July 12, 2007

0-61M-107030/Phase 69/T2

Tom Roick
Project Manager, Cleanup & Portland Harbor
Oregon Department of Environmental Quality
2020 SW 4th Ave, Suite 400
Portland, Oregon 97201-4987

Dear Mr. Roick:

Re: Stage 1 Source Control Evaluation - Revised Modification to Scope
RP - Portland Site

On behalf of SLLI, AMEC Earth & Environmental, Inc. (AMEC) is submitting this revised modification to the scope of work presented in the Oregon Department of Environmental Quality (DEQ)-approved Final Stage 1 Source Control Evaluation Work Plan (Stage 1 SCE WP) dated October 31, 2005. This revised modification to scope incorporates DEQ comments from its letter dated June 29, 2007. This letter also reflects additional input from DEQ relative to sample locations that was provided during a conversation between AMEC and Mr. Roick on June 25. The revised modification affects field work scheduled to begin at the Arkema, Inc. (Arkema) and BNSF Railway Company (BNSF) properties during the current Oregon Division of State Lands (DSL) in-water work window (July 2007). The revised modification outlined below will affect the scope of the Stage 1 SCE WP Task 1 reconnaissance activities at the Arkema and BNSF properties.

Stage 1 SCE Beach Sediment Sampling

SLLI proposes to modify the Stage 1 SCE WP to include the collection of beach sediment samples for chemical analysis to assist with the evaluation of potential impacts to the Willamette River (River) from beach sediments in the vicinity of the BNSF railroad bridge as requested by DEQ in a January 23, 2007, letter to SLLI titled "Source Control Evaluation Technical Memorandum." This DEQ letter provided comments on the Stage 1 SCE Technical Memorandum dated May 19, 2006.

Composited beach sediment samples will be collected according to the Stage 1 SCE Field Sampling Plan (FSP; Appendix A, Stage 1 SCE WP) and the general practices outlined in the RP - Portland Site Standard Operating Procedure (SOP) 12 titled "Soil Sampling Methodology—Remaining RI Activities" (attached). Samples will be collected from four sampling stations, as shown on Figure 1: one near City of Portland (COP) Outfall 22C; two near COP Outfall 22B; and one near the border of Arkema Lots 1 and 2. At stations 1 and 4, five discrete samples consisting of the top 6 inches of sediment will be collected from within an approximately 50-foot by 50-foot and 100-foot by 50-foot area, respectively. At stations 2 and 3, discrete samples from five locations consisting of the top 6 inches and 18 to 24 inches below ground surface will be collected from within an approximately 100-foot by 50-foot area. The discrete samples from each station and depth interval will be composited in the field and placed in the appropriate laboratory jars, for a total of six composite samples (i.e., two from stations 1 and 4, and four

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from stations 2 and 3). Each composite sample will be submitted for laboratory analysis. Analysis will consist of the following:

- Semivolatile organic compounds (SVOCs) by United States Environmental Protection Agency (EPA) Method 8270C;
- Chlorinated herbicides by EPA Method 8151A;
- Organochlorine insecticides by Axys HRMS Method;
- Polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/Fs) by EPA Method 1613B;
- Total petroleum hydrocarbons by DEQ Method NWTPH-Dx;
- Metals by EPA Methods 6010A/6020/7470A;
- Polychlorinated biphenyls (PCBs) by congeners by EPA Method 1668A;
- Perchlorate by EPA Method 331M;
- Total organic carbon (TOC) by Lloyd Kahn Method; and
- Grain size analysis by American Society of Testing Materials (ASTM) D422.

Analytical data collected from this sampling effort will be included in a technical memorandum along with data collected as part of the remaining Stage 1 SCE Beach Area work. The data collected from this sampling will complement data planned to be collected by Legacy Site Services, LLC (LSS) in their DEQ-approved sampling plan dated January 24, 2007.

The remainder of the Stage 1 SCE scope of work will remain unchanged.

If you have any questions or concerns, please do not hesitate to contact Roger Gresh or Christy Johnson at (503) 639-3400.

Sincerely,

AMEC Earth & Environmental, Inc.

