

N60200.AR.004061  
NAS CECIL FIELD, FL  
5090.3a

PHASE 5 SAMPLING AND ANALYSIS WORK PLAN FOR DAY TANK 1 FORMER BASIN  
AREA WELL NAS CECIL FIELD FL  
1/13/2005  
TETRA TECH NUS INC

**Phase V Sampling and Analysis Work Plan  
Day Tank 1 – (Former Basin Area Well)  
Naval Air Station Cecil Field  
Jacksonville, Florida**

**January 13, 2005**

Phase V sampling and analysis of groundwater is proposed for the Day Tank 1 in the former Spill Containment Pond area as shown in Figure A. Previous soil sampling activities identified soil contaminated with volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total recoverable petroleum hydrocarbons (TRPH) at concentrations exceeding the Florida Department of Environmental Protection (FDEP) leachability soil cleanup criteria that were removed in 2003 and 2004. This plan covers the installation and sampling on one well in the former Spill Containment Pond area as requested by the FDEP.

During the soil investigations at the Day Tank 1 former Spill Containment Pond area, only one soil sample location (TW-01) had contaminant concentrations that were significantly greater than FDEP criteria. The monitoring well (CEF-293-23S) will be installed at this location. The GPS coordinates of the well location are provided on Figure A. One groundwater sample will be collected using low-flow methods from the new monitoring well (CEF-293-23S) as shown on Figure A and described in Table 1.

The sampling activities, quality assurance/quality control (QA/QC) procedures, and data validation requirements for field activities described in this work plan are in general agreement with the U.S. EPA Region IV Environmental Investigation Standard Operating Procedures (SOPs) and Quality Assurance Manual (EISOPQAM), FDEP SOPs FS3000, Remedial Investigation report for Sites 36 and 37, and current Tetra Tech NUS, Inc. (TtNUS) SOPs. Florida Administrative Code (FAC) 62-160, Quality Assurance Rule (FAC 62-160) was updated in April of 2002 and incorporates new SOPs developed and adopted by the FDEP for the collection and analysis of environmental media. Accordingly, the soil and groundwater activities that will be conducted in this work plan will abide by SOPs FS3000 (for soil) and FS2200 (for groundwater), both of which reference additional applicable SOPs as necessary.

The groundwater monitoring well will be installed in accordance with the EISPOQAM and the Base-Wide Generic Work Plan for NAS Cecil Field, except that split-spoon samples will not be collected. The monitoring well will be screened from approximately 5 to 15 feet bgs with 10-foot long 0.010-inch slotted screen. (The screen will be placed to intersect the water table.) Well construction materials will consist of certified-clean 2-inch inside diameter, flush-threaded, polyvinyl chloride (PVC) screen and riser. A registered land surveyor will survey the completed monitoring well.

Personnel protection equipment and other waste trash (e.g. disposable trowels) will not be considered hazardous and will be disposed in a municipal landfill. Such trash will be collected in a plastic bag and disposed in a suitable trash receptacle.

Sampling 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:

Analysis	Analytical Method	Bottleware	Preservation	Holding Time <sup>(1)</sup>
<b>GROUNDWATER</b>				
VOCs	SW-846 8260B	(2) 40 mL glass, Teflon-lined septum cap	Cool to 4°C, HCl to pH < 2	14 days to analysis
PAHs	SW-846 8310	(1) 1-liter amber glass; Teflon-lined cap	Cool to 4°C	7 days to extraction; 40 days to analysis
TRPH	FL-PRO	(2) 1-liter amber glass; Teflon-lined cap	Cool to 4°C, H <sub>2</sub> SO <sub>4</sub> or HCl to pH < 2	7 days to analysis

1 Holding times are measured from the date/time of sample collection.

Analytical results will be reported on a standard turn around basis.

The laboratory contracted to do this work is as follows:

ACCUTEST SOUTHEAST  
 4405 Vineland Road, Suite C-15  
 Orlando, Florida 32881  
 Attention: Heather Wandrey  
 (407) 425-6700  
 Fax: (407) 425-0707

As agreed upon by the BCT, the collection of rinsate and trip blanks has been eliminated at NAS Cecil Field. In addition, field blanks will not be collected during this sampling program because there will be minimal decontamination of sampling equipment. 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 sampling program.

