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NAS CECIL FIELD, FL
5090.3a

PHASE 2 SAMPLING AND ANALYSIS WORK PLAN FOR POTENTIAL SOURCE OF
CONTAMINATION 21 GOLF COURSE PESTICIDE MIXING AREA NAS CECIL FIELD FL
6/10/1999
TETRA TECH NUS INC

**Phase II Sampling and Analysis Work Plan
PSC 21, Golf Course Pesticide Mixing Area
Naval Air Station Cecil Field
Jacksonville, Florida**

June 10, 1999

Phase II sampling and analysis of the surface soils is proposed for PSC 21, Golf Course Pesticide Mixing Area as shown in Figure A. Phase II sampling and analysis will be conducted to further delineate the contamination identified during and previous sampling activities which identified herbicides and pesticides (alpha-Chlordane, dieldrin, gamma-Chlordane, Chlordane, 4,4-DDD, 4,4-DDT, MCPA, and Toxaphene), total petroleum hydrocarbons (TPH), arsenic, and vanadium in soil samples exceeding the Florida Department of Environmental Protection (FDEP) residential soil cleanup criteria. Phase I sampling identified exceedances of pesticides/PCBs and arsenic criteria.

The objective of Phase II sampling is to collect surface soil samples to complete delineation of the extent of contamination. A total of 13 soil samples will be collected during Phase II from the approximate locations identified on Figure A and summarized in the attached table. The soil samples to be collected and the analysis of the samples are described below.

- CEF-P21-SS-101-01 and CEF-P21-SS-102-01 will be located 15 feet north and east, respectively, of CEF-P21-SS-003 and analyzed for arsenic.
- CEF-P21-SS-103-01 and CEF-P21-SS-104-01 will be located 15 feet north and east, respectively, of CEF-P21-SS-009 and analyzed for arsenic and pesticides/PCBs. Sampling for organophosphorus pesticides and herbicides were not proposed because none of these compounds were detected during Phase I sampling.
- CEF-P21-SS-105-01 will be located 15 feet east of CEF-P21-SS-014, and CEF-P21-SS-106-01 will be located due south of CEF-P21-SS-105 along the northern edge of the roadway and analyzed for arsenic and pesticides/PCBs
- CEF-P21-SS-107-01 will be located south of CEF-P21-SS-017, north of the northern edge of Building 398, approximately 40 feet east of sample 90S02501 and analyzed for arsenic.
- CEF-P21-SS-108-01 will be located 50 feet west of CEF-P21-SS-017, between sample 90S02501 and the CEF-P21-SS-109 location. CEF-P21-SS-109-01 will be located along the tree line west of CEF-P21-SS-010. These samples will be analyzed for arsenic.
- Sample location CEF-P21-SS-110 will be located along the tree line west of CEF-P21-SS-004, and sample location CEF-P21-SS-111 will be located 15 feet north of CEF-P21-SS-004. Samples to be collected from these locations include CEF-P21-SS-110-01 and CEF-P21-111-01 (0- to 1-foot) and CEF-P21-SS-110-02 and CEF-P21-SS-111-02 (1- to 2-foot), These four samples will be analyzed for arsenic and pesticides/PCBs.
- CEF-P21-SS-112-01 and CEF-P21-SS-113-01 will be located 15 feet north and east, respectively, of CEF-P21-SS-018 and analyzed for arsenic.
- Sample location CEF-P21-SS-114 will be 5 feet southeast of CEF-P21-SS-008, parallel to the nearby ditch. Sample location CEF-P21-SS-115 will be 15 feet southeast of CEF-P21-SS-114, parallel to the ditch. Sample location CEF-P21-SS-116 will be due south of CEF-P21-SS-115. These locations were chosen to define the vertical extent of arsenic contamination detected during previous sampling (90S01402 and 90S01502). Two samples will be collected from each of these borings from the 1- to 2-foot interval and the 2- to 3-foot interval. Samples will be analyzed for arsenic, and sample numbers are included in Table 1.