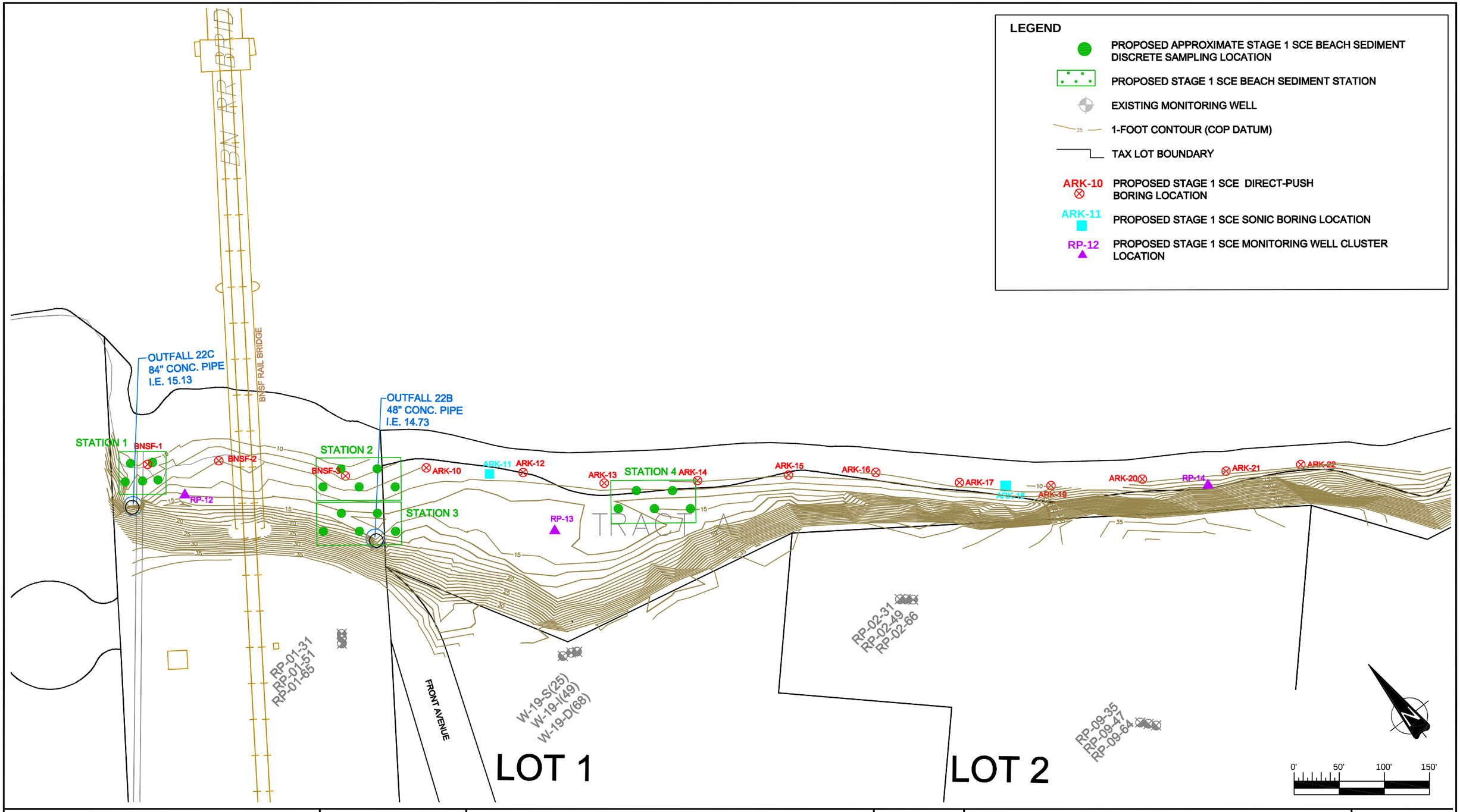
Roger T. Gresh, P.G.
Project Manager

FOR
Christy L. Johnson, R.G.
Phase Leader

ES/lp

Attachments: Figure 1 Proposed Stage 1 SCE Beach Sediment Sampling Locations
SOP - 12, Soil Sampling Methodology - Remaining RI Activities

c: S. Dearden, sanofi-aventis US, Inc.
R. Ferguson, SLLI
J. Benedict, CHBH&L
M. Kent, DEQ



