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Memorandum

To: Sean Sheldrake, EPA

From: Anne Summers – Port of Portland

CC: Ken Fellows, Parametrix, Marcel Hermans, and Krista Koehl – Port of Portland; Tom Schadt, John Verduin, Todd Thornburg, Rebecca Desrosiers, and Elizabeth Appy – Anchor Environmental, L.L.C.

Date: June 30, 2006

Re: Responses to EPA Comments on the Sampling and Analysis Plan for Additional Column Settling Testing, Geotechnical Testing, and Sediment Quality Characterization Port of Portland—Terminal 4 Early Action

This memorandum provides responses to EPA comments on the Sampling and Analysis Plan (SAP) for additional column settling testing, geotechnical testing, and sediment quality characterization. EPA comments are in bold, followed by the proposed response.

1. Please highlight the purposes/objectives for sampling.

As provided in the SAP, the objectives for conducting the additional sampling are highlighted below:

Objectives for CST/SIC sampling:

- The source material used in the EE/CA analysis was a composite that included sediments outside of the proposed dredge prism, including portions of Wheeler Bay and Berth 414. Now that the remedy has been selected, additional CSTs need to be conducted with material collected from representative areas within the proposed Slip 3 dredge prism to provide more accurate basis for the design.

- SIC tests are included to assist with the settlement predictions in the confined disposal facility (CDF). The EE/CA and other previous studies did not include SIC testing or other equivalent testing to provide data to assist with these predictions.

Objectives for additional sediment quality testing in the vicinity of Berth 414:

- The additional sediment quality testing in the vicinity of Berth 414 is proposed to further define the extent of contamination around two historic sampling locations where relatively high PAH concentrations were reported in 1998 (HC-S-38 and HC-S-39). This data will help

further define the extent of the contamination in both the vertical and horizontal dimensions.

Objectives for additional sediment quality testing in Slip 3

- The additional sediment quality testing in Slip 3 are proposed to better refine the depth of the dredge prism in Slip 3.

Objectives for additional sediment quality testing in Wheeler Bay

- The additional sediment quality testing in Wheeler Bay are proposed to further refine the boundary between the capping and monitored natural recovery areas.

2. Please provide the reduced list of analytes proposed to be used and justification for the reduced list.

The table below provides the EE/CA contaminants of potential concern (COPC) list along with the proposed analytes for the additional sampling effort. Since the objective of the sediment characterization sampling effort is not to inform risk-based decisions, but rather to further refine the dredge prism and cap locations in Slip 3 and Wheeler Bay, the proposed analytes focus on the indicators of the contaminant distribution in the these areas of interest. Therefore Pesticides and PCBs are not proposed for analysis.

EE/CA COPC List	Proposed List
Metals	
Copper	No
Lead	Yes
Zinc	Yes
Semivolatile Organics	
Naphthalene	Yes
2-Methylnaphthalene	Yes
1-Methylnaphthalene	Yes
Biphenyl	Yes
2,6-Dimethylnaphthalene	Yes
Acenaphthylene	Yes
Acenaphthene	Yes
2,3,5-Trimethylnaphthalene	Yes
Fluorene	Yes
Phenanthrene	Yes
Anthracene	Yes
1-Methylphenanthrene	Yes
Fluoranthene	Yes
Pyrene	Yes
Benz(a)anthracene	Yes
Chrysene	Yes
Benzo(b)fluoranthene	Yes
Benzo(k)fluoranthene	Yes
Benzo(e)pyrene	Yes
Benzo(a)pyrene	Yes
Perylene	Yes
Indeno(1,2,3-cd)pyrene	Yes
Dibenz(a,h)anthracene	Yes
Benzo(g,h,i)perylene	Yes
Dimethyl phthalate	Yes
Diethyl phthalate	Yes
Di-n-butyl phthalate	Yes
Butylbenzyl phthalate	Yes
Bis(2-ethylhexyl) phthalate	Yes
Di-n-octyl phthalate	Yes
Pesticides	
4,4'-DDE	No
4,4'-DDD	No
4,4'-DDT	No
2,4'-DDE	No
2,4'-DDD	No
2,4'-DDT	No
PCBs	
Aroclor 1016	No
Aroclor 1221	No
Aroclor 1232	No
Aroclor 1242	No
Aroclor 1248	No
Aroclor 1254	No
Aroclor 1260	No
Aroclor 1262	No
Aroclor 1268	No

3. Will the ambient river water be appropriate for the anticipated testing? Are there any known substances in the river water that could adversely affect the proposed testing?

The river water for the CST and SICT is appropriate since that is the water that the dredge will be mixing with the sediment during the dredging process. We want to see how the sediment will behave when mixed with this local site water. WES (Waterways Experiment Station) guidance also specifies using local supply water for CST tests (Palermo, MR, and Thackston, EL, 1988, Refinement of Column Settling Test Procedures for Estimating the Quality of Effluent from Confined Dredged Material Disposal Areas, Technical Report D-88-9, US Army Corps, WES, Vicksburg.)

4. The target depth of eight feet should be adjusted as needed to accurately determine the depth of contamination.

The target depth of 8 feet is based on an analysis of existing core data in Slip 3 and vicinity. The maximum depth of contamination currently measured in Slip 3 is between four and eight feet below the mudline. Per this comment, all sediment quality characterization cores will be advanced to a target depth of ten feet to provide additional assurance that the depth of contamination will be determined at the proposed locations. The additional two intervals (8-9 and 9-10 feet) will be archived and only analyzed if the intervals above indicate the need consistent with the SAP.

5. Please provide a schedule with milestones for reporting.

The field effort is tentatively scheduled for the week of July 18. The Additional Sampling Summary Memo, including Data Quality Review will be submitted 30 days from receipt of final laboratory data. This will likely be in late September or early October.