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December 4, 2006

Project No. C246-03

Todd Slater  
Legacy Site Services LLC  
486 Thomas Jones Way  
Exton, Pennsylvania 19341

**Subject: Proposed Riverbank Soil Sampling from Tract A for Upland Tier II Ecological Risk Assessment**

Dear Todd:

This letter presents a plan and approach to conduct soil sampling along the riverbank on Tract A of the Arkema facility. This work will provide necessary information for completion of the Upland Tier II Ecological Risk Assessment. This work was discussed during a meeting between LSS and DEQ on April 19, 2006 in which the status of the upland risk assessments was presented. Two primary areas will be evaluated as part of this sampling event, the riverbank downstream of Dock 2 and the riverbank upstream of Dock 1. A soil sampling effort conducted in 1998 provided sufficient sampling of riverbank soils between Docks 1 and 2, therefore additional sampling in this area is not required for this investigation.

### **Riverbank Soil Sampling Procedures**

Six composite soil samples are proposed downstream of Dock 2 (Figure 1; RBC-1 through RBC-6). Samples will be collected from the top 6 inches of soil (0 – 6") from the riverbank at each of five subsample composite locations. Samples will be collected in the following manner:

- Two composite samples will be collected from each of three areas evenly spaced from Dock 2 to the northern extent of the property (Figure 1).
- At each area, an upper and lower riverbank soil sample composite will be collected. The upper riverbank sample will be collected near the top of the bank and the lower riverbank sample will be collected between the top of bank and mean high water level [MHWL] [approximately 12 ft NAVD88]).

- Each sample will represent a composite of five discrete samples along a 200-250 ft length of riverbank. The five discrete samples will be arranged in a 'zig zag' pattern along each sample station to effectively cover the lateral and vertical profiles of the riverbank. Samples will be placed in a decontaminated stainless-steel bowl, composited in the field, and transferred to sample jars for laboratory analysis. Samples will be placed in a cooler, chilled, and transferred to the analytical laboratory under chain-of-custody. A portion of each individual subsample will also be transferred to a sample jar and archived at the analytical laboratory for possible future analysis, if needed.

Three composite soil samples are proposed upstream of Dock 1 (RBC-7 through RBC-9). Samples will be collected in the following manner:

- One composite sample will be collected between the top of bank and MHWL between Dock 1 and the Salt Dock 2 (RBC-7; Figure 1).
- Two samples will be collected upstream of the Salt Dock wrapping around the corner along the riverbank that faces Willbridge Fuel docks. One sample will be collected at the top of the bank (RBC-8) and one sample will be collected between the top of bank and MHWL (RBC-9).
- Each sample will represent a composite of 5 discrete samples in the aforementioned pattern.

Soil sampling and handling procedures will be conducted in accordance with the Elf Atochem Acid Plant Area Remedial Investigation/ Feasibility Work Plan (Exponent 1998). Sample station locations will be marked in the field and will be surveyed during a future survey event.

### **Sample Analysis**

The analyte list for this sampling event is modified from the ERM Proposal for Lots 1 and 2 dated December 20, 2004 and approved with comments by DEQ on January 20, 2005. The site COIs for this investigation include the following:

- Organochlorine pesticides by USEPA Method 8081;
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270C;
- Polychlorinated biphenyls (PCB Aroclors) by USEPA Method 8082;
- Total cadmium, chromium, lead, and zinc by USEPA Method 6010B;
- Perchlorate by USEPA Method 314.0 (at RBC-7, RBC-8, and RBC-9 only).

