

## **EXHIBIT 1**

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On August 21, 2014, Piper Peterson (USEPA) sent the following comments to Allison Crowley (City of Seattle). This exhibit addresses the comments as indicated in orange.

1. EPA Comment: Figure 2-2. Identify the excavation depth of the Port's final removal provided in Figure 2-6 in the area of the City's proposed outfall location onto Figure 2-2 so the reviewer can identify the depth of soil excavated for the outfall pipe that is deeper than soils excavated for the Port's removal project. Identify the volume of existing, aka "native" material (not including Port backfill) to be removed for placement of the outfall pipe.

*City Response: Excavation depths relative to the outfall are most clearly shown in RADR Figure 2-4. For clarity, the figure has been simplified to show only the final excavation depth (see Figure 1, attached), which is indicated in purple. The outfall trench will extend 4 inches below the outfall pipe. An estimated 130 cy of material from beneath the Port's excavation will be removed for placement of the outfall pipe. An additional 120 cy of material that was placed by the Port will be removed.*

2. EPA Comment: Include the outfall pipeline on figures used by the City to demonstrate its location vis-à-vis on-site sample stations.

*City Response: Figure 2 (attached) combines the outfall and excavation information previously provided in RADR Figure 2-6 and FDR Figure 3-8a.*

3. EPA Comment: Figure 3-8a. Identify the existing soil sample locations, depth of sample and sample results in the location of the City's proposed outfall pipe. State whether the Port's removal project removed soil to these depths. According to this figure, there may be up to 8 samples in this area. PCBs with greater or equal to 50 ppm PCBs are identified on Figure 3-9a at 2 sample stations-SB53 (60 ppm PCB) and T117-PS-2A (66 ppm PCB). It is unclear if sample stations T-117 A6, T-117 A5, T-117 A7, and T-117 A2 are in the underlying soils beneath the Port's excavation area in the location of the proposed outfall pipe. Reviewing Map 2-13a, EE/CA map folio, there are approximately 13 total on-site sampling stations in this location, but some of these are not presented on Figure 3-9a.

