Data Validation Report

Project:	Portland Harbor
Laboratory:	Alpha Analytical Laboratory
Environmental Test Record (ETR):	L1527292
Analyses/Method:	Polychlorinated biphenyls (PCBs) and Chlorinated Pesticides

Summary

Three rinsate blank samples were collected in Portland Harbor, Oregon on October 21, 2015, October 22, 2015, and October 23, 2015. Samples were analyzed for Polychlorinated biphenyls (PCBs) by EPA Method 8270D modified by selected ion monitoring mode (SIM) and chlorinated pesticides by EPA Method 8081B by Alpha Analytical Laboratory located in Mansfield, Massachusetts. The laboratory provided Level 4 data packages containing samples results and associated quality assurance (QA) and quality control (QC) data, preparation logs, and raw instrument output. The following samples are associated with the laboratory ETR L1527292.

Sample ID	Lab ID	Matrix
PH15-01-RB	L1527292-01	Water
PH15-02-RB	L1527292-02	Water
PH15-03-RB	L1527292-03	Water

The data have been independently validated using *USEPA Contact Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review* EPA-540-R-2017-002, dated January 2017. Validation includes reconstruction of the analytical data to verify that data are traceable and sufficiently complete in order for a qualified individual other than the originator to perform reconstruction of the data. The validation included the following checks:

- Sample Receipt/Transcription error check
- Sample preservation
- Sample holding times
- Tune Summary
- Initial calibration
- Continuing calibration verification (CCV)
- Laboratory blank contamination
- Equipment blank contamination
- Surrogate spike recoveries
- Internal Standard recoveries
- Matrix spike/Matrix spike duplicate (MS/MSD) recoveries, relative percent difference (RPD)
- Laboratory control sample (LCS), LCS Duplicate (LCSD) recoveries, RPD values
- DDT/Endrin Breakdown
- Contract Required Quantitation Limit (CRQL)
- Field duplicate results
- Laboratory duplicate results
- Dual Column Confirmation
- Overall assessment of the data

Data validation is based on the QC criteria documented in *Portland Harbor Supplemental Sediment Study, Portland Oregon Quality Assurance Project Plan (QAPP),*[1] dated October 14, 2015, and the *Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Quality Assurance Project Plan (QAPP)*,[2] dated March 23, 2018. Data qualifiers assigned to results reported in this sample set are included in Table 1. Reason codes and explanations for qualified data are provided in Table 2.

Sample Receipt

Chain of custody documentation were reviewed for completeness of information relevant to the samples and requested analysis. Sample IDs and sample collection dates from the chain of custody records were matched to the reported data. No discrepancies noted.

All coolers were received within 4 ± 2°C.

ORGANIC ANALYSES

Holding Time and Sample Preservation

All samples were extracted and analyzed within holding times.

GC/MS Instrument Performance Check – Acceptable

Initial Calibration and Continuing Calibration Verifications – Acceptable

Blanks – Acceptable.

Surrogate Spikes – Acceptable except as noted below:

The surrogate recovery for CL8-BZ#202-C13 in rinsate blank PH15-01-RB was below the acceptance criteria of 50-125%. The results of compounds associated with that surrogate compound were qualified as not detected, and were "U" qualified.

Internal Standard Areas – Acceptable.

Laboratory Control Samples – Acceptable.

Target Compound Identifications– Acceptable.

DDT/Endrin Breakdown – No DDT/Endrin % breakdown issues were noted during data validation.

Dual Column Confirmation – Acceptable.

Compound Quantitation and CRQLs – Acceptable.

[1] NewFields. (2015). Portland Harbor Supplemental Sediment Study, Portland Oregon Quality Assurance Project Plan (QAPP). October 14, 2015.
[2] AECOM and Geosyntec. 2018. Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland Harbor Superfund Site, Quality Assurance Project Plan. March 23, 2018,

OVERALL ASSESSMENT OF DATA

The data reported in this laboratory ETR is considered usable for meeting the project objectives.

The completeness is calculated by the number of usable data points divided by the total number of data points generated, multiplied by 100. The completeness for the laboratory ETR is 100%.

Validation performed by and Date:

George Desreuisseau, Mike Mitchel and Kerylynn Krahforst, January 2019.

Staff Scientists - NewFields

Table 1. QA/QC Summary Review

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG Result	NFG Qualifier	validator_ reason_code
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#157	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl4-BZ#77	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#141	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#142	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#143/#139	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#144	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#146	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#147/#149	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#151	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#138	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#156	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#137	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#159	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#161	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#162	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#163/#160	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#165	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#166	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#167	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#168	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#153	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#82	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#105	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#106	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#107/#123	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#108	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#114	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#118	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#122	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#124	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#140	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#127	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#171	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#128	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#129/#158	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#130/#164	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#131	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#132	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#133	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#134	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#135	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl5-BZ#126	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#205	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#194	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#195	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#196	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#197	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#198	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#199	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#201	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#202	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl6-BZ#169	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	CL8-BZ#204/#200	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#191	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl9-BZ#206	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl9-BZ#207	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl9-BZ#208	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Heptachlorobiphenyls	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Hexachlorobiphenyls	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Nonachlorobiphenyls	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Octachlorobiphenyls	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Pentachlorobiphenyls	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl8-BZ#203	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#182/#175	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Total Pcb	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#172	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#173	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#174	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#176	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#177	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#178	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#179	0	U	ug/L		UJ	S

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG Result	NFG Qualifier	validator_ reason_code
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#193	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#181	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#192	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#183	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#184	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#185	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#186	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#187	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#188	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#189	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#190	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#170	0	U	ug/L		UJ	S
L1527292	PH15-01-RB	L1527292-01	8270D-SIM/680(M)	Cl7-BZ#180	0	U	ug/L		UJ	S

Table 2. Reason Codes and Explanations

Reason Code	Explanation
bf	Field blank contamination
bl	Laboratory blank contamination
C	Calibration issue
el	Clean-up standard recovery
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding Times
i	Internal standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
le	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample laboratory control sample duplicate RPDs
m	Matrix spike recovery
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r	Dual column RPD
q	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results