

N60200.AR.001959  
NAS CECIL FIELD, FL  
5090.3a

SAMPLING AND ANALYSIS WORK PLAN FOR POTENTIAL SOURCE OF CONTAMINATION  
54 FACILITY 290 NAS CECIL FIELD FL  
6/10/1999  
TETRA TECH NUS INC

**Sampling and Analysis Work Plan  
PSC 54, Facility 290  
Naval Air Station Cecil Field  
Jacksonville, Florida**

**June 10, 1999**

Sampling and analysis of groundwater is proposed for PSC 54, Facility 290 as shown in Figure A. Sampling and analysis will be conducted to delineate the contamination found during previous sampling activities which identified naphthalene in a groundwater sample exceeding the Florida Department of Environmental Protection (FDEP) groundwater cleanup criteria. Figure B presents this exceedence as well as the elevated laboratory detection limits that exceeded the groundwater criteria. These elevated laboratory detection limits just exceed the groundwater criteria. There are no federal or state regulatory groundwater criteria for magnesium that just exceeds the NAS Cecil Field Inorganic Background Data Set.

The previous sampling activities consisted of the collection and analysis of soil samples at the storage tanks (one underground and one above ground) near Facility 290A, groundwater samples from the monitoring wells near these tanks, and a groundwater sample from the monitoring well south of Facility 290 downgradient of the septic system. Naphthalene was detected in the monitoring well south of Facility 290 that exceeded the cleanup criteria. The other samples (soil and groundwater) were obtained as part of the confirmatory sampling for the storage tanks and the results did not indicate the presence of contamination above the FDEP cleanup criteria.

The objective of this sampling event is to install 2 groundwater monitoring wells and to collect and analyze groundwater samples from the 2 new wells and the existing monitoring well (CEF-290-01S) downgradient of the septic system. The groundwater samples will be analyzed for the polycyclic aromatic hydrocarbons (PAHs) per the May 19, 1999 Base Realignment and Closure Team (BCT) meeting (Minutes Ref. No. 902).

Groundwater elevations will be collected from the existing monitoring wells to determine the direction of groundwater flow prior to the installation of the new wells. The 2 groundwater monitoring wells will be installed one downgradient of the septic system near Perimeter Road and one upgradient between the storage tank (Facility 290A) and the septic system. It has been assumed that the groundwater flow at PSC 54 is to the southeast based on the Sampling and Analysis Reports for Facility 290 and 290A. The groundwater monitoring wells will be installed to a depth of 15 feet

The sampling activities and procedures described in this work plan will be performed in accordance with the U.S. EPA Region 4 Environmental Investigation Standard Operating Procedures and Quality Assurance Manual (EISOPQAM) and the Base-Wide Generic Work Plan for Naval Air Station (NAS) Cecil Field. Specifically, the Base-Wide Generic Work Plan includes procedures for management of investigation-derived wastes in Volume I and standard operating procedures in the Project Operations Plan in Volume II.

The groundwater monitoring wells described in this work plan will be installed in accordance with the EISPOQAM and the Base-Wide Generic Work Plan for NAS Cecil Field. Soil borings will be drilled, split-samples will be collected, samples will be field screened with a flame ionization detector, and the borehole will be logged before being converted into a monitoring well. The monitoring well will be screened from approximately 5 to 15 feet below ground surface with 10-foot long, 0.010-inch slot screens. The wells will be constructed with certified-clean well construction material and constructed of 2-inch inside diameter, flush-threaded, polyvinyl chloride well screen and well casing riser. A registered land surveyor will survey the completed monitoring wells.

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. Decontamination of the equipment for installation of the monitoring wells will be in accordance with the EISPOQAM and the Base-Wide Generic Work Plan for NAS Cecil Field. The field operations leader through NAS CECIL Field personnel will arrange an area for the decontamination pad for the equipment and a source of potable water for steam washing. Decontamination fluids will be collected and stored in a drum at PSC 54. Upon completion of the investigation, a sample of the decontamination water and the drill cuttings will be collected for analyzed for disposal requirements.