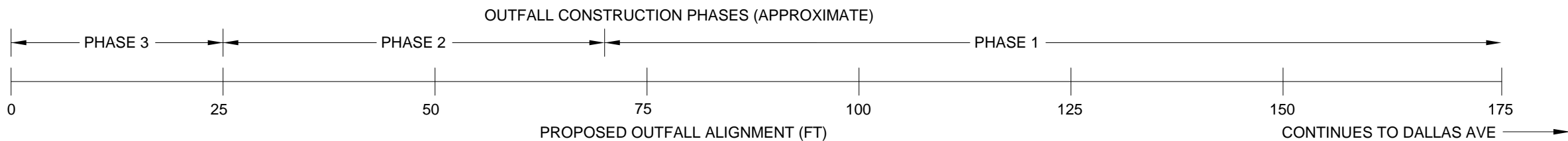
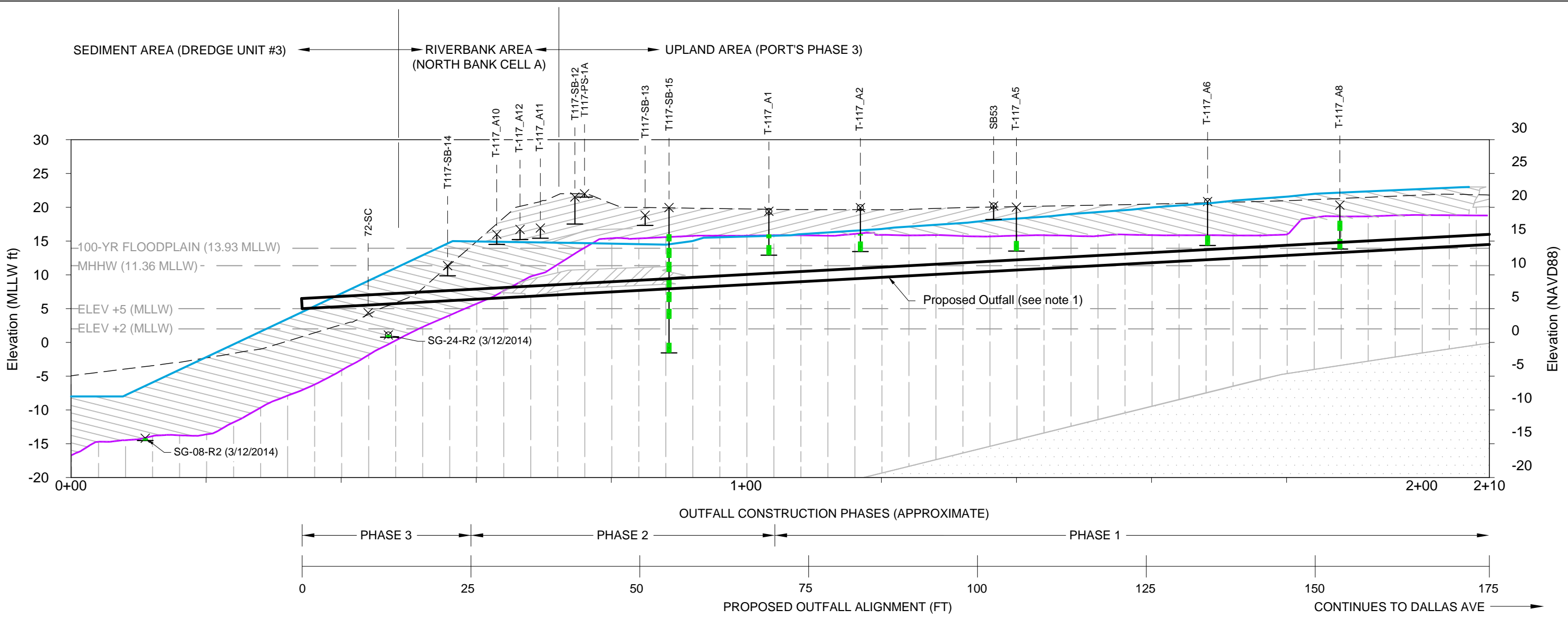
*City Response: Figure 1 identifies outfall-vicinity samples, the depths at which samples were taken, and results relative to RvALs deeper than the Port's excavation. We have attached a data table for these samples and their results (for those analytes with RvALs).*

The locations of SB53, T117-PS-2A, T-117 A6, T-117 A6, T-117 A7, T-117 A2 and the outfall are shown on Figure 2. T-117 A6, T-117 A7, and T-117 A2 are outside of the outfall easement.

4. EPA Comment: As per map 2-13b (EE/CA map folio dated July 3, 2010), there are virtually no soil samples from the location of the City's proposed outfall location from 7-9 bgs, 9-12 bgs or 12-15 bgs. The rationale is likely because the concentrations of PCBs were decreasing in the upper profiled layers 0-2 feet, 2-5 feet and 5-7 feet, however with no sampling done at these intervals. These intervals are likely more closely aligned with the depth of the outfall pipe installation.

City Response: Figure 1 confirms that there are limited samples along the City's proposed outfall location from 7-9 ft bgs, 9-12 ft bgs, or 12-15 ft bgs.

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**Boring ID**  
 SB-53

**Top of Soil Boring**

**Indicates Sample Interval Below RvAL**

**Bottom of Soil Boring**

- SOURCES:**
1. PROPOSED OUTFALL: MOFFATT & NICHOL, DALLAS AVENUE OUTFALL DESIGN MODIFICATIONS, 12/10/2013.
  2. LITHOLOGY INFORMATION IS BASED ON CROSS-SECTION E1 FROM APPENDIX K OF THE T-117 FINAL DESIGN REPORT, PHASE 1: SEDIMENT AND UPLAND CLEANUP (OCTOBER 2012).
  3. <sup>a</sup>SUB 01722-005.89 FINAL EXCAVATION SURVEY, IMCO, 7-07-2014

