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NAS CECIL FIELD, FL  
5090.3a

PHASE 4 SAMPLING AND ANALYSIS WORK PLAN FOR BUILDING 824A GROUNDWATER  
SAMPLING NAS CECIL FIELD FL  
12/15/2000  
TETRA TECH NUS INC

**Phase IV Sampling and Analysis Work Plan  
Building 824A Groundwater Sampling  
Naval Air Station Cecil Field  
Jacksonville, Florida**

**December 15, 2000**

Additional well installation and sampling and analysis of groundwater is proposed in the area of Building 824A, as shown in Figure A. The Phase IV investigation will include the installation of four shallow wells and one intermediate well to investigate groundwater in the area. These wells, along with wells CEF-293-10, CEF-293-11, CEF-293-19, CEF-293-20, CEF-293-21, CEF-293-22, and CEF-825LS-1S, will be sampled and analyzed for volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) (see Table 1). A round of synoptic water levels will be collected from the all sampled wells, 7 existing 824A wells (824A-1Sa through -7S), and also from one nearby Day Tank 1 wells (CEF-293-13).

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.

Prior to the installation of wells, utilities must be located or cleared at each location. The locations of the wells shown on Figure A are based on existing information about the storm sewers. Prior to locating the wells in the field, the location of the storm sewers will be confirmed based on the associated catch basins. Well locations will be adjusted as needed to avoid interference, and the same relative positions relative to the storm sewer will be maintained.

The new shallow wells, CEF-824A-08S through -11S will be installed to a depth of 15 feet below ground surface (bgs), and the new intermediate well, CEF-824-12I, will be installed to a depth of 40 feet bgs. Well screens will be 0.010-inch slot, with a screen length of 10 feet for the shallow wells and five feet for the intermediate well. Each well will be constructed of certified-clean well construction material consisting of 2-inch, flush-threaded PVC well screen and riser. The locations and top of casing elevations will be surveyed by a registered surveyor. In addition to the newly installed wells, 293-10, 293-22, 825LS-1S, 817-1S, and 825-1S will also be surveyed as part of this investigation. The groundwater will be sampled using low-flow techniques.

Well installation and 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.

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>
VOCs	SW-846 8260B	2 40-ml glass; Teflon-lined septum	Cool to 4° C pH < 2 with HCl	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

(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: Linda Williams  
(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	2
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**