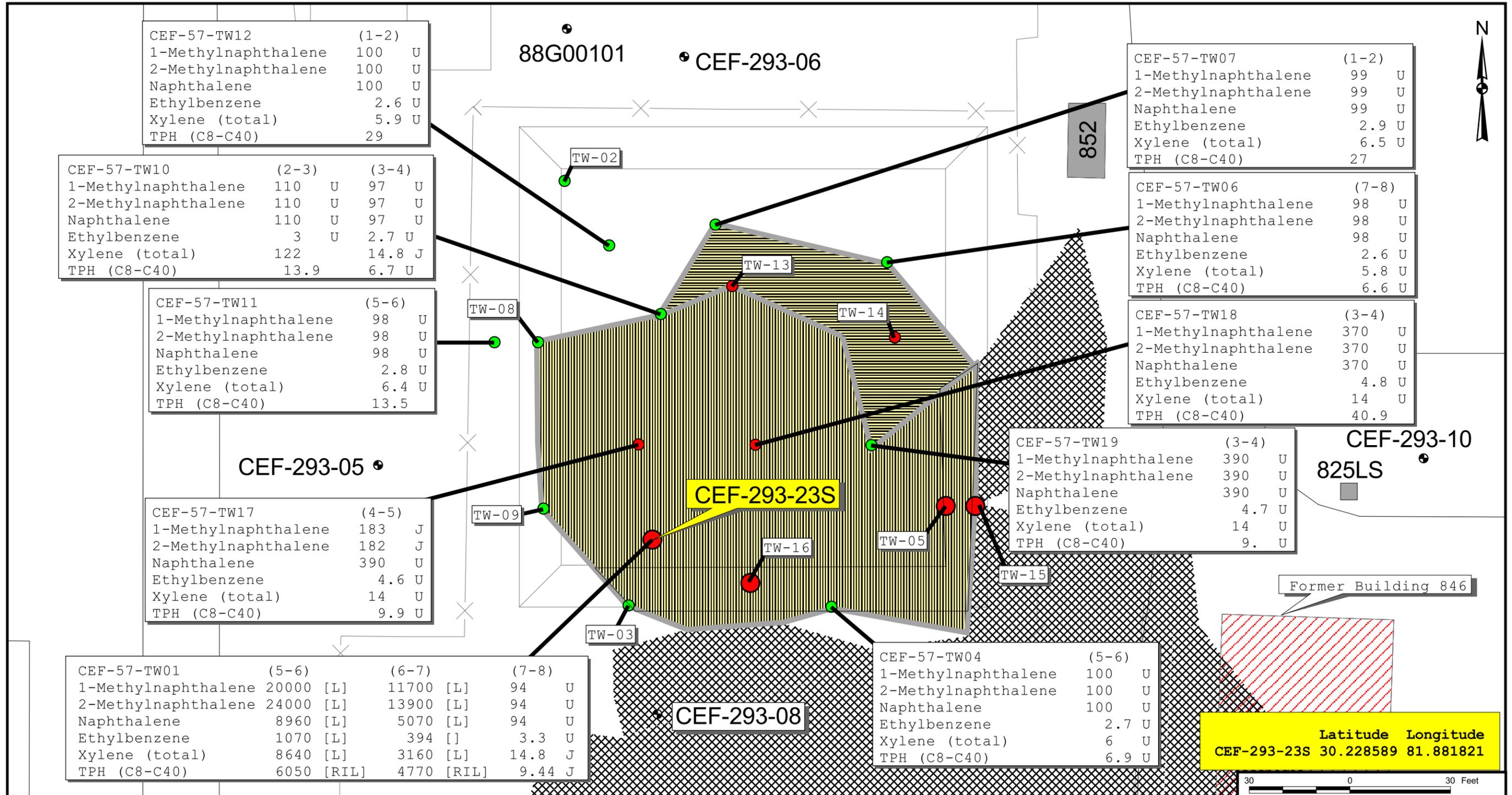
Type of Samples	Frequency	Samples to be Collected
Field Duplicate	1/10 sample/matrix	1 groundwater
Lab MS/MSD	1/20 samples/matrix	1 groundwater

As agreed upon by the BCT, formal data validation has been eliminated from the installation restoration program at NAS Cecil Field. However, the analytical data packages generated by the analytical laboratory will be reviewed by Tetra Tech NUS personnel to eliminate false positives and false negative results.