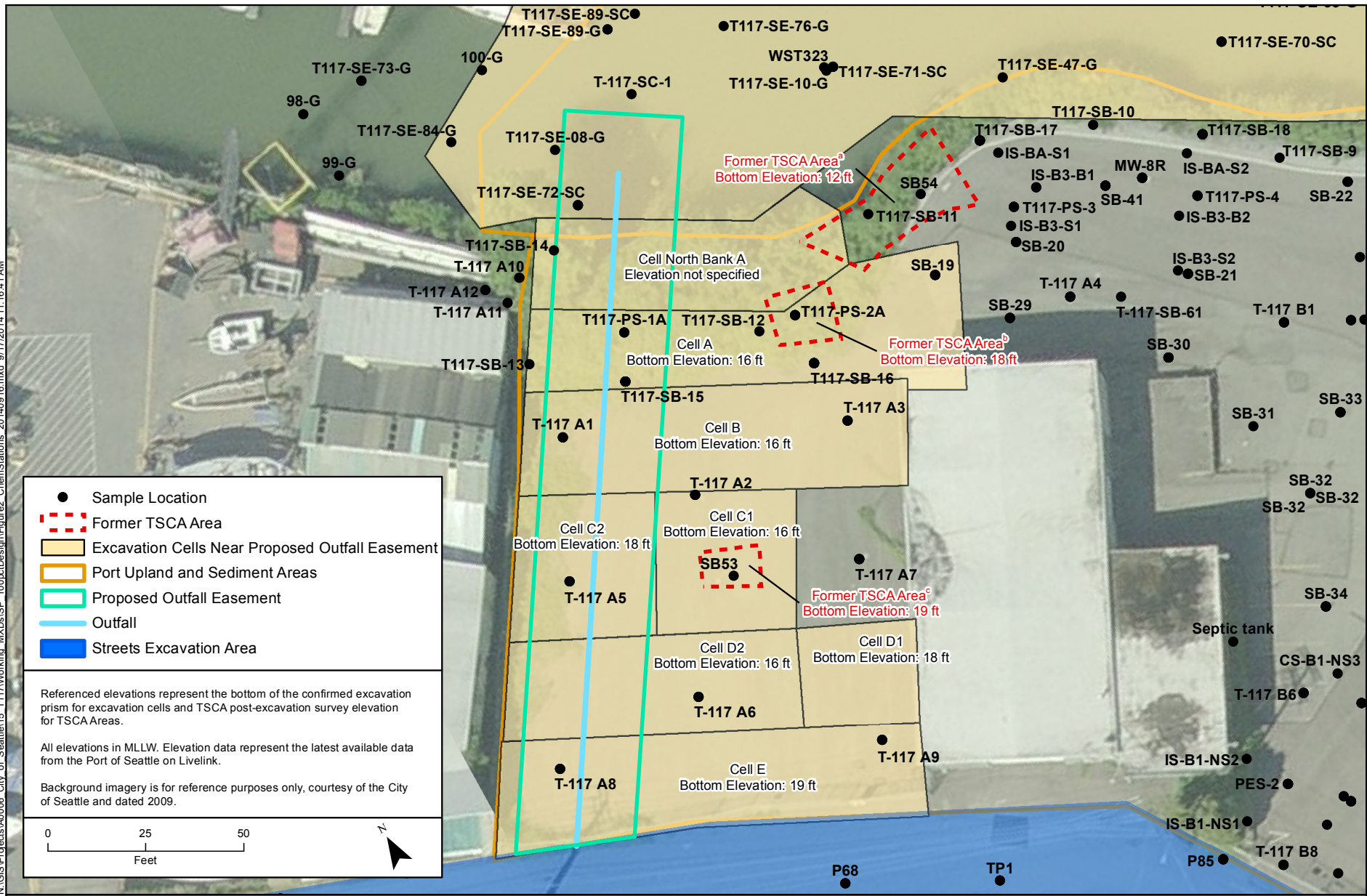
- ✕ PROJECTED BORING LOCATION WITHIN 7 FEET OF PROPOSED OUTFALL (SEE NOTE 4)
- ⊗ PROJECTED BORING LOCATION BEYOND 7 FEET OF PROPOSED OUTFALL (SEE NOTE 4)
- T-117 PRE-CONSTRUCTION GRADE (SEE NOTE 2)
- FINAL GRADE (SEE NOTE 2)
- AS-BUILT FINAL EXCAVATION GRADE<sup>a</sup> (SEE NOTE 3)
- ▨ FILL - SAND WITH VARYING AMOUNTS OF SILT, GRAVEL, AND DEBRIS
- ▨ ALLUVIUM - SAND AND SILTY SAND
- ▨ ALLUVIUM - SILT AND SANDY SILT
- ▨ TILL - SILTY SAND TO SANDY SILT WITH GRAVEL (HARD)
- ▨ IMPORT OR REGRADED FILL MATERIAL

