TETRA TECH, INC.

August 15, 2018

Lynn Nakashima
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200C
Berkeley, California 94710

Sara Ziff
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, California 94105

**Subject: Corporation Yard, Building 120 Concrete Sampling Approach**
**Richmond Field Station Site**
**University of California, Berkeley**

Dear Ms. Nakashima and Ms. Ziff:

On behalf of the University of California Berkeley, Tetra Tech, Inc. proposes to collect concrete surface samples at Building 120 at the Richmond Field Station (RFS). This letter replaces the proposed sampling letter dated March 19, 2018 and provides updates based on comments received from DTSC dated May 7, 2018, as well as updating the sampling methodology to include concrete coring instead of collecting concrete powder for analysis.

Building 120 is located within the Corporation Yard and was constructed in the 1960s when it housed a trash incinerator for UC Berkeley campus solid wastes. After the incinerator was removed in the 1970s, the building was used primarily by the RFS Facilities Management staff to store maintenance chemicals (a 1989 report describes storage of drums of thinner, kerosene and petroleum hydrocarbons), oils and waste oils. Currently the building is vacant as was requested by DTSC during the Corporation Yard removal action conducted in October and November 2017.

Building 120 is immediately adjacent to the Corporation Yard removal action Excavation 3A. Soil samples from Excavation 3A exhibited elevated concentrations of total polychlorinated biphenyls (PCB) up to 36,000 milligrams per kilogram (mg/kg). These concrete samples are being collected in response to recommendations by U.S. Environmental Protection Agency following review of preliminary data from Excavation 3A. The purposes of the sampling are to (1) evaluate worker-exposure safety, and (2) determine if there are residues of historic spills of PCB-containing fluids that could have leaked out of the building to become the source of PCBs found in Excavation 3A.

Sampling protocols will adhere to *Standard Operation Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls*, prepared by U.S. EPA Region 1, dated May 2011, unless otherwise noted below.

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- The concrete footing of Building 120 measures 11.33 feet by 23.25 feet, or approximately 265 square feet. As a result, three locations B120-01, B120-02, and B120-03 will be sampled. Concrete core samples will be collected at the surface at each location from 0 to 0.5 inches within the concrete. Sample locations are shown on Figure 1.
- Sample locations were selected from the east (B120-01), central (B120-02), and west (B120-03) portions of the foundation. B120-01 and B120-03 were selected in the center of the foundation. B120-02 was selected along the southern portion of the foundation which is nearest to the contamination identified during the Corporation Yard removal action. If staining is observed during the field effort, the samples will be collected from the stained location(s).
- B120-02 will be collected in triplicate. The triplicate samples will be collected within 1 foot of each other with the intent of evaluating the precision of the sampling method, site heterogeneity, field sampling and the laboratory analysis variability. The triplicates will be used to calculate a relative standard deviation (RSD) which can be used to help evaluate field precision, representativeness, and reproducibility. UC Berkeley recommends that an RSD of 35 be used as a benchmark for evaluation; however, other factors such as the relative difference between the measured concentrations and the action levels will also be considered. The benchmark is not intended to be used as a pass/fail criteria.
- Prior to sampling, the entire foundation area will be cleared with a broom or brush of any visible debris including leaves, dirt, or dust. The surface of each sampling location will be wiped with alconox and water prior to sampling. The drill bit will be decontaminated with disposable brushes with alconox and water between each sample location and replicates over paper towels to absorb any excess water. The brushes and paper towels will be disposed of in an on-site solid waste receptacle.
- The concrete will be sampled using a concrete core bit attached to a hand drill. The bit provides approximately 30 grams of concrete which will be placed directly into an 8-oz jar to be analyzed for PCBs by EPA Method 8082 with 3540C Soxhlet Extraction and dioxins by EPA Method 8290. The dioxin analysis will not be run on the replicate samples.
- A temperature blank will not be required since the samples will be delivered to a local laboratory within 2 hours of sample collection.
- Field split samples and proficiency testing/performance evaluation samples are not recommended or required for this investigation.
- The sample jars will be labeled, protected with bubble wrap or foam material, placed into re-sealable plastic bags, and packed into an insulated cooler under appropriate chain-of-custody protocols. The samples will be taken directly from the field to Enthalpy Analytical in Berkeley, California.
- Health and safety measures will adhere to the *Final Field Sampling Workplan, Appendix B, Health and Safety Plan*, dated June 2, 2010; an addendum specific to concrete coring inhalation hazards and safety measures will also be prepared and followed.

Following the receipt of analytical results, sample results will be presented in a sampling letter report, as well as incorporated into the summary report for the Corporation Yard removal action.

If you have any questions or comments regarding this submittal, please call me at (415) 497-9060.

Sincerely,

Jason Brodersen, P.G.
Project Manager

Attachment: Figure 1

cc: Alicia Bihler, UC Berkeley EH&S

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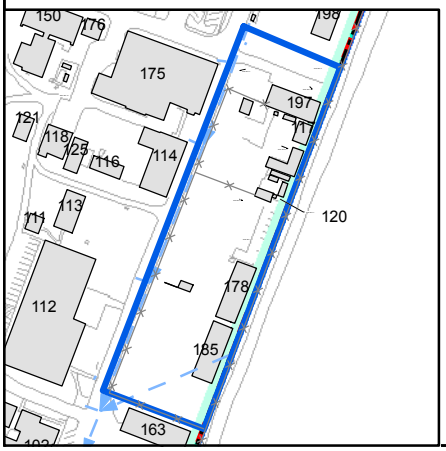


X **Sample Location**

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**Richmond Field Station Site**
**University of California, Berkeley**

**Building 120 Sample Locations**

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