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NAS CECIL FIELD, FL  
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WORK PLAN ADDENDUM FOR UNDERGROUND STORAGE TANK INVESTIGATIONS AT  
SOUTH FUEL FARM AND OTHER SITES NAS CECIL FIELD FL  
4/1/2003  
TETRA TECH NUS INC

**Work Plan Addendum**  
for  
**UST Investigations at  
South Fuel Farm and Other Sites**

**Naval Air Station Cecil Field  
Jacksonville, Florida**



**Southern Division  
Naval Facilities Engineering Command  
Contract Number N62467-94-D-0888  
Contract Task Order 0248**

April 2003

## **1.0 INTRODUCTION**

Tetra Tech NUS, Inc. (TtNUS) has prepared this work plan addendum for additional assessment activities at the South Fuel Farm site and Site 842 at the Naval Air Station (NAS) Cecil Field, Jacksonville, Florida. This work plan addendum was prepared for the United States Navy (Navy) Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under Contract Task Order (CTO) 0248, for the Comprehensive Long term Environmental Action Navy (CLEAN) III Contract Number N62467 94 D 0888.

The sampling activities and procedures described in this work plan addendum will be performed in accordance with the procedures and guidelines established in the "Work Plan for UST Investigations at South Fuel Farm and Other Sites" (TtNUS, 2002), and the Florida Department of Environmental Regulations (FDEP) Standard Operating Procedures (SOPs) for Field Activities (DEP-SOP-001/01). Quality assurance and control guidelines are outlined in Section 4 of the original Work Plan.

## **2.0 SOUTH FUEL FARM**

This work plan addendum is for a second phase of work designed to further delineate the extent of soil contamination at the site. As indicated by attached Figure 1, the Remedial Action Plan (RAP) (ABB-ES, 1996) indicated a large area of petroleum impacted soil. TtNUS sampled 14 locations in 2002, and the results indicated that four of the 14 locations remain contaminated. Based on the list of contaminants reported by the lab, TtNUS proposes to collect additional soil samples in the vicinity of soil samples CEF-043-SB06, CEF-043-SB07, CEF-043-SB10, and CEF-043-SB12 to further delineate the extent contamination in these areas. In addition, TtNUS proposes to collect soil samples in the vicinity of B-167 to delineate soil contamination detected during previous investigations (ABB-ES in 1996 and the CCI/JA Jones in 1999, 2000 and 2001).

The soil sampling will be performed using a direct push technology (DPT) rig. In accordance with the health and safety SOP HS-1.0, each soil sampling location will be cored to a depth of 4 feet (ft) below land surface (bls) with a stainless steel hand auger. Soil samples will be collected using this method beginning at 1 ft bls and continue at 1 ft intervals until approximately 1 ft into the saturated zone. During the first phase of work in 2002, the average depth to water on site was approximately 5 ft bls. The soils will be field screened with an organic vapor analyzer with flame ionization detector (OVA-FID) in accord with recommended FDEP guidelines. From 4 ft bls to 6 ft bls, the DPT contractor will collect soil samples using stainless steel tooling lined with acetate sleeves. The sample (above the capillary fringe) with the highest OVA-FID reading will be submitted to a fixed-based laboratory for analysis. If no OVA-FID response is observed at a sample location, then the sample will be collected a minimum of 1-foot above the capillary fringe. A total of 15 soil samples will be collected from the

locations identified on Figure 1 and described in Table 1. Analytical requirements also are listed in Table 1.

Personal protection equipment and other waste trash (e.g., disposable trowels) will not be considered hazardous and will be disposed of in a municipal landfill. Such trash will be collected in a plastic bag and disposed of in a suitable trash receptacle. Removed soil in excess of sampling volume requirements will be placed back in the ground, and turf will be replaced or repaired. Sample handling requirements, the bottleware required, preservation, and holding time requirements for the analysis proposed for this sampling event are as identified in the following table:

<b>Analysis</b>	<b>Analytical Method</b>	<b>Bottleware</b>	<b>Preservation</b>	<b>Holding Time<sup>1</sup></b>
BTEX and MTBE	SW846 8260B	1 syringe & 3 40-ml vials	1 with methanol & 2 with water	14 days to analysis
PAHs	SW846 8270C SIM	4 oz. glass jar	Cool to 4° C	7 days to extraction; 40 days to analysis
TRPH	FL-PRO	4 oz. glass jar	Cool to 4° C	14 days to analysis
TPH-CWG	TPH-CWG	4-oz. glass jar	Cool to 4° C	14 days to analysis

<sup>1</sup> Holding times are measured from the date/time of sample collection

Analytical results will be provided on a 28-day turn around time. The laboratory contracted to do this work is to be determined.