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>
PAHs	SW-846 8310	1 1-liter amber glass; Teflon-lined cap	Cool to 4°C	7 days to extraction; 40 days to analysis

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

Analytical results will be reported on a 14-day 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: Susan Gaudios  
 (407) 425-5700  
 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.

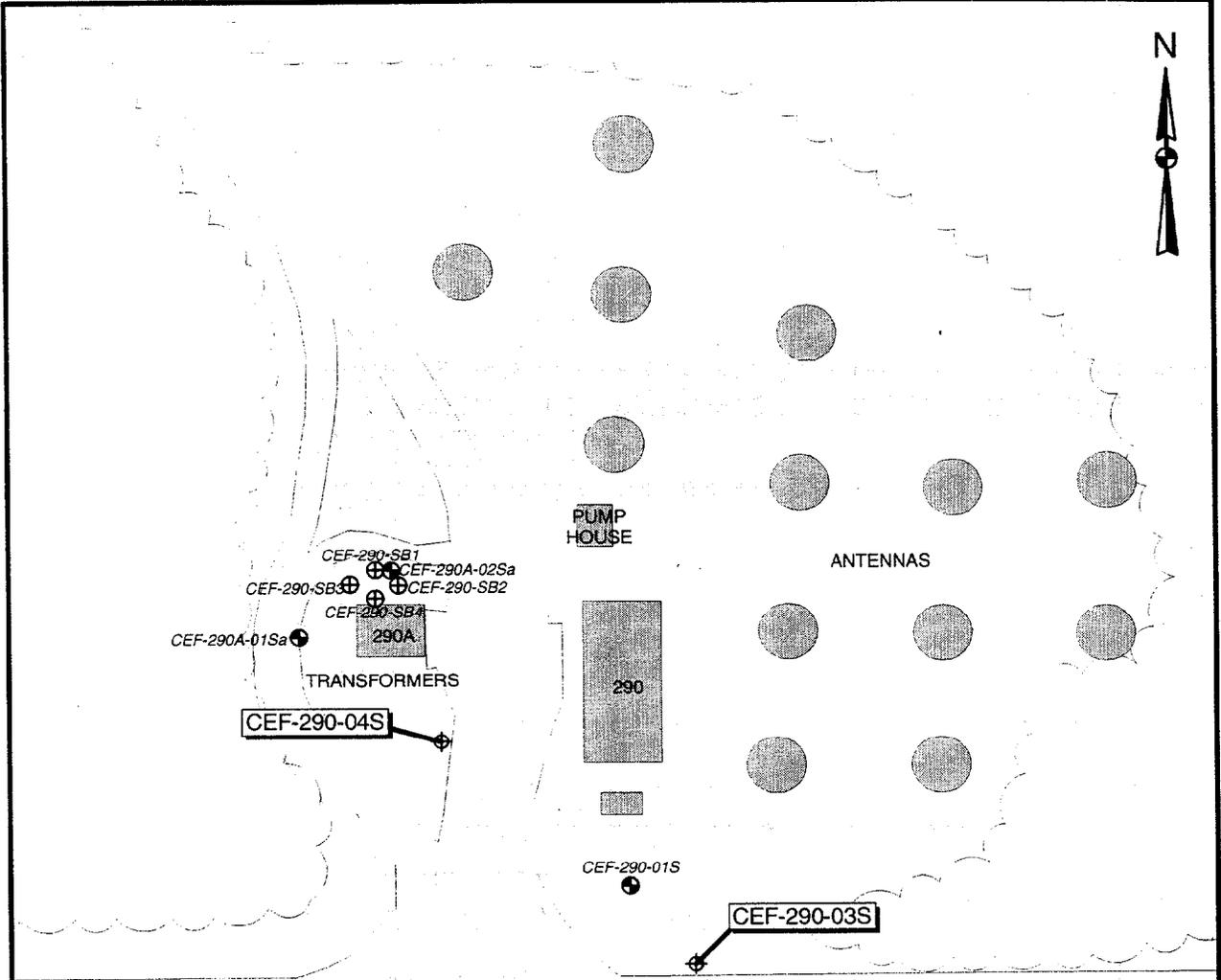
Type of Samples	Frequency	Samples to be Collected
Field Duplicate	1/10 sample/matrix	1
Lab MS/MSD	1/20 samples/matrix	1 <sup>(1)</sup>

