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LETTER REGARDING ADDITIONAL OFF BASE AREA OF CONCERN WORK PLAN NCBC  
GULFPORT MS  
5/7/2009  
TETRA TECH NUS

**TETRA TECH**

TiNUS/TAL-09-042/0521-4.2

*May 7, 2009*

Project Number 00521

Commander, Southeast  
Naval Facilities Engineering Command Southeast  
Attn: Robert Fisher, P.G.  
NAVFAC SE (OPG6)  
PO Box 30, Bldg 903  
NAS Jacksonville, FL 32212-0030

Reference: CLEAN Contract No. N62467-04-D-0055  
Contract Task Order No. 0049

Subject: Work Plan: Additional Off-Base AOC Investigation  
Naval Construction Battalion Center  
Gulfport, Mississippi

Dear Mr. Fisher:

The following work plan letter provides details sampling the Off-Base Areas of Concern (AOC). The locations described below are named according to the Mississippi Department of Environmental Quality (MDEQ) letter requesting this action, dated July 12, 2007. Modifications to this work plan letter reflect the comments from MDEQ dated August 29, 2008.

**Introduction**

Based on the meeting held in Jackson, MS, between MDEQ, Navy and Tetra Tech NUS, Inc., the results from the Phase 1 investigation (Figure 1 and Figure 2), and the subsequent communications between the Navy and MDEQ, this work plan letter provides details for the Phase 2 AOC investigation. The site nomenclature will remain consistent with previous investigations and the MDEQ letter requesting action on these areas dated July 12, 2007.

The Phase 2 fieldwork will include the following tasks:

- GPS mapping of the major features included in the study area – including the Turkey Creek soil piles, the drainage system related to the landfill (including the 2 ravines), and the location of all samples. Given the tree cover and terrain, a high-sensitivity handheld GPS with a helix-type antenna will be used.
- Vertical profile sampling of the Turkey Creek piles.
- Additional surface water and sediment samples from AOCs 2, 3, 5, and 6 to evaluate the potential for Herbicide Orange-related dioxin in the drainage systems adjacent to the “Old” and “New” landfills.
- All samples will be analyzed for dioxins/furans following USEPA 8290 methodology.
- No other analytical methods will be used although split samples will be made available for MDEQ if they choose to analyze for additional methods.

The following section provides the details for the Phase 2 sampling. Sampling details are also provided in Table 1.

### **Sampling and Analysis Plan**

**AOC 1** – Based on the review of community comments and historical information such as aerial photography, the Navy will take no action at AOC 1 at this time. The Navy will instead rely upon the dioxin results from the drainage systems immediately adjacent to the landfill as described below.

**AOC 2** – The samples from the Turkey Creek piles did not contain Tetrachlorodibenzodioxin (TCDD) and are generally below unrestricted screening levels. The exception is the sample AOC2SS07, from a soil pile trending north-south, north of Turkey Creek. This sample contained TCDD and exceeded screening concentrations. The average concentration of the soil piles is currently 5.2 parts per trillion (ppt) excluding the anomalous northern sample. At the meeting in Jackson, MDEQ requested vertical profiling of the Turkey Creek piles.

**Field Program:** Map the extent of the Turkey Creek piles. Collect seven vertical composite samples from four locations south of Turkey Creek and three locations north of Turkey Creek. Collect three additional samples from the 2SS07 channel to evaluate this north to south pathway, including one vertical composite sample (shown with a red symbol on Figure 1).

**AOC 3** – Trench Disposal area samples. While Phase 1 sample results were low, additional sampling will be required to more fully investigate these trenches.

Field Program: Map the extent of the two trenches. Collect two co-located sediment and surface water samples and two additional grab samples from the sediment from each trench (Figure 1).

**AOC 5** – Sediment sampling in Turkey Creek. MDEQ has requested 2 additional sediment samples from Turkey Creek to supplement the Phase 1 locations (Figure 2).

Field Program: Mobilize to the 2 sediment sampling locations indicated for AOC 5 (Figure 1) and collect grab sediment samples from near the center of Turkey Creek.

**AOC 6 (Paragraph 7)** – These AOCs have been combined since the drainage system describes continuous. This system encompasses the drainage system around the “Old” and “New” rubbish Landfills. If Herbicide Orange were disposed of or emanating from these landfills, this sediment in this system would be impacted.

Field Program: Completely map the drainage system from the southeastern-most point of the “New” landfill to the junction with the trenches identified as AOC 3. The total distance is approximately 1,800 feet. Existing samples (Figure 1) are limited to the northern and southern extent of this area. Collect 7 sediment and 3 surface water grab samples (also shown on Figure 1) to fill the existing data gaps.

**TABLE 1**  
**SAMPLING AND ANALYSIS SUMMARY TABLE**

<b>AOC</b>	<b>Soil/Sediment</b>	<b>Surface Water</b>	<b>Analytical Method</b>
AOC 2	13	0	SW-846 8290
AOC 3	4	2	SW-846 8290
AOC 5	2	0	SW-846 8290
AOC 6	7	3	SW-846 8290
Total	26	5	

**Data Analysis and Reporting**

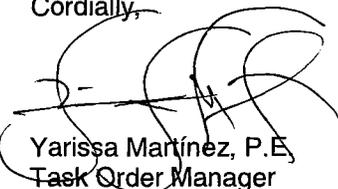
Upon receipt of the USEPA Method 8290 sampling results, the laboratory data will undergo full validation. The results, including all 17 dioxin and furan congeners, will be evaluated using the WHO 2005 congener toxicity equivalency factors. The resulting toxicity equivalency quotients will be screened against MDEQ unrestricted (uTRG) and restricted (rTRG) target remedial goals.

Summary and conclusions will be reported in a letter report format that includes all validated data, summary tables and figures.

The results will also be used to determine if additional remedial action(s) are needed. After discussing the results with MDEQ, a proposal as to what remedial action will follow, if necessary, will be developed for MDEQ approval to address unacceptable risk concentrations.

If you have any questions regarding the information presented in this document, please contact me by phone at (850) 385-9899 or via e-mail at [yarissa.martinez@tetrattech.com](mailto:yarissa.martinez@tetrattech.com).

Cordially,

A handwritten signature in black ink, appearing to read 'Yarissa Martinez', is written over the typed name and title.

Yarissa Martinez, P.E.  
Task Order Manager  
Date: May 7, 2009

Enclosures

- c: Gordon Crane (2 copies)
- Debbie Humbert (1 copy)
- Mark Perry (1 copy)
- Bob Merrill (1 copy)