As agreed by the Base Closure Team (BCT), the collection of rinsate and trip blanks has been eliminated at NAS Cecil Field. In accordance with these changes, the following table summarizes the frequency and type of field Quality Assurance/Quality Control (QA/QC) samples to be collected for this confirmatory sampling program.

<b>Type of samples</b>	<b>Frequency</b>	<b>Samples to be collected</b>
Field Duplicate	1/10 samples	2 <sup>(1)</sup>
Lab MS/MSD	1/20 samples	1 <sup>(2)</sup>

<sup>(1)</sup> One duplicate will come from a GAG/KAG site and the other will come from a TRPH sample location.

<sup>(2)</sup> MS/MSD is a laboratory QA/QC requirement, separate sample not required, only one additional volume. This sample will come from a GAG/KAG sample location.

As agreed upon by the BCT, formal data validation has been eliminated from the installation restoration program at NAS Cecil Field. However, TtNUS personnel will review the analytical data packages generated by the analytical laboratory to eliminate false positive and false negative results.

**Table 1****Sampling and Analysis Work Plan Addendum  
South Fuel Farm**

Sample ID CEF-043	Location <sup>(2)</sup>	Analysis			
		BTEX AND MTBE	PAH	TRPH	TPH- CWG
<sup>(1)</sup>					
-SB15-XX	CEF-043-SB15	x	x	x	
-SB16-XX	CEF-043-SB16	x	x	X	
-SB17-XX	CEF-043-SB17	x	x	x	
-SB18-XX	CEF-043-SB18	x	x	x	
-SB19-XX	CEF-043-SB19	x	x	x	
-SB20-XX	CEF-043-SB20	x	x	x	
-SB21-XX	CEF-043-SB21			x	
-SB22-XX	CEF-043-SB22			x	
-SB23-XX	CEF-043-SB23			x	
-SB24-XX	CEF-043-SB24			x	
-SB25-XX	CEF-043-SB25			x	
-SB26-XX	CEF-043-SB26			x	
-SB27-XX	CEF-043-SB27			x	
-SB28-XX	CEF-043-SB28			x	
-SB29-XX	CEF-043-SB06				X
-SB30-XX	CEF-043-SB07				X

- (1) The 'XX' indicates the bottom depth of sample collection to the nearest whole foot. The depth of sample collection will be determined in the field by OVA-FID screening as indicated above. Responsible field personnel will ensure these are collected from above the saturated zone and capillary fringe (approximately 1 to 1.5 feet above the water table). The depth to water encountered late in the year 2002 was approximately 5 ft bls.
- (2) Except for sample locations CEF-043-SB06 and SB07, the other sample locations will be determined in the field and recorded accordingly.

**3.0 SITE 842**

Tank G842B is an underground storage tank (UST) located at Building 842, which is located at the intersection of the runways. Tank G842B was used to store diesel fuel to power an emergency generator for the building. The building housed transmitters and receivers for guiding aircraft (HLA, 1998). A source removal was conducted by CCI/JA Jones in 2000 and a Source Removal Report (SRR) was submitted in August 2000 (CCI, 2000). The FDEP issued a response to the SRR on April 5, 2001. The FDEP letter stated that "soil contaminated with benzo (a) pyrene and dibenzo (a,h) anthracene at concentrations exceeding the Department's residential Soil Cleanup Target Levels was detected in grab samples from the north and south sides of the excavation". The FDEP letter requested that additional assessment be conducted to delineate the soil contamination. As a result, TtNUS proposes that subsurface soil samples be collected in the vicinity of the former UST at Building 842. The samples will be analyzed for polynuclear aromatic hydrocarbon (PAH) contamination as specified in the April 2001 FDEP response letter.

Because of the proximity to active runways and taxiways, this sampling must be coordinated with Jacksonville Airport Authority (JAA) Operations and the building tenants in the nearby hangars. Ramp safety requirements must be followed. Each vehicle driver will have current ramp training provided by the JAA.