**Table 1**

**Phase V Sampling and Analysis  
 Day Tank 1 (Former Basin Area Well)**

Sample ID CEF-293-	Location	Analysis		
		VOCs	PAHs	TRPH
<b>GROUNDWATER</b>				
GW-23S-01	Approximate location of basin investigation soil boring TW-1. GPS coordinates to be provided. See figure.	X	X	X



CEF-57-TW12	(1-2)	
1-Methylnaphthalene	100	U
2-Methylnaphthalene	100	U
Naphthalene	100	U
Ethylbenzene	2.6	U
Xylene (total)	5.9	U
TPH (C8-C40)	29	

CEF-57-TW07	(1-2)	
1-Methylnaphthalene	99	U
2-Methylnaphthalene	99	U
Naphthalene	99	U
Ethylbenzene	2.9	U
Xylene (total)	6.5	U
TPH (C8-C40)	27	

CEF-57-TW10	(2-3)	(3-4)		
1-Methylnaphthalene	110	U	97	U
2-Methylnaphthalene	110	U	97	U
Naphthalene	110	U	97	U
Ethylbenzene	3	U	2.7	U
Xylene (total)	122		14.8	J
TPH (C8-C40)	13.9		6.7	U

CEF-57-TW06	(7-8)	
1-Methylnaphthalene	98	U
2-Methylnaphthalene	98	U
Naphthalene	98	U
Ethylbenzene	2.6	U
Xylene (total)	5.8	U
TPH (C8-C40)	6.6	U

CEF-57-TW11	(5-6)	
1-Methylnaphthalene	98	U
2-Methylnaphthalene	98	U
Naphthalene	98	U
Ethylbenzene	2.8	U
Xylene (total)	6.4	U
TPH (C8-C40)	13.5	

CEF-57-TW18	(3-4)	
1-Methylnaphthalene	370	U
2-Methylnaphthalene	370	U
Naphthalene	370	U
Ethylbenzene	4.8	U
Xylene (total)	14	U
TPH (C8-C40)	40.9	

CEF-57-TW17	(4-5)	
1-Methylnaphthalene	183	J
2-Methylnaphthalene	182	J
Naphthalene	390	U
Ethylbenzene	4.6	U
Xylene (total)	14	U
TPH (C8-C40)	9.9	U

CEF-57-TW19	(3-4)	
1-Methylnaphthalene	390	U
2-Methylnaphthalene	390	U
Naphthalene	390	U
Ethylbenzene	4.7	U
Xylene (total)	14	U
TPH (C8-C40)	9.0	U

CEF-57-TW01	(5-6)	(6-7)	(7-8)
1-Methylnaphthalene	20000 [L]	11700 [L]	94 U
2-Methylnaphthalene	24000 [L]	13900 [L]	94 U
Naphthalene	8960 [L]	5070 [L]	94 U
Ethylbenzene	1070 [L]	394 [L]	3.3 U
Xylene (total)	8640 [L]	3160 [L]	14.8 J
TPH (C8-C40)	6050 [RIL]	4770 [RIL]	9.44 J

CEF-57-TW04	(5-6)	
1-Methylnaphthalene	100	U
2-Methylnaphthalene	100	U
Naphthalene	100	U
Ethylbenzene	2.7	U
Xylene (total)	6	U
TPH (C8-C40)	6.9	U

Latitude Longitude  
**CEF-293-23S 30.228589 81.881821**



**Legend**

- Sample Concentration Less Than SCTL or corrected FID reading below 100 ppm
- Sample Concentration Greater Than SCTL or corrected FID reading below 100 ppm
- ▨ Areas excavated prior to Basin Investigation
- ▨ Areas to be excavated, shallow
- ▨ Areas to be excavated, deep
- Sample Location
- Sample Depth (feet below surface)
- R - indicates exceeded Residential SCTL
- I - indicates exceeded Industrial SCTL
- L - indicates exceeded Leachability SCTL
- Reported Concentration
- Parameter

DRAWN BY	DATE
MJJ	02Jun04
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	
AS NOTED	



**PROPOSED MONITORING WELL LOCATION AND  
 BASIN EXCAVATION PLAN  
 DAY TANK 1 SARA No. 2  
 NAVAL AIR STATION CECIL FIELD  
 JACKSONVILLE, FLORIDA**

CONTRACT NO. 0039	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE A	REV. 0