ | × | X | X | | | | | | | | | | |
| Container Type: WMG=Wide Mouth Glass Jar, | ···· | | | | s, G=glass | , RC=Resin | Col | AG | AG | WMG | WMG | AG | | | | , | | | | | | | | | | |
| Preservative: HCl = Hydrochloric Acid, H3PO4 Fraction: D = Dissolved, PRT = Particulate, T = Tota | | c Acid, HI | VO3 = Nitric | Acid | | | | Camp | le Dis | 2000/ | | | | | 1 | | | | | | | | | | | |
| rraction. D - Dissolvea, FRI - Furnicatale, I - Tine | n (unjmereu) | | | | | | | | | posai 1 To Cli | ient | | | al By L | ab | | rchiv | e For | 12 Mai | nths | | | | | | |
| Special Instructions/QC Requirements & Comment | s: Separate | e report | s for each | lab | | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | <u> </u> | · ppoc | , a, a, | | | 110,111 | 0,01 | 12 11101 | 71110 | | | | | | |
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| Relinguished by: | Company | · 6 | | Date/Time: | 15/1 | | | Receiy | ell by: |), (| _ | / / | 1 | | / | | C | ompan | У. | _ | | | Date/Time: | 10. | 111 | مسم |
| Relinquistee by: | Company: | en | | Date/Time: | 18 1 1 | 445 | | Receiv | | AAA | 10/ | | 4 | 1_ | | | | ompan | | <u> </u> | | | 8181 | 8_ | 149 | 2 |
| Hanrow No | 111.6 | <u> </u> | | 88 | 8 | 530 | | | | | 11 | 1 / L.B | 1) 1) 1. | 12 | | | | | TA | Pr | R | | 8kz/ | 18 | 15 | 30 |
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| first on the | 1,4 | VIC | | - YX/ / | 0 | 1700 | | | 14 | nz | 120 | v | - | | | | | 1 | 10 | <u> </u> | | | 2 7 6 | <u> </u> | שנדע | |
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TestAmerica-Seattle