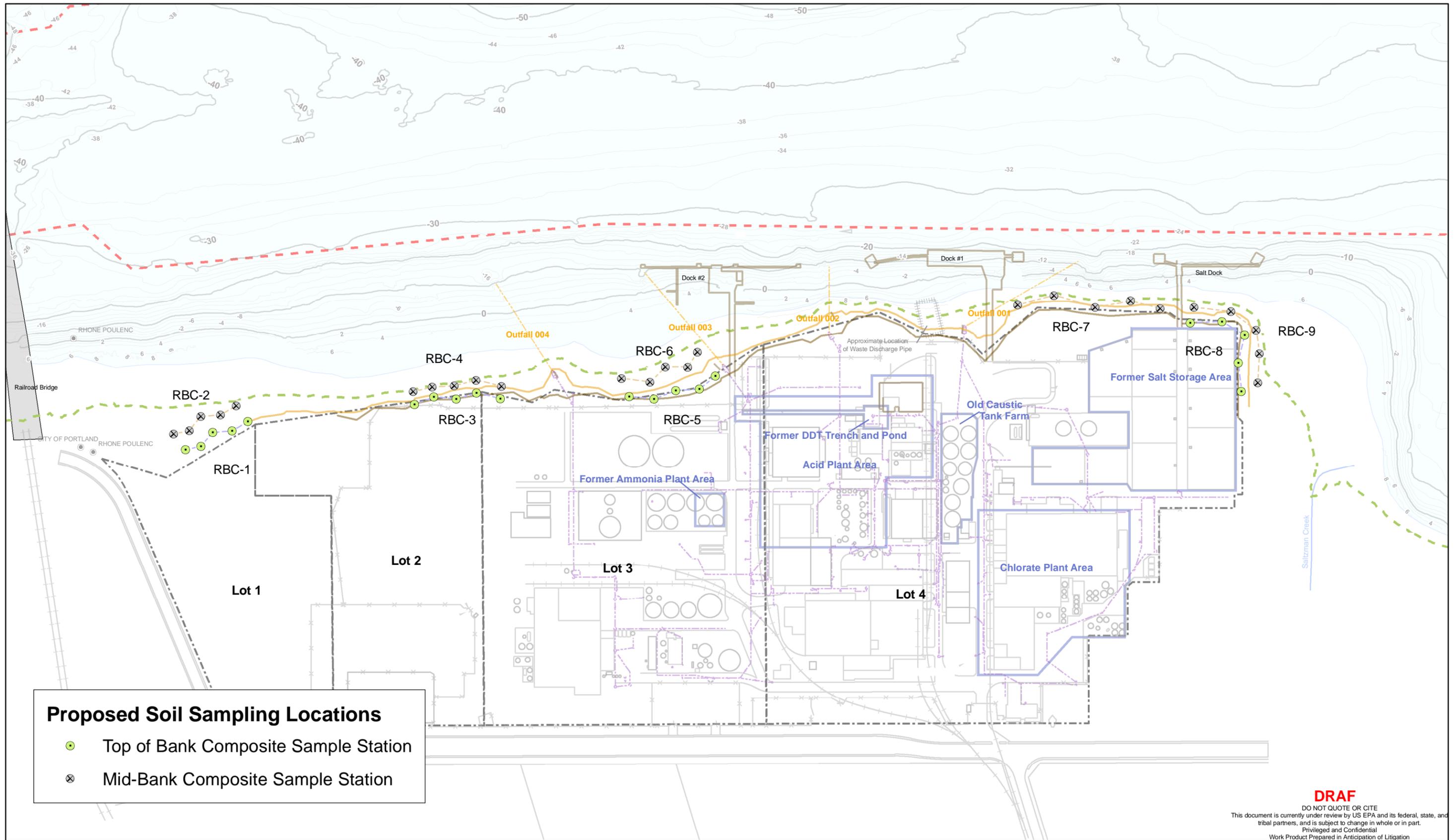
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Please contact me if you have any further questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Livermore", is centered on the page. The signature is written in a cursive style with a horizontal line extending to the right.

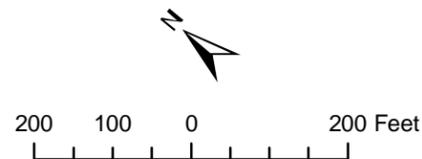
David Livermore, R.G.  
Principal-in-charge



**Proposed Soil Sampling Locations**

- Top of Bank Composite Sample Station
- ⊗ Mid-Bank Composite Sample Station

**DRAF**  
 DO NOT QUOTE OR CITE  
 This document is currently under review by US EPA and its federal, state, and tribal partners, and is subject to change in whole or in part.  
 Privileged and Confidential  
 Work Product Prepared in Anticipation of Litigation



**FEATURE SOURCES:**  
 Bathymetric Information: Multibeam bathymetric survey conducted by David Evans and Associates, Inc. from February 6 - March 6, 2004. Contours were derived from a Digital Terrain Model (DTM) based on a three-foot grid of multibeam data.  
 Vertical Datum: North American Vertical Datum of 1988 (NAVD88).  
 Horizontal Datum: North American Datum of 1983 - 91 adjusted (NAD83/91), State Plane Coordinate System (SPCS), Oregon North Zone.  
 Units: International Feet.  
 Basemap: Basemap features updated in 2006 by David Evans and Associates. Ordinary high water line, top of bank, and other site features surveyed in April 2006. Most buildings and structures on the Arkema site have been demolished or removed.  
 OHW and Top of Slope lines were created from the April 2006 DEA survey, the +12ft contour line was derived from the combined lidar/bathymetry grid.  
 Lot Lines: Created by importing pdf file from ERM, georeferencing to CAD lines (RMS error = 2.3042) and heads-up digitizing the lot lines.

- Ordinary High Water
- Top of Bank
- E-Sewer-L
- Storm Drain
- 12ft. Contour
- Bridges
- Property Lines
- Navigation Channel
- River
- Outfalls

**Figure**  
**Arkema Site**  
**Proposed Riverbank Soil Sampling Locations**