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LETTER REGARDING SITE CLOSURE PLAN PRESENTATION RESPONSE REQUEST FOR SOIL CHEMICAL CONCENTRATIONS REPORT SITE 6 NCBC GULFPORT MS
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BATTELLE

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Battelle
The Business of Innovation

505 King Avenue
Columbus, Ohio 43201-2693
(614) 424-6424 Fax (614) 424-5263

September 27, 2006

Art Conrad
Naval Facilities Engineering Command
Southern Division
2155 Eagle Drive
North Charleston, SC 29419-9010

Dear Mr. Conrad:

Contract No. N462472-00-D-1300, Task Order 52
Soil Investigation, Naval Construction Battalion Center, Gulfport, Mississippi

Section 1.0: INTRODUCTION

The site closure plan for Site 6 at the Naval Construction Battalion Center Gulfport was prepared to document the end-point for free-product recovery, to provide the results of long-term groundwater monitoring, and to propose implementing institutional controls to address the remaining contamination. The site closure plan was presented to the Mississippi Department of Environmental Quality (MDEQ) on March 14, 2006. In response to the presentation, the MDEQ requested that information on chemical concentrations in the soil be included in the final decision document and to compare the chemical concentrations to the Mississippi Brownfields voluntary cleanup standards. Because the soil chemical data are limited, a site investigation will be performed to gather soil chemical concentration data needed to complete the final decision document. This letter describes the procedures and test methods that will be used to obtain additional chemical data in the vicinity of Site 6.

Section 2.0: PROJECT ACTIVITIES

2.1 Sample Locations

A Geoprobe® or similar device will be used to collect soil samples for off-site analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and total petroleum hydrocarbons (TPH). Site 6 is covered by an extensive network of extraction wells and monitoring wells, which provide information on the nature and extent of free-phase LNAPL. A site map showing the locations of wells and recent LNAPL thickness measurements are presented in Figure 1. Grab samples will be collected at a limited number of locations where there is a good probably of finding high levels of contamination. In addition, grab samples will be collected at areas of low contamination to provide information on the extent of soil contamination, using a pattern that radiates outward from the LNAPL plume. The analytical results will confirm the boundaries of LNAPL contamination where wells are not present (e.g., outward from EW-7 and EW-19 shown in Figure 1). The soil samples will be collected immediately above the water table within the smear zone. A photo ionization detector (PID) will be used to screen the soil sample for evidence of LNAPL contamination. At two locations (i.e., B-1 and B-2), samples will be collected at multiple depths.

2.2 Borehole Installation

Each sampling location will be marked according to the proposed 20 direct-push locations shown in Figure 1. Prior to advancing boreholes, the area of concern will be cleared of subsurface utilities. Sampling locations will be readjusted, if necessary, based on the locations of any utilities that are found to be present.

Direct-push soil sampling will be employed to collect the soil samples. The investigation will consist of advancing one borehole at each location and collecting samples from different depths. Samples collected from the borehole installed adjacent to GPT-6-7 (i.e., B-1) will target 10, 20, and 45 ft below ground surface (bgs). Samples collected from the borehole installed adjacent to GPT-6-5 (i.e., B-2) will target 5, 10 and 25 ft bgs. This will provide information on the chemical concentrations at various depths, as well as providing a basis of comparison to historical chemical data that are available for these two locations. At all other borehole locations, the soil sample will be collected immediately above the water table (approximately 4 to 6 ft bgs).

A total of twelve samples will be sent to the analytical laboratory for off-site analysis. Field screening will be used to locate areas of high and low contamination for sampling. A total of six samples will be collected from the area of high contamination (two locations within or near the former north fire training pit and two locations within or near the former south fire training pit). The remaining samples will be collected from areas of low contamination away from wells containing LNAPL. The locations shown in Figure 1 for off-site analysis (designated SS-1, SS-2, etc.) were based on historical data. If field screening indicates that the sample is highly contaminated, the result will be noted in the field book and a new location further from the contaminant source will be sampled. This process will be repeated until a clean sample can be found. A tape measure will be used to measure the distance of each soil boring relative to nearby wells and the location will be marked on a site map.

2.3 Soil Sampling

Following penetration and removal, the corer is removed from the system and is examined for integrity and volume. The core will be considered acceptable if the appropriate length is collected and the soil recovered is relatively undisturbed throughout its depth. Samples will be collected immediately after the core has been split open using the following procedure:

- Field Screening:
  - Fill a new Ziploc® bag halfway with soil. Close tightly and vigorously shake the bag before allowing the bag to set for a minimum of 5 minutes to allow for headspace development. After 5 minutes, unzip the corner of the bag and insert the PID sample probe. Record the highest instrument reading for the corresponding depth in the logbook.

- VOC Sampling
  - Carefully scrape away a thin layer of soil to expose a fresh surface for sampling.
  - Push the VOC syringe into the soil far enough to fill the preset barrel space. If there is not adequate depth to fill the space in a single insertion, repeat the motion until the coring syringe contains the desired volume (approximately 5 g).
  - Transfer the soil plug into the laboratory-supplied vial containing preservative by pushing the plunger of the syringe. After expelling the soil plug, ensure that the treads and sealing surface of the container are clean and replace the cap.
  - Repeat the above steps to collect another 5 g of soil at an adjacent location in the core and place the sample plug in the same vial. Cap the container securely. This will

produce a VOC sample that is approximately 10 mL of preservative (e.g., methanol) and 10 g of soil.
  - Chill and store the samples at 4°C until shipment.

- SVOC and TPH
  - Fill the laboratory supplied containers with the sample remaining in the soil core.
  - Chill and store the samples at 4°C until shipment.