TestAmerica Sacramento

880 Riverside Parkway West Sacramento, CA 95605

Chain of Custody Record



TestAmerica

THE LEADER OF CHIMBENSANTAL TESTING

| Phone (916) 373-5600 Fax (916) 372-1059 | Sampler: | | | 10 | ab PM: | | | | | | | | 10 | Carrier | Trackin | a Nafs |)· | | I | COC No: | | |
|--|------------------------|------------------|---|--|---|------------|--------------------------|-----------------------------------|---------------------------------|-----------------------|--------------------------------|----------------------------------|---|-------------------|--------------------|---|--------------------|--------------------|--------------|---|-------------------------------------|-------------------------|
| Client Information (Sub Contract Lab) | запрет. | | | | Valke | | ine N | A | | | | | ľ | 2017701 | | 9 . 10(0 | , | | | 320-126603.1 | | |
| Client Contact: Shipping/Receiving | Phone: | | | | -Mail: Iaine. | walke | er@t | estan | nerica | ainc.c | com | | 1 | State of Orego | - | - | nter Hernbrechecht | | | Page: Page 1 of 1 | | |
| Company: | | | | | A | ccredit | ations | Recu | ired (S | ее по | le): | | | | | | | | | Job#: | | |
| TestAmerica Laboratories, Inc. | Due Date Requeste | | | | - | | | | | | | | | | | | | | | 580-79444-1 Preservation Cod | los, | |
| Address: 5755 8th Street East, , | 8/13/2018 | ea: | | | | | | | | An | alys | is F | teq | este | d | | | | - 1 | | | _ |
| City: | TAT Requested (da | ays): | | | | | | | | | | T | Ť | | | T | Ī | | | A - HCL B - NaOH C - Zn Acetate | M - Hexani N - None O - AsNaO | |
| Tacoma State, Zip: | | | | | | | ſ | | | | | | , | | | | | | | D - Nitric Acid E - NaHSO4 | P - Na2O4 Q - Na2SO | is |
| WA, 98424 Phone: | PO #: | | | | \mathbf{H} | | rd list | | | | | Ì | d list | | | | | | | F - MeOH G - Amchlor | R - Na2S20 S - H2SO4 | :03 |
| 253-922-2310(Tel) 253-922-5047(Fax) | WO#: | | | | | | standard lis | Liist | | | n Size | B | andar | | | | | | | H - Ascorbic Acid I - Ice | T - TSP Do | odecahydrate ie |
| | | | | | | 9 | | невис | arbo | ъ | Grai | \$ | 18, SE | 4 | | | | | | J - DI Water K - EDTA | V - MCAA W - pH 4-5 | |
| Project Name: Portland Harbor Pre-Remedial Design | Project #: 58012120 | | | | Š | | R PC | s, eta | anio (| Method | 06913 | E | PA | 3 | | | | | 툁 | L - EDA | Z - other (s | pecify) |
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| | | Sample | Sample Type (C≔comp, | Matrix (w=water S=solid, O=waste/oi | | etorn MS/M | KOSZAJSESSE PCB_1YR PCBS | 8082A/3665A_AC PCBs. standard lis | 9660 PSEP/ Total Organie Carbon | Moisture/ (MOD) Local | D422/ ASTM D7928 & D6913 Grain | Moisture_70G/ (MOB) Lossi Method | 8270D_SIM/3546 (MOD) PAHS, standard its | | | *************************************** | | | Total Number | | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Time | G=grab) | Charles December 1975 | 20 to 20 10 10 10 10 10 10 10 10 10 10 10 10 10 | | 3 | 8 | \$ | Š | <u> </u> | ≨ | 2 | | | | | | 톼 | Special In | structions | s/Note: |
| | | <u> </u> | Preserva | tion Code | <u> </u> | YX. | | | 4 | 4 | | | H | | 4 | | | | 4 | Low level 20 g to 2 | ml ovtracti | ion (PL 10 v |
| PDI-SC-S139-4.1to5.9D (580-79444-24) | 8/7/18 | 14:30 Pacific | | Solid | _ | ╽ | X | 4 | X | * | X | * | * | | | - | - | | | ower than default) | | |
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| Note: Since laboratory accreditations are subject to change, TestAmerica Laborati currently maintain accreditation in the State of Origin listed above for analysis/test Laboratories, Inc. attention immediately. If all requested accreditations are curren | s/matrix being analyz | ed, the sample | s must be ship | ped back to | the Te | estAme | erica la | aborate | ory or c | other ii | nstruct | HORS V | s. The | s samp provide | le shipi ed. An | ment is y chan | forwa ges to | rded un accredi | ider c | chain-of-custody. If n status should be bi | he laboratory ought to Tes | y does not :tAmerica |
| Possible Hazard Identification | | | | | | Sar | | | | | | ay b | | | | | es ar | 7 | | d longer than 1 | month) | |
| Unconfirmed | | | | | ********** | <u> </u> | | | To C | | | £ | | sposa | l By L | ab | i. | A/ | rchiv | /e For | Month: | s |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliver | able Rank: 2 | ? | | | Spe | ecial | Instru | iction | s/QC | Req | uirer | nent | | | | | | | | | |
| Empty Kit Relinquished by: | | Date: | 4 | | Щ, | ime: | | | | | | | | Me | thod o | | | | | | | |
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| Custody Seals Intact: Custody Seal No.: | | | | | | | Coole | r Tem | peratu | re(s) ° | C and | Other | Rem | arks: | | | | | | | | |
| Local (CS -Δ NU - ca) | | | | Page | 17 | of 2 | 21 | | - | | | | | A | 200 | ग्रीर | ,5 | | | | Ver: 09/2 | 0/2016 8/26 |

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Ver: 09/20/2016 8/26/2018

Cooler Temperature(s) °C and Other Remarks:

Company

Custody Seals Intact: Custody Seal No.:

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

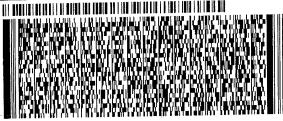
ORIGIN ID:BNOA (503) 906-9240 SAMPLE CONTROL TESTAMERICA PORTLAND 8920 SW GEMINI DR BUILDING 7 BEAVERTON, OR 970087145 UNITED STATES US SHIP DATE: 13AUG18 ACTWGT: 30.00 LB CAD: 0996922/CAFE3210

BILL RECIPIENT

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REF: \$580 - 30219



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TUE - 14 AUG 10:30A PRIORITY OVERNIGHT

XH BTVA

05403 v_{T-Us} BTV



Client: AECOM Job Number: 580-79444-3

Login Number: 79444 List Source: TestAmerica Seattle

List Number: 1

Creator: Antonson, Angeline D

| Question | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | 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. | True | |
| 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. | True | |
| 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 | |

TestAmerica Seattle

Login Sample Receipt Checklist

Client: AECOM Job Number: 580-79444-3

List Source: TestAmerica Burlington
List Number: 4

List Source: TestAmerica Burlington
List Creation: 08/14/18 11:24 AM

Creator: Johnson, Eleanor E

| Question | Answer | Comment |
|--|--------|---|
| Radioactivity wasn't checked or is = background as measured by a survey neter.</td <td>True</td> <td>Lab does not accept radioactive samples.</td> | True | Lab does not accept radioactive samples. |
| The cooler's custody seal, if present, is intact. | True | Seal present with no number. |
| 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 | 3.1°C |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| ls the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| 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. | N/A | |
| Sample Preservation Verified. | True | |
| 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 | No analysis requiring residual chlorine che assigned. |

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