- NOTES:**
1. PROPOSED OUTFALL: MOFFATT & NICHOL, DALLAS AVENUE OUTFALL DESIGN MODIFICATIONS, 12/10/2013.
  2. PRE-CONSTRUCTION AND FINAL GRADE: TERMINAL 117 CLEANUP, PORT OF SEATTLE AND CITY OF SEATTLE, FINAL DESIGN REPORT, PHASE 1: SEDIMENT AND UPLAND CLEANUP, TERMINAL 117 EARLY ACTION AREA, OCTOBER 8, 2012
  3. AS-BUILT FINAL EXCAVATION GRADE IS PRELIMINARY
  4. BORING LOCATIONS ARE PROJECTED ONTO THE PROFILE AT THEIR TOP ELEVATIONS.
  5. RvAL = REMOVAL ACTION LEVEL
  6. MLLW = NAVD88 + 2.42'

0 7.5 15  
 Feet  
 No Vertical Exaggeration

**Figure 1.**  
 Stormwater Outfall Profile Shown with Soil Stratigraphy and Final Port Excavation Grades  
 Lower Duwamish Waterway Superfund Site  
 T-117 Early Action Area

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**Sources:**  
 Proposed Outfall: Moffatt & Nichol, Stormwater Outfall Site Plan & Profile, 4/29/2014  
 Excavation Cells: AECOM, Earthwork Phasing Plan, 7/5/13  
 Elevations: AECOM, 032414\_T117\_Upland\_ConfSampling\_rev1.xlsx  
 TSCA Surveys: IMCO, SUB 01722-005.28 Phase 4 TSCA Survey (PLS)<sup>a</sup>  
 SUB 01722-005.15 Progress Survey 08\_07\_13<sup>b</sup>  
 SUB 01722-005.12 Progress Survey 08-01-13 & 08-03-13<sup>c</sup>

**Figure 2.**  
 Chemistry Sampling Locations in the Proposed Outfall Vicinity  
 Lower Duwamish Waterway Superfund Site  
 T-117 Early Action Area



Table 1. Summary of T-117 Soil Data in Proposed Outfall Vicinity for Constituents with Removal Action Levels (RvALs)

