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NSA MID SOUTH
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LETTER SUMMARIZING THE SECOND ROUND OF SAMPLING ACTIVITIES PERFORMED AT AIRCRAFT FIRING RANGE MILLINGTON SUPPACT TN
9/19/2011
TETRA TECH

DATE: September 19, 2011

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Project File – CTO F275

SUBJECT: Naval Support Activity (NSA) Mid-South,
Completion of Second Round Sampling Activities at Aircraft Firing Range (AFR)

This letter summarizes the second round of soil sampling activities performed at the AFR and the path forward proposed by Tetra Tech NUS, Inc. (Tetra Tech), on behalf of the Navy. These activities have been performed by Tetra Tech personnel in accordance with the recommendations presented in the September 2010 Site Inspection (SI) Report; and accepted by the Tennessee Department of Environment and Conservation (TDEC) at the September 8, 2010, NSA Mid-South Base Closure Team meeting.

One surface soil sample (AFRSS0037) out of 48 collected beneath an asphalt parking lot during the initial sampling event in March 2010 had a lead concentration above the 400 milligrams per kilogram (mg/kg) Project Action Limit (PAL). This sample was located in the northernmost row of samples collected at the former eastern berm, as shown on Figure 1. The laboratory reported a lead concentration of 20,500 mg/kg for this sample. The samples immediately to the east, west, and south of AFRSS0037 had very low lead concentrations ranging from 25.0 to 48.5 mg/kg. No samples were collected north of AFRSS0037 during the initial sampling event. Based upon the anomalously high lead concentration detected in Sample AFRSS0037, re-sampling of this location and collection of additional samples immediately adjacent to and north of it were proposed in the SI Report.

The second round sampling activities performed on June 30, 2011 centered on the Sample AFRSS0037 “hot spot”, with one sample point immediately adjacent to the 2010 hotspot and four sample points surrounding it, approximately 10 feet away. Three additional sample locations were located on a transect approximately 25 feet north of the hot spot. Two samples were taken at each of the locations, one from the 0- to 1-foot below ground surface (bgs) interval, and one from the 1- to 2-foot bgs interval. The soil

samples were sent to Empirical Laboratories, LLC, of Nashville, TN for analysis of lead, in accordance with the approved December 2009 Sampling and Analysis Plan.

The analytical results for all of the second round samples were well below the 400 mg/kg PAL, with 98.3 mg/kg (AFRSS0063) the highest reported concentration (Table 1). The lead concentrations for samples collected within 12 inches of the AFRSS0037 hot spot were 34.5 mg/kg at the same depth interval of 0- to 1-foot bgs and 16.8 mg/kg at 1- to 2-ft bgs. These results indicate that the single exceedance of the March 2010 sampling event was anomalous and not representative of site conditions. Therefore, the Navy proposes a No Further Action determination be made for the AFR.

FIGURE 1

813500

814000

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20110630 AFR-SS063-0001 19.6
20110630 AFR-SS063-0102 98.3

20110630 AFR-SS062-0001 15.4
20110630 AFR-SS062-0001-D 18.1
20110630 AFR-SS062-0102 15.0

20110630 AFR-SS061-0001 33.1
20110630 AFR-SS061-0102 15.4

20110630 AFR-SS060-0001 25.1
20110630 AFR-SS060-0102 23.7

20110630 AFR-SS058-0001 35.6
20110630 AFR-SS058-0102 18.9

20110630 AFR-SS064-0001 49.6
20110630 AFR-SS064-0102 23.5

20110630 AFR-SS059-0001 16.3
20110630 AFR-SS059-0102 49.2

20100309 AFR-SS037-0001 20500 J
20110630 AFR-SS057-0001 34.5
20110630 AFR-SS057-0102 16.8

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Exhibit 1
Additional Sampling Locations
Lead Results
Aircraft Firing Range (AOC 2)
NSA Mid-South
Millington, Tennessee

Legend

- Exceedance Sample Location
- Additional Sample Location
- Composite Sampling Area
- Aircraft Firing Range
- Firing Line
- Surface Danger Zone
- Target Berm
- Road
- Contour (1-ft interval)

80 40 0 80
Feet

Drawn By: S. STROZ 9/02/11
Checked By: R. BAILEY 9/02/11
Revised By:

Contract Number: 112G01642/112G01506
CTO: F275/0107

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TABLE 1

Table 1 - Aircraft Firing Range Sample Data Table

March 2010 Sampling Event

LOCATION	USEPA Soil Screening Level Residential	AFR-SS037
SAMPLE ID		AFR-SS037-0001
SAMPLE DATE		20100309
SAMPLE CODE		NORMAL
TOP DEPTH		0
BOTTOM DEPTH		1
METALS		
LEAD (mg/kg)	400	20500 J

June 2011 Sampling Event

LOCATION	USEPA Soil Screening Level Residential	AFR-SS057		AFR-SS058		AFR-SS059		AFR-SS060		AFR-SS061	
SAMPLE ID		AFR-SS057-0001	AFR-SS057-0102	AFR-SS058-0001	AFR-SS058-0102	AFR-SS059-0001	AFR-SS059-0102	AFR-SS060-0001	AFR-SS060-0102	AFR-SS061-0001	AFR-SS061-0102
SAMPLE DATE		20110630	20110630	20110630	20110630	20110630	20110630	20110630	20110630	20110630	20110630
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
TOP DEPTH		0	1	0	1	0	1	0	1	0	1
BOTTOM DEPTH		1	2	1	2	1	2	1	2	1	2
METALS											
LEAD (mg/kg)	400	34.5	16.8	35.6	18.9	16.3	49.2	25.1	23.7	33.1	15.4

LOCATION	USEPA Soil Screening Level Residential	AFR-SS062			AFR-SS063		AFR-SS064	
SAMPLE ID		AFR-SS062-0001	AFR-SS062-0001-	AFR-SS062-0102	AFR-SS063-0001	AFR-SS063-0102	AFR-SS064-0001	AFR-SS064-0102
SAMPLE DATE		20110630	20110630	20110630	20110630	20110630	20110630	20110630
SAMPLE CODE		ORIGINAL	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
TOP DEPTH		0	0	1	0	1	0	1
BOTTOM DEPTH		1	1	2	1	2	1	2
METALS								
LEAD (mg/kg)	400	15.4	18.1	15	19.6	98.3	49.6	23.5