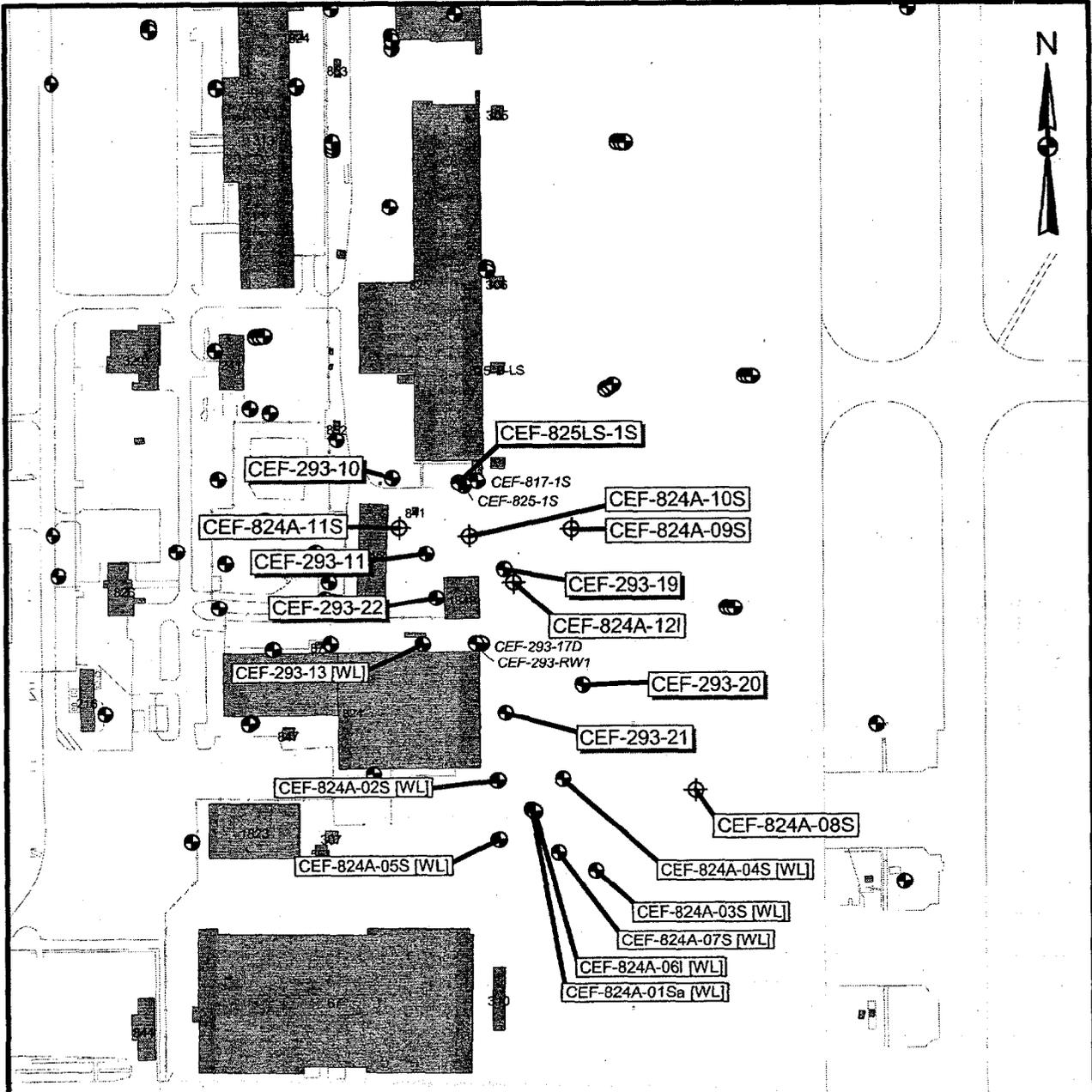
**Phase IV Sampling and Analysis  
Building 824A Groundwater Sampling**

Sample ID	Location	Analysis	
		VOCs	PAHs Method 8310
CEF-824A-GW-08S-01	From new well CEF-824A-08S	X	X
CEF-824A-GW-09S-01	From new well CEF-824A-09S	X	X
CEF-824A-GW-10S-01	From new well CEF-824A-10S	X	X
CEF-824A-GW-11S-01	From new well CEF-824A-11S	X	X
CEF-824A-GW-12I-01	From new well CEF-824A-12I	X	X
CEF-293-GW-10-A2	From existing well CEF-293-10	X	X
CEF-293-GW-11-A2	From existing well CEF-293-11	X	X
CEF-293-GW-19-A2	From existing well CEF-293-19	X	X
CEF-293-GW-20-A2	From existing well CEF-293-20	X	X
CEF-293-GW-21-A2	From existing well CEF-293-21	X	X
CEF-293-GW-22-A2	From existing well CEF-293-22	X	X
CEF-825LS-GW-1S-01	From existing well CEF-825LS-1S	X	X

**NOTES:**

1 – Also measure water levels at CEF-824A-1Sa through -7S, and CEF-293-13.

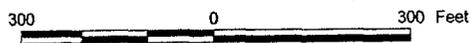
2 – The sample numbers for existing wells at 293 are denoted by A2 to distinguish the sampling from the routine Day Tank 1 MONA sampling.



LOCATION	EASTING	NORTHING
CEF-824A-08S	378444.84	2143591.88
CEF-824A-09S	378221.71	2144070.77
CEF-824A-10S	378041.19	2144058.15
CEF-824A-11S	377915.68	2144073.47
CEF-824A-12I	378117.27	2143973.16

**Legend**

- Proposed Monitoring Well Locations
- Existing Monitoring Well Locations
- Well to be sampled
- Water level only



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



**PROPOSED MONITORING WELL LOCATIONS**  
 BUILDING 824A  
 NAS CECIL FIELD  
 JACKSONVILLE, FLORIDA

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