Sample	Sample Depth Interval (ft bgs)	RvAL units	cPAHs	Total PCBs	TPH	Diesel	Dioxin/Furan	Arsenic	Silver
			140 $\mu\text{g}/\text{kg}$	0.65 $\text{mg}/\text{kg}$	2000* $\text{mg}/\text{kg}$	200* $\text{mg}/\text{kg}$	TEQ 11 $\text{ng}/\text{kg}$	7.3 $\text{mg}/\text{kg}$	2 $\text{mg}/\text{kg}$
SB53	0.5-2		<b>64 J</b>	<b>60</b>	<b>850</b>	<b>160</b>	<b>19</b>	NA	NA
T-117-A1	0.5-2		57 U	<b>2.6</b>	<b>470</b>	<b>98</b>	NA	NA	NA
T-117-A1	2.5-4		58 U	<b>0.2</b>	<b>28</b>	<b>5.2</b>	NA	NA	NA
T-117-A1	5-6.5		57 U	< 0.033 U	< 10 U	< 5.3 U	NA	NA	NA
T-117-A2	0.5-2		59 U	<b>0.72</b>	<b>105</b>	<b>11</b>	NA	NA	NA
T-117-A2	2.5-4		60 U	<b>0.081 J</b>	<b>22</b>	< 5.8 U	NA	NA	NA
T-117-A2	5-6.5		58 U	< 0.033 U	< 10 U	< 5.1 U	NA	NA	NA
T-117-A5	0.5-2		59 U	<b>1.4</b>	<b>86</b>	<b>12</b>	NA	NA	NA
T-117-A5	2.5-4		59 U	<b>2.1</b>	<b>1,600</b>	<b>300</b>	NA	NA	NA
T-117-A5	5-6.5		60 U	< 0.032 U	<b>18</b>	< 5.2 U	NA	NA	NA
T-117-A6	0.5-2		<b>150 J</b>	<b>10</b>	<b>330</b>	<b>57</b>	NA	< 10 U	NA
T-117-A6	2.5-4		<b>210</b>	<b>0.15</b>	<b>56</b>	<b>10</b>	NA	<b>8</b>	NA
T-117-A6	5-6.5		58 U	< 0.033 U	<b>18</b>	< 5.0 U	NA	< 5 U	NA
T-117-A8	0.5-2		56 U	<b>2</b>	<b>180</b>	<b>22</b>	NA	NA	NA
T-117-A8	2.5-4		58 U	<b>0.049</b>	<b>21</b>	<b>8</b>	NA	NA	NA
T-117-A8	5-6.5		59 U	< 0.032 U	< 10 U	< 5.2 U	NA	NA	NA
T-117-A10	0-1.5		60 U	<b>0.088</b>	<b>190</b>	<b>94</b>	NA	NA	NA
T-117-A11	0-0.5		NA	<b>0.22 J</b>	NA	NA	NA	NA	NA
T-117-A12	0-0.5		NA	<b>3.2 J</b>	NA	NA	NA	NA	NA
T-117-A12	0.5-1.5		NA	<b>0.59</b>	NA	NA	NA	NA	NA
T-117-PS-1A	0-2		NA	<b>18 J</b>	NA	NA	NA	NA	NA
T-117-PS-1A	2-4		NA	<b>20</b>	NA	NA	NA	NA	NA
T-117-SB-12	0-1.5		NA	<b>37</b>	NA	NA	NA	NA	NA
T-117-SB-13	0-1.5		NA	<b>5</b>	NA	NA	NA	NA	NA
T-117-SB-14	0-1.5		NA	<b>31</b>	NA	NA	NA	NA	NA
T-117-SB-15	0-1.5		NA	<b>4.8</b>	NA	NA	NA	NA	NA
T-117-SB-15	2.5-4		NA	<b>0.051</b>	NA	NA	NA	NA	NA
T-117-SB-15	5-6.5		NA	<b>0.03</b>	NA	NA	NA	NA	NA
T-117-SB-15	7.5-9		NA	< 0.02 U	NA	NA	NA	NA	NA
T-117-SB-15	10-11.5		NA	<b>0.17</b>	NA	NA	NA	NA	NA
T-117-SB-15	12.5-14		NA	< 0.02 U	NA	NA	NA	NA	NA
T-117-SB-15	15-16.5		NA	< 0.02 U	NA	NA	NA	NA	NA
T-117-SB-15	20-21.5		NA	<b>0.062</b>	NA	NA	NA	NA	NA

Notes:

Source:

Windward, Integral, AECOM, Crete, and DOF. 2010. Lower Duwamish Waterway Superfund Site, T-117 Early Action Area, Revised Engineering Evaluation/Cost Analysis. Prepared for the Port of Seattle and the City of Seattle. Windward Environmental LLC, Seattle, WA; Integral Consulting Inc., Seattle, WA; AECOM, Seattle, WA; Crete Consulting, Inc., Seattle, WA; and Dalton, Olmsted & Fuglevand, Inc., Seattle, WA. June 3.

Concentrations in the table reflect parent samples only; field duplicate results, if any, are not included.

\* Per the *Terminal 117 Cleanup Final Design Report, Phase 1: Sediment and Upland Cleanup* (Crete et al., 2012), the 200 mg/kg TPH RvAL is for diesel only; upper 6 ft. The TPH RvAL here corresponds to the general TPH 2000 mg/kg RvAL.

**bold** = detected concentration

NA = not analyzed

RvAL = removal action level

U = non-detect