2.4 Borehole abandonment

At the end of the investigation, the boreholes will be abandoned in accordance with appropriate federal and state regulations. The investigation-derived waste will be disposed of at a licensed off-site facility. It is assumed that the waste will be classified as non-hazardous.

2.5 Laboratory Analysis of Soil Samples

All samples collected will be shipped to DHL Analytical of Round Rock, Texas. The laboratory will analyze the samples using the following methods: TPH-GRO modified method M8015V, TPH-DRO modified method M8015D, Semivolatiles by GC/MS - Soil Method SW8270C and Volatiles (5035) by GC/MS method SW8260B. All sample containers and sampling materials will be provided by the laboratory. A copy of the analytical report provided by the laboratory will be subject to data validation by an independent contractor to ensure the data meet quality control standards.

Section 3.0: PROJECT SCHEDULE

Battelle will perform the field effort on October 4, 2006. The field activities will take about one day to complete. The laboratory will provide the analytical data within a standard turnaround time (two weeks). Data validation will be completed within two weeks after receipt of the chemical data. The results of the field investigation will be summarized and provided within two weeks following the receipt of the data validation report in the revised Site Closure Report. Please note that the title of the Site Closure Report will be changed to the Final Decision Document, as we discussed during our conference call on August 15, 2006.

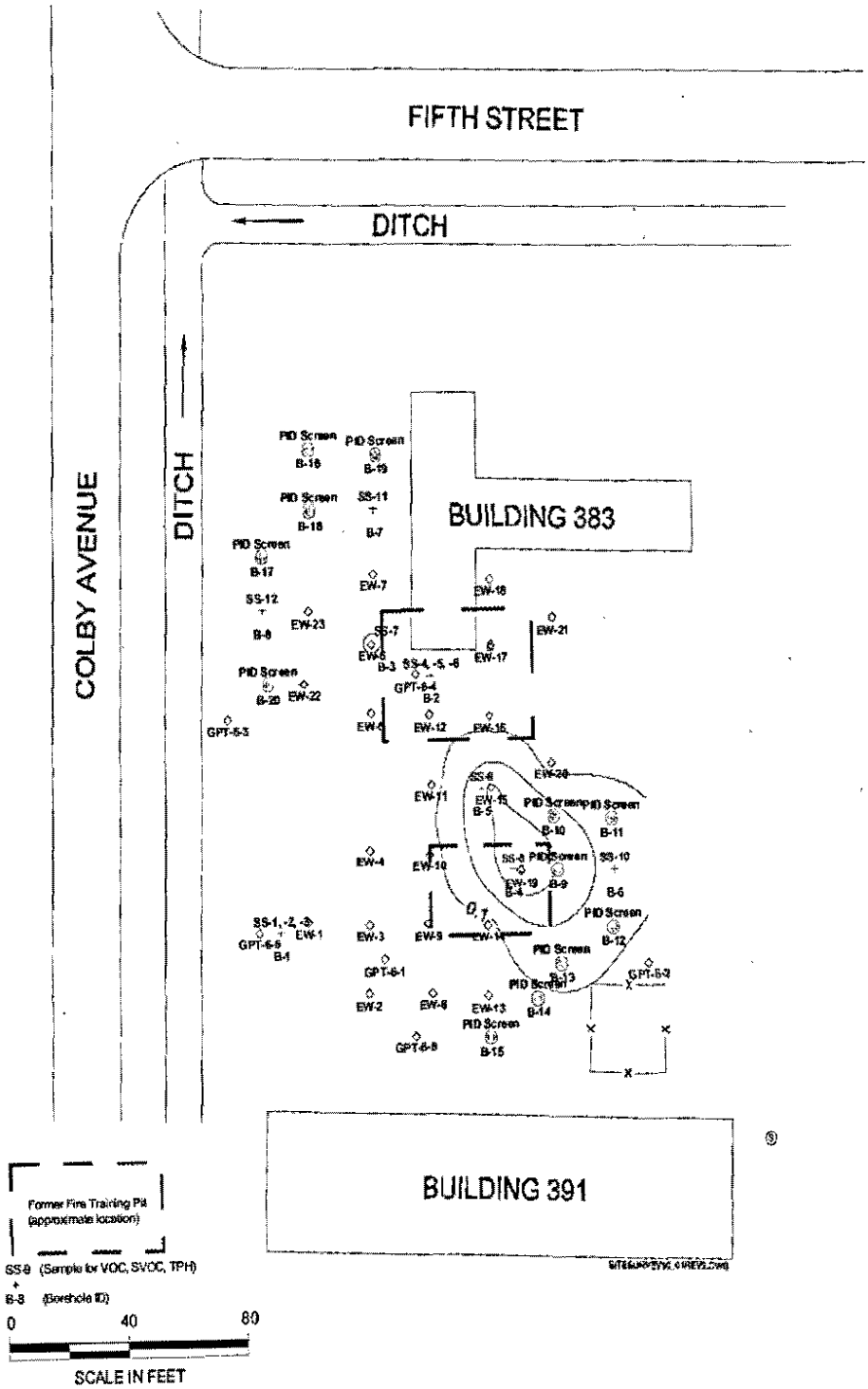
Please contact me at (614) 424-7289 or via e-mail at rosansky@battelle.org, or Lydia Cumming at (614) 424-3646 or cummingl@battelle.org, with any questions.

Sincerely,

Lydia Cumming for

Stephen H. Rosansky, P.E.
Senior Engineer
Environmental Restoration Dept.

cc: Mr. Gordon Crane (NCBC Gulfport)
Mr. Dan Waddill (NFESC)



Note: LNAPL thicknesses measured August 16, 2006

Figure 1. Extraction Wells, Monitoring Wells, and Proposed Direct-Push Locations at Site 6