Because of the reported depth to water in the SRR of 10 ft bls, TtNUS proposes that the sampling be performed with a DPT rig. In accordance with TtNUS' health and safety SOP HS-1.0, each soil sampling location will be cored to a depth of 4 ft bls with a stainless steel hand auger. Soil samples will be collected using this method at 2 ft bls and 4 ft bls. The soils will be field screened with an OVA-FID in accordance with recommended FDEP guidelines. From 4 ft bls to 10 ft bls, the DPT contractor will collect soil samples using stainless steel tooling lined with acetate sleeves. TtNUS will also field screen those soils at the 6 ft, 8 ft and 10 ft bls intervals. The sample with the highest OVA-FID reading (above the capillary fringe) will be submitted to a fixed-based laboratory for analysis. If no OVA-FID response is observed at a sample location, then the sample will be collected a minimum of 1 foot above the capillary fringe. A total of 8 soil samples will be collected from the locations identified on Figure 2 and described in Table 2. Analytical requirements also are listed in Table 2.

Personal protection equipment and other waste trash (e.g., disposable trowels) will not be considered hazardous and will be disposed of in a municipal landfill. Such trash will be collected in a plastic bag and disposed of in a suitable trash receptacle. Removed soil in excess of sampling volume requirements will be placed back in the ground, and turf will be replaced or repaired.

Sample handling requirements, the bottleware required, preservation, and holding time requirements for the analysis proposed for this sampling event are as identified in the following table:

<b>Analysis</b>	<b>Analytical Method</b>	<b>Bottleware</b>	<b>Preservation</b>	<b>Holding Time<sup>†</sup></b>
PAHs	SW-846 8310	8-oz. glass jar	Cool to 4° C	14 days to extraction; 40 days to analysis

<sup>†</sup> Holding times are measured from the date/time of sample collection

Analytical results will be provided on a 28-day turn around time. The laboratory contracted to do this work is to be determined.

As agreed by the BCT, the collection of rinsate and trip blanks has been eliminated at NAS Cecil Field. In accordance with these changes, the following table summarizes the frequency and type of field QA/QC samples to be collected for this confirmatory sampling program.

Type of samples	Frequency	Samples to be collected
Field Duplicate	1/10 samples/matrix	1
Lab MS/MSD	1/20 samples	1 <sup>(1)</sup>

<sup>(1)</sup> MS/MSD is a laboratory QA/QC requirement, separate sample not required, only additional volume.