		CLIENT: SLLI	DWN BY: LM/PM CHK'D BY: ER/CJ VERTICAL DATUM: NAVD88 PROJECTION: 1983 OR SP N. Int Ft. SCALE: 1:100	PROJECT: RP-PORTLAND SITE	DATE: JULY 2007 PROJECT NO: 061M-107030-PH69 T2 REV. NO.: 1 FIGURE No. FIGURE 1
		AMEC Earth & Environmental 7376 S.W. Durham Road Portland, OR. U.S.A. 97224		TITLE: PROPOSED STAGE 1 SCE BEACH SEDIMENT SAMPLING LOCATIONS	

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RP - PORTLAND SITE
SOP - 12
SOIL SAMPLING METHODOLOGY - REMAINING RI ACTIVITIES

1.0 PURPOSE

This procedure describes the general instructions for sampling of soils for various analyses in support of investigative activities at the RP site. Samples will be collected in accordance with the applicable field sampling plans (FSPs).

2.0 EQUIPMENT LIST

1) Shovel and stainless steel spoons or trowels
2) Soil sampling equipment: direct-push rig or stainless steel hand auger assembly
3) Appropriate field sampling form, field logbook, soil boring log sheets, sample identification matrix log sheets, and indelible pens
4) Photoionization detector (PID), first aid kits, fire extinguisher, and eye wash
5) Hand held GPS unit or stakes
6) Sample containers, labels, coolers, and ice
7) Resealable 1-2 gallon and smaller (sandwich-size) plastic bags
8) Ultraviolet (UV) light and appropriate power supply
9) Deionized water
10) Decontamination equipment (see SOP - 3 Decontamination Procedure and sampling plan for additional site-specific requirements)
11) Site map and site health and safety plan (HASP), if applicable
12) PPE appropriate for site (see HASP if applicable)

3.0 PROCEDURES

Surface Soil Sample Collection

1) Obtain sampling supplies and equipment and ensure appropriate sample containers are prepared and ready for sample collection.
2) Mobilize sampling equipment to appropriate sampling location.
3) Label the outer surface of a 1-2 gallon, double-bagged plastic bag with the boring identification (ID), sample interval, date, and time.
4) Use shovel, stainless steel hand auger, or direct-push core methods to obtain surface soil samples (0-1 foot below ground surface [bgs]). Then place

representative soil into a 1-2 gallon, double-bagged plastic bag. Fill additional plastic bags for adequate sample volume as needed.

5) Transfer the bagged surface soil samples to the designated sample processing area. Disposable surfaces (e.g., plastic sheeting and/or aluminum foil) will be used to prevent cross contamination when handling soil samples.

NOTE: For locations where volatile organic compound analyses are being performed, transfer the soil sample directly into the appropriate sample container(s), then proceed with the following procedure, for the sampling of other analytes.

6) Transfer a representative portion of the soil into a double-bagged sandwich-sized plastic bag, enclosing air while sealing, for organic vapor and NAPL screening.

7) Mix the contents of the sandwich-sized bag well and allow equilibration to ambient temperature.

8) Insert PID into an opened corner of the sandwich-sized bag. Record vapor concentrations into the field logbook and reseal bags.

9) Inspect contents of the sandwich-sized bag for NAPL presence both visually and using an ultraviolet (UV) light. Record all observations on soil boring log sheets and in the appropriate logbook.

NOTE 1: Squeezing any fluids present against the wall of the bag and holding the UV lamp nearby may refine this process. The addition of approximately 10 milliliter (mL) of DI water may also increase the ability to detect the NAPL residual fluorescence.

NOTE 2: The visible fluorescence emitted from chlorobenzene, a primary constituent of NAPL residual, is expected to appear milky white in color.

NOTE 3: When the visual and UV light screening results are inconclusive and NAPL residual is expected to be present, perform the hydrophobic-dye shake test using the procedure outlined in Section 5.0 below.

10) Transfer the remainder of the soil into the appropriate pre-cleaned and certified soil sample containers provided by the contract laboratory.

11) Record sample date, time, and sampler name on sample label and record in the field logbook and on the sample identification matrix log sheets.

12) Record samples on chain-of-custody forms and place in coolers.

13) Coordinate transportation to appropriate analytical laboratory(ies).