1 MS/MSD is a laboratory QA/QC requirement, separate samples not required, only additional volume (2x).

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**  
**Sampling and Analysis**  
**PSC 54, Facility 290**

Sample ID	Location	Analysis
		PAHs
<b>CEF-P54-GW-</b>		
01S-01 (CEF-290-01S)	Existing monitoring well CEF-290-01S south of Facility 290A near the septic system	X
04S-01 (CEF-290-03S)	New monitoring well downgradient of the septic system near the Perimeter Road	X
04S-01 (CEF-290-04S)	New monitoring well between the tank (Facility 290A) and the septic system.	X

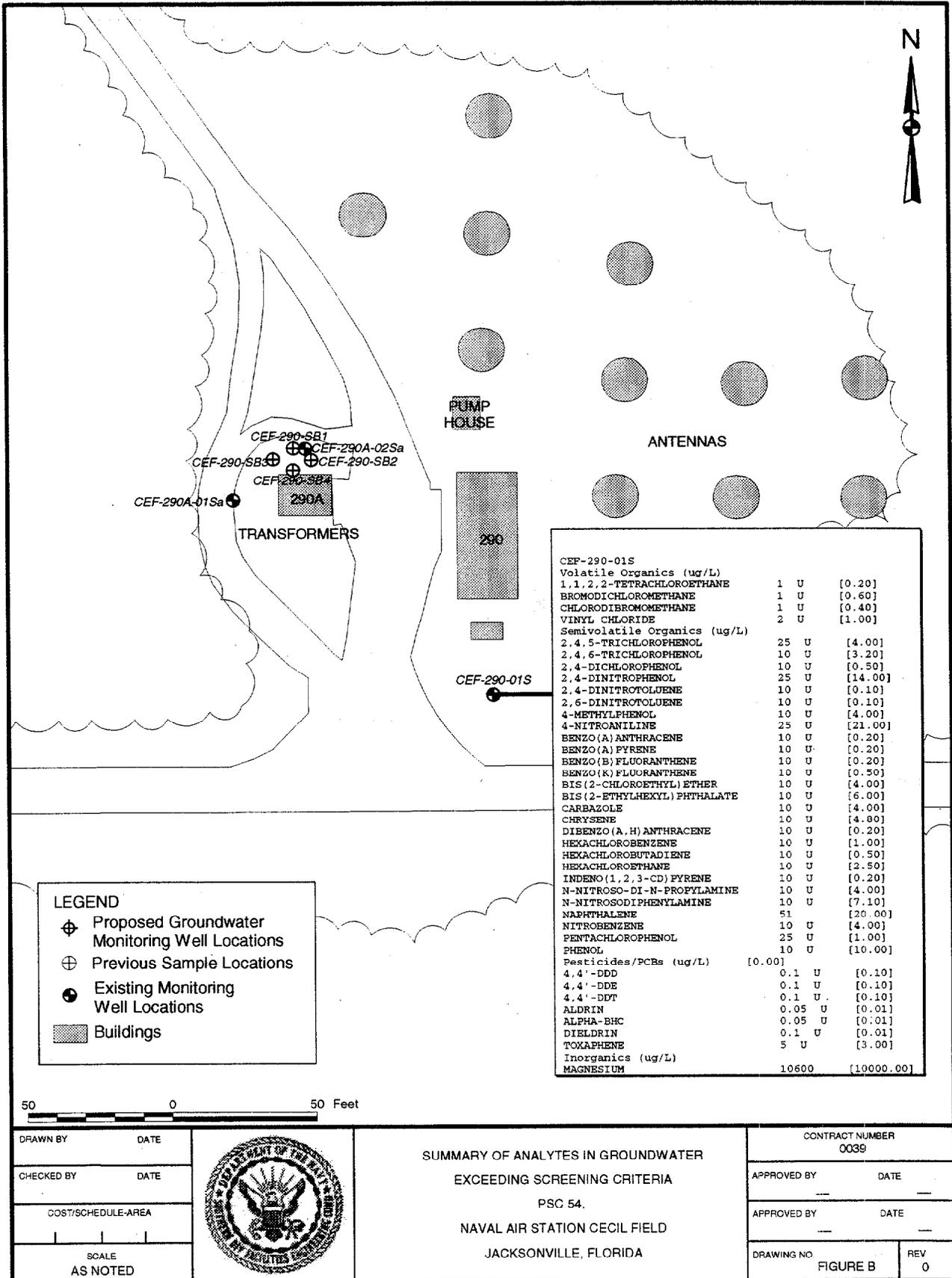


**LEGEND**

- ⊕ Proposed Groundwater Monitoring Well Locations
- ⊕ Previous Sample Locations
- Existing Monitoring Well Locations
- ▒ Buildings