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 surface soil samples will be collected as grab samples using plastic, disposable trowels. Because disposable trowels will be used, decontamination of sampling equipment will not be necessary. The propose surface soil sample and monitoring well locations shall be located by a registered land surveyor and marked with a wooden stake or pin flag labeled with the sample identification. The sampling crew will work with the survey crew to establish the best procedures to limit the time between the marking the location and collecting the sample.

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. Removed soil from the surface soil sampling in excess of sampling volume requirements will be placed back on the ground and the turf replaced or repaired.

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 ⁽¹⁾
Pesticides/PCBs	SW-846 8081A and 8082	3 8-oz. glass jar	Cool to 4°C	14 days to extraction; 40 days to analysis
Arsenic	SW-846 6010B	8-oz. glass jar	Cool to 4°C	180 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	2
Lab MS/MSD	1/20 samples/matrix	1

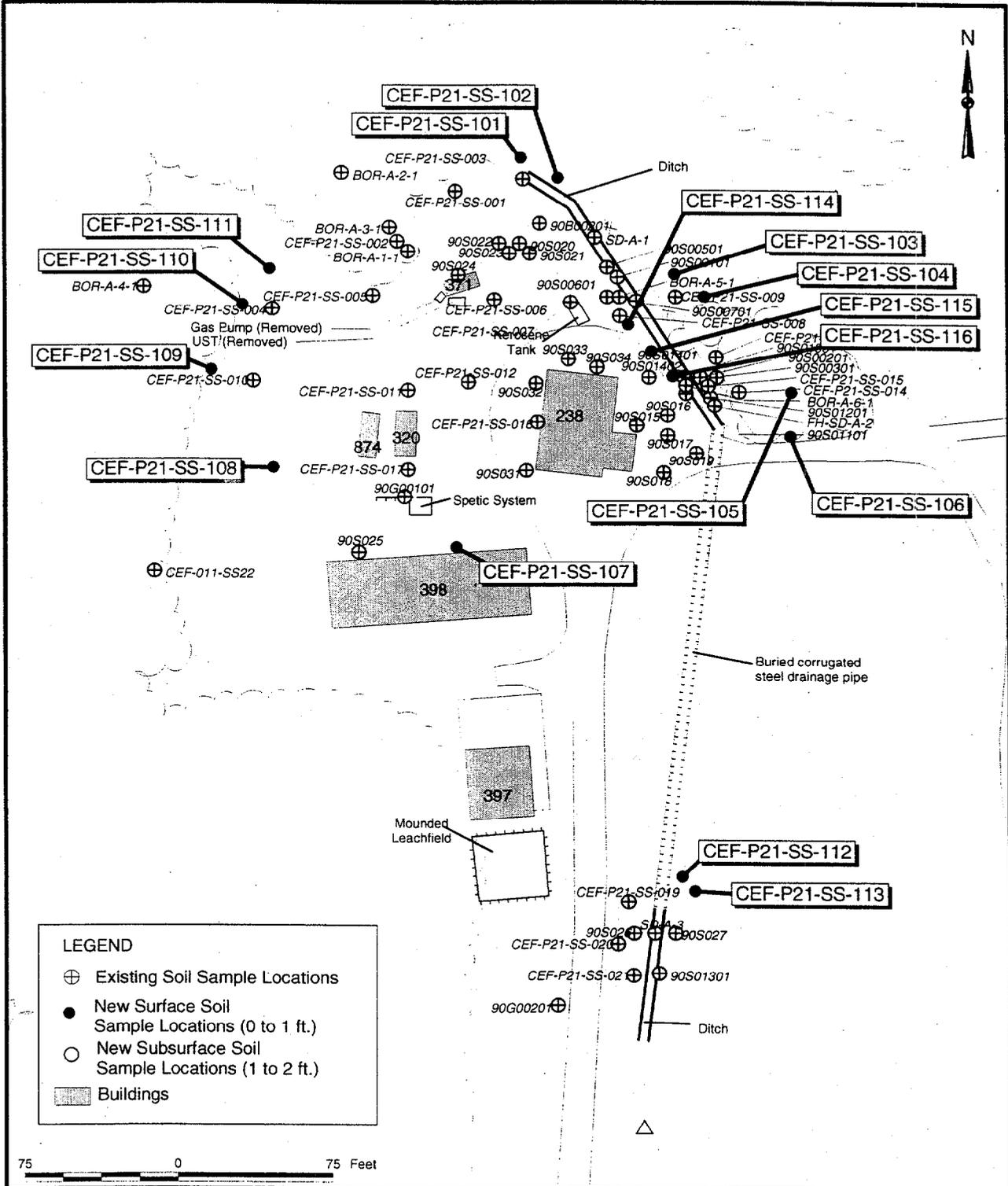
As agreed upon by the BCT, formal data validation has been eliminated from the installation restoration program at NAS Cecil Field. However, the analytical data packages generated by the analytical laboratory will be reviewed by Tetra Tech NUS personnel to eliminate false positives and false negative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