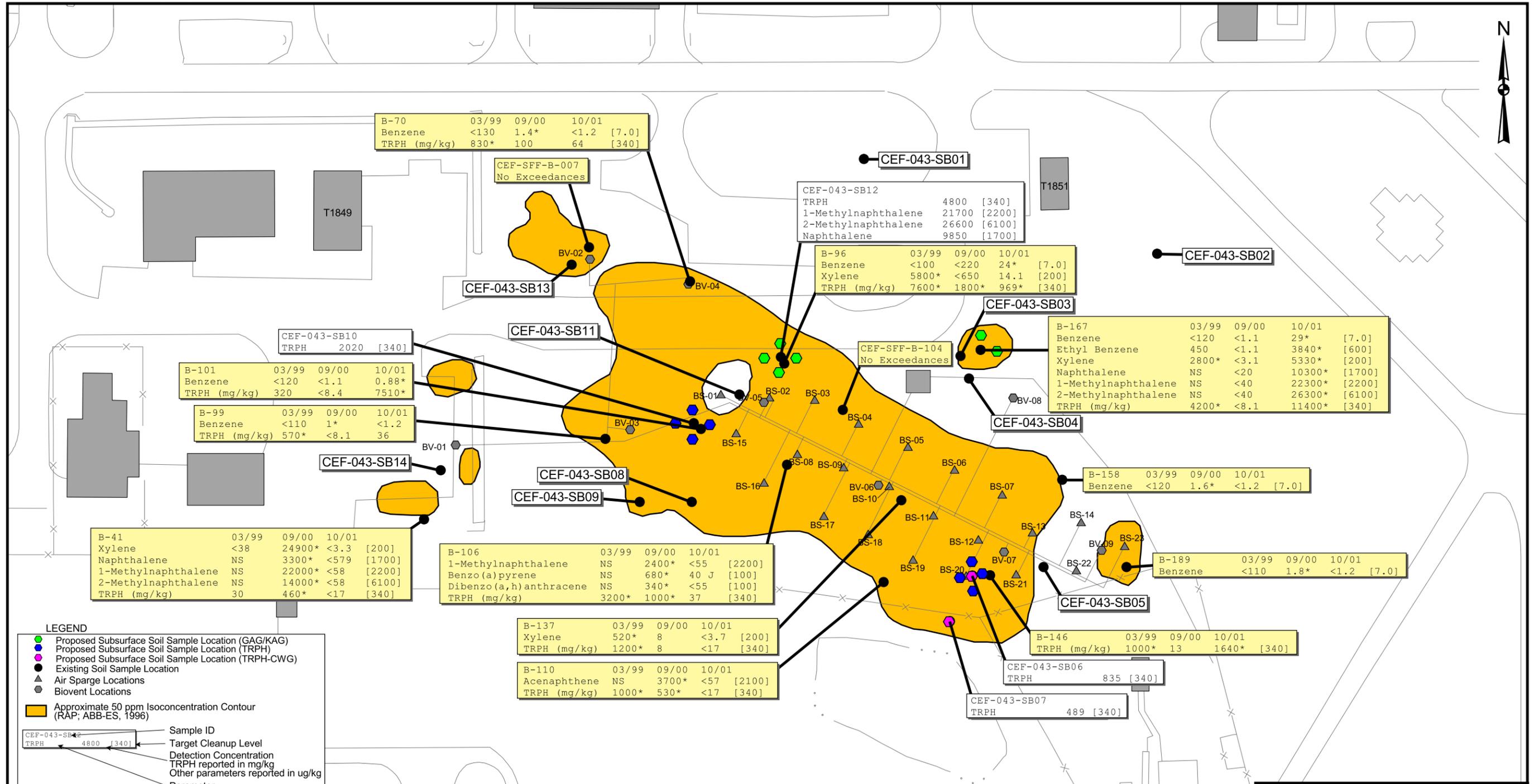
As agreed upon by the BCT, formal data validation has been eliminated from the installation restoration program at NAS Cecil Field. However, TtNUS personnel will review the analytical data packages generated by the analytical laboratory to eliminate false positive and false negative results.

**Table 2**

**Sampling and Analysis Work Plan Addendum  
Building 842, Tank G842B**

Sample ID	Location ID	Analysis
		PAHs
CEF-842-SU-001-xx*	CEF-842-SB-001	X
CEF-842-SU-002-xx*	CEF-842-SB-002	X
CEF-842-SU-003-xx*	CEF-842-SB-003	X
CEF-842-SU-004-xx*	CEF-842-SB-004	X
CEF-842-SU-005-xx*	CEF-842-SB-005	X
CEF-842-SU-006-xx*	CEF-842-SB-006	X
CEF-842-SU-007-xx*	CEF-842-SB-007	X
CEF-842-SU-008-xx*	CEF-842-SB-008	X

\* The 'xx' indicates the bottom depth of sample collection to the nearest whole foot. The depth of sample collection will be determined in the field by OVA-FID screening as indicated above. Responsible field personnel will ensure these are collected from above the saturated zone and capillary fringe (approximately 1.5 feet above the water table). The depth to water was reported in the SRR (data collected on 10/15/99) at 10 ft bls.