50 0 50 Feet

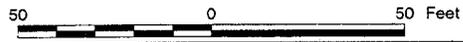
DRAWN BY	DATE		<b>PROPOSED GROUNDWATER MONITORING WELLS AND SAMPLING LOCATIONS</b> PSC 54, NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA		CONTRACT NUMBER 0039
CHECKED BY	DATE		APPROVED BY	DATE	
COST/SCHEDULE-AREA			APPROVED BY	DATE	
SCALE AS NOTED			DRAWING NO. FIGURE A	REV 0	



**LEGEND**

- ⊕ Proposed Groundwater Monitoring Well Locations
- ⊕ Previous Sample Locations
- ⊕ Existing Monitoring Well Locations
- ▒ Buildings

CEF-290-01S		
Volatile Organics (ug/L)		
1,1,2,2-TETRACHLOROETHANE	1 U	[0.20]
BROMODICHLOROMETHANE	1 U	[0.60]
CHLORODIBROMOMETHANE	1 U	[0.40]
VINYL CHLORIDE	2 U	[1.00]
Semivolatile Organics (ug/L)		
2,4,5-TRICHLOROPHENOL	25 U	[4.00]
2,4,6-TRICHLOROPHENOL	10 U	[3.20]
2,4-DICHLOROPHENOL	10 U	[0.50]
2,4-DINITROPHENOL	25 U	[14.00]
2,4-DINITROTOLUENE	10 U	[0.10]
2,6-DINITROTOLUENE	10 U	[0.10]
4-METHYLPHENOL	10 U	[4.00]
4-NITROANILINE	25 U	[21.00]
BENZO(A) ANTHRACENE	10 U	[0.20]
BENZO(A) PYRENE	10 U	[0.20]
BENZO(B) FLUORANTHENE	10 U	[0.20]
BENZO(K) FLUORANTHENE	10 U	[0.50]
BIS(2-CHLOROETHYL) ETHER	10 U	[4.00]
BIS(2-ETHYLHEXYL) PHTHALATE	10 U	[6.00]
CARBAZOLE	10 U	[4.00]
CHRYSENE	10 U	[4.80]
DIBENZO(A, H) ANTHRACENE	10 U	[0.20]
HEXACHLOROBENZENE	10 U	[1.00]
HEXACHLOROBUTADIENE	10 U	[0.50]
HEXACHLOROETHANE	10 U	[2.50]
INDENO(1,2,3-CD) PYRENE	10 U	[0.20]
N-NITROSO-DI-N-PROPYLAMINE	10 U	[4.00]
N-NITROSODIPHENYLAMINE	10 U	[7.10]
NAPHTHALENE	51	[20.00]
NITROBENZENE	10 U	[4.00]
PENTACHLOROPHENOL	25 U	[1.00]
PHENOL	10 U	[10.00]
Pesticides/PCBs (ug/L) [0.00]		
4,4'-DDD	0.1 U	[0.10]
4,4'-DDE	0.1 U	[0.10]
4,4'-DDT	0.1 U	[0.10]
ALDRIN	0.05 U	[0.01]
ALPHA-BHC	0.05 U	[0.01]
DIELDRIN	0.1 U	[0.01]
TOXAPHENE	5 U	[3.00]
Inorganics (ug/L)		
MAGNESIUM	10600	[10000.00]



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



**SUMMARY OF ANALYTES IN GROUNDWATER**  
**EXCEEDING SCREENING CRITERIA**  
 PSC 54,  
 NAVAL AIR STATION CECIL FIELD  
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0039	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO FIGURE B	REV 0