Subsurface Soil Sample Collection

1) Obtain sampling supplies and equipment and ensure appropriate sample containers are prepared and ready for sample collection.
2) Mobilize sampling equipment to appropriate sampling location.
3) Subsurface soil samples will be collected using the direct-push method or a hand auger.

NOTE: More than one boring may be necessary at each sampling location to obtain sufficient sample volume for all required analyses.

4) The first boring will be cored continuously from ground surface to total depth.
5) Log lithologic characteristics and screen for the presence of NAPL residual with this first continuous core. Record all observations on soil boring log sheets and in the appropriate field logbook.

NOTE 1: If NAPL residual is encountered the soil boring will be advanced until NAPL residual is no longer determined to be present.

NOTE 2: The on-site geologist will log the soils in accordance with the American Society for Testing and Materials (ASTM) method D 2488-90, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure).

6) Transfer the soil samples to the designated sample processing area. Disposable surfaces (e.g., plastic sheeting and/or aluminum foil) will be used to prevent cross contamination when handling soil samples.

NOTE: For locations where volatile organic compound analyses are being performed, transfer the soil sample directly into the appropriate sample container(s), then procedure with the following procedure, for the sampling of other analytes.

7) Transfer a representative portion of the soil into a double-bagged sandwich-sized plastic bag, enclosing air while sealing, for organic vapor and NAPL screening.
8) Mix the contents of the sandwich-sized bag well and allow equilibration to ambient temperature.
9) Insert PID into an opened corner of the sandwich-sized bag. Record vapor concentrations into the field logbook and reseal bags.

10) Inspect contents of the sandwich-sized bag for NAPL presence both visually and using a UV light. Record all observations on soil boring log sheets and in the appropriate logbook.

11) Subsequent borings are then advanced to the specified depth using direct-push core sampling or stainless steel hand auger systems.

12) If direct-push polycarbonate core liners are used: cap both ends of the liner, label, and transfer to the sample processing area. Again, disposable surfaces (e.g., plastic sheeting and/or aluminum foil) will be used to prevent cross contamination when handling soil samples.

NOTE: Soil samples collected from different boreholes but at the same depth interval will be composited prior to transferring to individual sample containers. The soil samples will be placed into a double-bagged two-gallon plastic bag, sealed, and well mixed creating one representative sample.

13) Transfer the representative soil into the appropriate pre-cleaned and certified containers provided by the contract laboratory.

14) Record sample date, time, and sampler name on sample label and record in logbook and on the sample identification matrix log sheets.

15) Coordinate transportation to appropriate analytical laboratory(ies).

16) Mark the top of the borehole with a labelled wooden lathe and flagging in order to facilitate surveying activities, or use hand-held GPS equipment to record the location of the sample.

4.0 RECORDS

All sampling activities will be recorded in the field logbooks and on appropriate field forms. Information recorded in the field logbooks may include but is not limited to the following items:

- Reasons for collecting samples (e.g., Remaining RI Soils Investigation, Biological Survey, etc.).
- Field observations relevant to the sampling event including weather, vegetation, wildlife, topography, visual evidence of contamination or lack thereof, presence of debris, and any deviations from the FSP, as well as any events that may have occurred previous to sampling which may influence the accessibility, integrity, or the representativeness of the sampling.
- Observations of site activities not covered under regular activities including the presence of persons on site not related to the sampling activities (subcontractors,

RP employees, members of the press, agency personnel, and others) as well as actions by those people affecting task performance.

5.0 HYDROPHOBIC-DYE SHAKE TEST

1) Transfer approximately 20 cubic centimeters (cm^3) of the soil sample into a 50-mL polypropylene centrifuge tube.
2) Label the sample tube with the boring ID, sample interval, date, and time.
3) Add 20 milliliters (mL) of water to the sample tube and shake for approximately 10 seconds.
4) Add approximately 2 milligrams (mg) (an amount that would rest on the edge of a toothpick) of Sudan IV to the sample tube.
5) Shake the contents of the tube for 10 to 30 seconds and
6) Examine the tube for the presence of NAPL residual and record the results in the field logbook.

NOTE: The Sudan IV is expected to dye organic fluids or NAPL residual red upon contact.