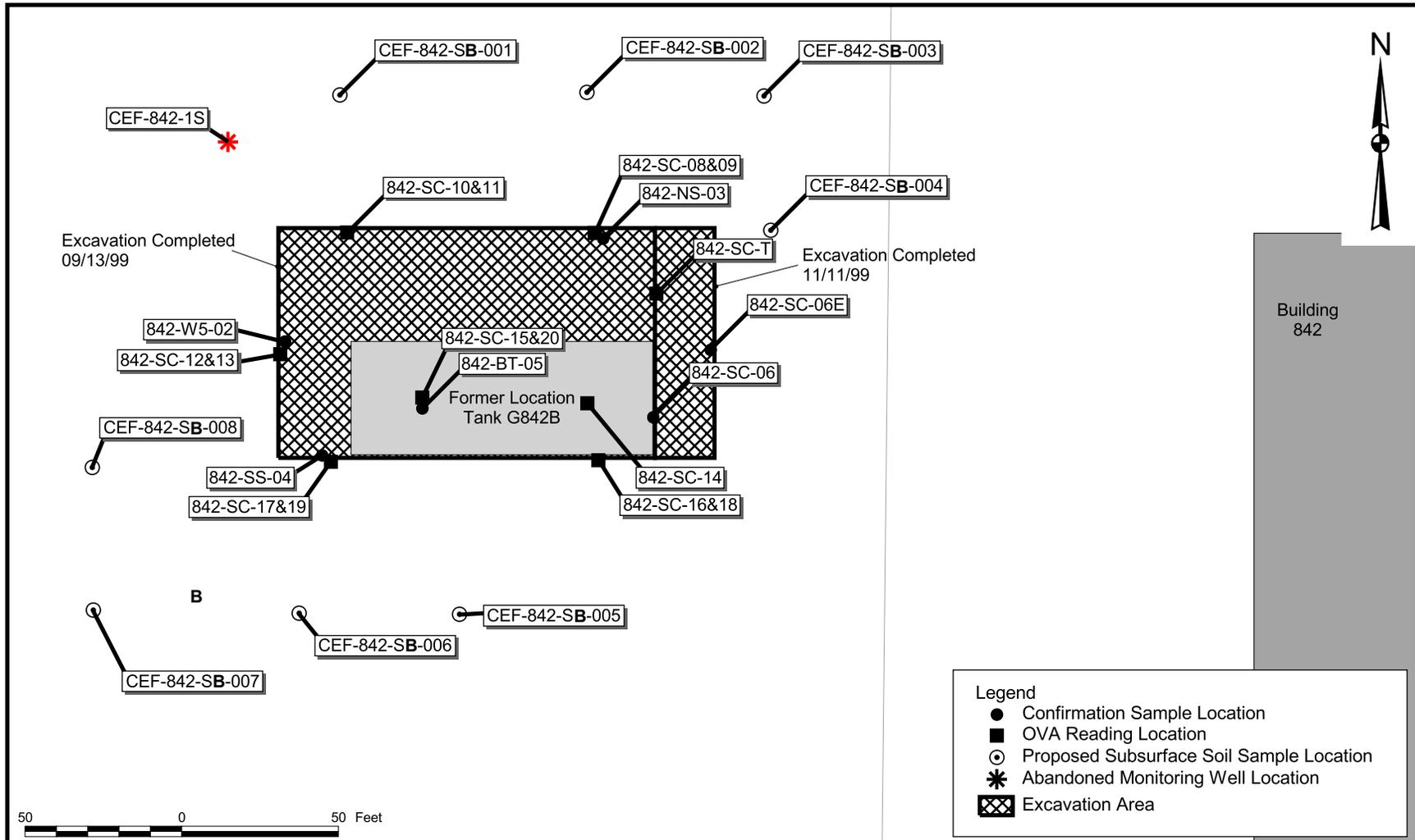


**LEGEND**

- Proposed Subsurface Soil Sample Location (GAG/KAG)
- Proposed Subsurface Soil Sample Location (TRPH)
- Proposed Subsurface Soil Sample Location (TRPH-CWG)
- Existing Soil Sample Location
- ▲ Air Sparge Locations
- Biovent Locations
- Approximate 50 ppm Isoconcentration Contour (RAP; ABB-ES, 1996)

CEF-043-SB01  
 TRPH ← 4800 [340]  
 ← Target Cleanup Level  
 ← Detection Concentration  
 ← TRPH reported in mg/kg  
 ← Other parameters reported in ug/kg  
 ← Parameter

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE		PROPOSED SUBSURFACE SOIL SAMPLE LOCATIONS SOUTH FUEL FARM RAP ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA		CONTRACT NO. 4248	
							CHECKED BY	DATE		APPROVED BY	DATE	APPROVED BY	DATE
							COST/SCHED-AREA						
							SCALE	AS NOTED				DRAWING NO.	REV.
											FIGURE 1	0	



DRAWN BY MJJ	DATE 05Apr03
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



PHASE I SOIL ASSESSMENT  
 BUILDING 842, TANK G842B  
 NAVAL AIR STATION CECIL FIELD  
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 4248	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2	REV 0