Table 1
Sampling and Analysis
PSC 21, Golf Course Pesticide Mixing Area

Sample ID	Location	Analysis	
		Pest/PCBs	Arsenic
CEF-P21-			
SS-101-01	15 feet north of CEF-P21-SS-003 (0 to 1 feet)		X
SS-102-01	15 feet east of CEF-P21-SS-003 (0 to 1 feet)		X
SS-103-01	15 feet north of CEF-P21-SS-009 (0 to 1 feet)	X	X
SS-104-01	15 feet east of CEF-P21-SS-009 (0 to 1 feet)	X	X
SS-105-01	15 feet east of CEF-P21-SS-014 (0 to 1 feet)	X	X
SS-106-01	Due south of CEF-P21-SS-105, along northern edge of roadway (0 to 1 feet)	X	X
SS-107-01	South of CEF-P21-SS-017, north of Bldg. 398, approximately 40 feet east of 90S02501 (0 to 1 feet)		X
SS-108-01	50 feet west of CEF-P21-SS-017, between sample 90S02501 and CEF-P21-SS-109 (0 to 1 feet)		X
SS-109-01	Along tree line west of CEF-P21-SS-010 (0 to 1 feet)		X
SS-110-01	Along tree line west of CEF-P21-SS-004 (0 to 1 feet)	X	X
SS-110-02	Along tree line west of CEF-P21-SS-004 (1 to 2 feet)	X	X
SS-111-01	15 feet north of CEF-P21-SS-004 (0 to 1 feet)	X	X
SS-111-02	15 feet north of CEF-P21-SS-004 (1 to 2 feet)	X	X
SS-112-01	15 feet north of CEF-P21-SS-018 (0 to 1 feet)		X
SS-113-01	15 feet east of CEF-P21-SS-018 (0 to 1 feet)		X
SS-114-02	5 feet southeast of CEF-P21-SS-008, parallel to ditch (1 to 2 feet)		X
SU-114-03	5 feet southeast of CEF-P21-SS-008, parallel to ditch (2 to 3 feet)		X
SS-115-02	15 feet southeast of CEF-P21-SS-008, parallel to ditch (1 to 2 feet)		X
SU-115-03	15 feet southeast of CEF-P21-SS-008, parallel to ditch (2 to 3 feet)		X
SS-116-02	15 feet due south of CEF-P21-SS-115 (1 to 2 feet)		X
SU-116-03	15 feet due south of CEF-P21-SS-115 (2 to 3 feet)		X

Pest/PCBs = Pesticides and Polychlorinated biphenyls

10-Jun-99



LEGEND

- ⊕ Existing Soil Sample Locations
- New Surface Soil Sample Locations (0 to 1 ft.)
- New Subsurface Soil Sample Locations (1 to 2 ft.)
- ▒ Buildings

75 0 75 Feet

DRAWN BY MJJ	DATE 04/06/99
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



Phase II
 PROPOSED SOIL SAMPLE LOCATIONS
 PSC 21, GOLF COURSE PESTICIDE MIXING AREA
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

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