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NAS CECIL FIELD, FL
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GROUNDWATER SAMPLING WORK PLAN FOR BUILDING 605 NAS CECIL FIELD FL
1/23/2002
TETRA TECH NUS INC

GROUNDWATER SAMPLING WORK PLAN
BUILDING 605
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

INTRODUCTION

This groundwater sampling work plan has been prepared to provide information regarding the groundwater investigation to be conducted near Building 605. Semi-annual groundwater monitoring has been proposed to address chloroethane contamination identified in one monitoring well in the area of Building 605. The extent of groundwater contamination in this area was delineated during previous groundwater sampling events.

Building 605 is located within the Yellow Water Weapons Compound on the southern side of Main Road (Figure 1). The facility is referred to as the Marine Barracks in the Environmental Baseline Survey (EBS) Report (ABB Environmental Services, Inc., 1994).

The EBS identified the presence of friable asbestos and a 3,000-gallon fuel oil underground storage tank (UST). The asbestos was addressed in the Asbestos Management Plan (ABB-ES, 1995) that recommended abatement of accessible asbestos in this facility and an O&M plan for the insitu management of the remaining non-accessible asbestos. The UST was addressed under the Tank Management Plan. The EBS identified pole-mounted transformers; however, no visible indication of dielectric fluid leakage was noted so no additional investigation for this potential PCB-contamination source was required.

SUMMARY OF PREVIOUS GROUNDWATER INVESTIGATIONS

Groundwater contamination was first identified in monitoring well CEF-605-3S in July 1998. This was the only well in the area of Building 605 with an exceedance of the Florida Groundwater Cleanup Target Level (GCTL) under Chapter 62-777 F.A.C. The result, which exceeded the criterion was chloroethane with a concentration of 17 ug/L and 20 ug/L in the duplicate sample. The GCTL for chloroethane is 12 ug/L. In October 2000 monitoring well CEF-605-3S was re-sampled to confirm the 1998 results. As presented in Table 1 and shown on Figure 2, the concentration of chloroethane remained approximately the same with a result of 19 ug/L.

The BCT decided to conduct an Air Sparging Treatability Study to determine if this low concentration of chloroethane contamination in one monitoring well could be reduced. Prior to conducting the Air Sparging

test, a groundwater sample was collected on April 4, 2001 at CEF-605-3S. This sample had a chloroethane concentration of 13.3 ug/L. The Air Sparge test was conducted over a 24-hour period. One week after the Air Sparge test another groundwater sample was collected which provided a result of 1.2 J ug/L chloroethane. One month after the Air Sparge test was completed, well CEF-605-3S was again sampled and a result of 29.4 ug/L, and 30.6 ug/L for the duplicate, was obtained. The BCT decided to collect a round of groundwater samples in July 2001 from the three area wells (CEF-605-3S, 4S, and 6S) to verify the delineation of the plume. The results identified that chloroethane contamination was still limited to CEF-605-3S. Sampling results were presented to the BCT during the groundwater updates.

PROPOSED GROUNDWATER INVESTIGATION

Semi-annual groundwater sampling will be implemented to evaluate the effectiveness of natural degradation (via dilution, dispersion, and degradation) on chloroethane at this site. The next round of sampling will be conducted in early February 2002 and will include one well, CEF-605-3S, for TCL VOC analysis.

A complete round of synoptic water levels will be collected from the existing four wells shown on Figure 2 prior to purging and sampling.

Sampling handling, bottleware, preservation, and holding time requirements for proposed groundwater and sediment analyses for COCs are presented in Table 2.

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. No duplicate or MS/MSD samples will be required until the site is subject to final closeout sampling.

The well sampling activities, QA/QC procedures, and data validation requirements for field activities described in this work plan will be performed in accordance with the U.S. EPA Region IV Environmental Investigation Standard Operating Procedures and Quality Assurance Manual (EISOPQAM) and the Site 36/37 RI. 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.

TABLE 1

SUMMARY OF CHEMICALS OF CONCERN IN GROUNDWATER
BUILDING 605
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

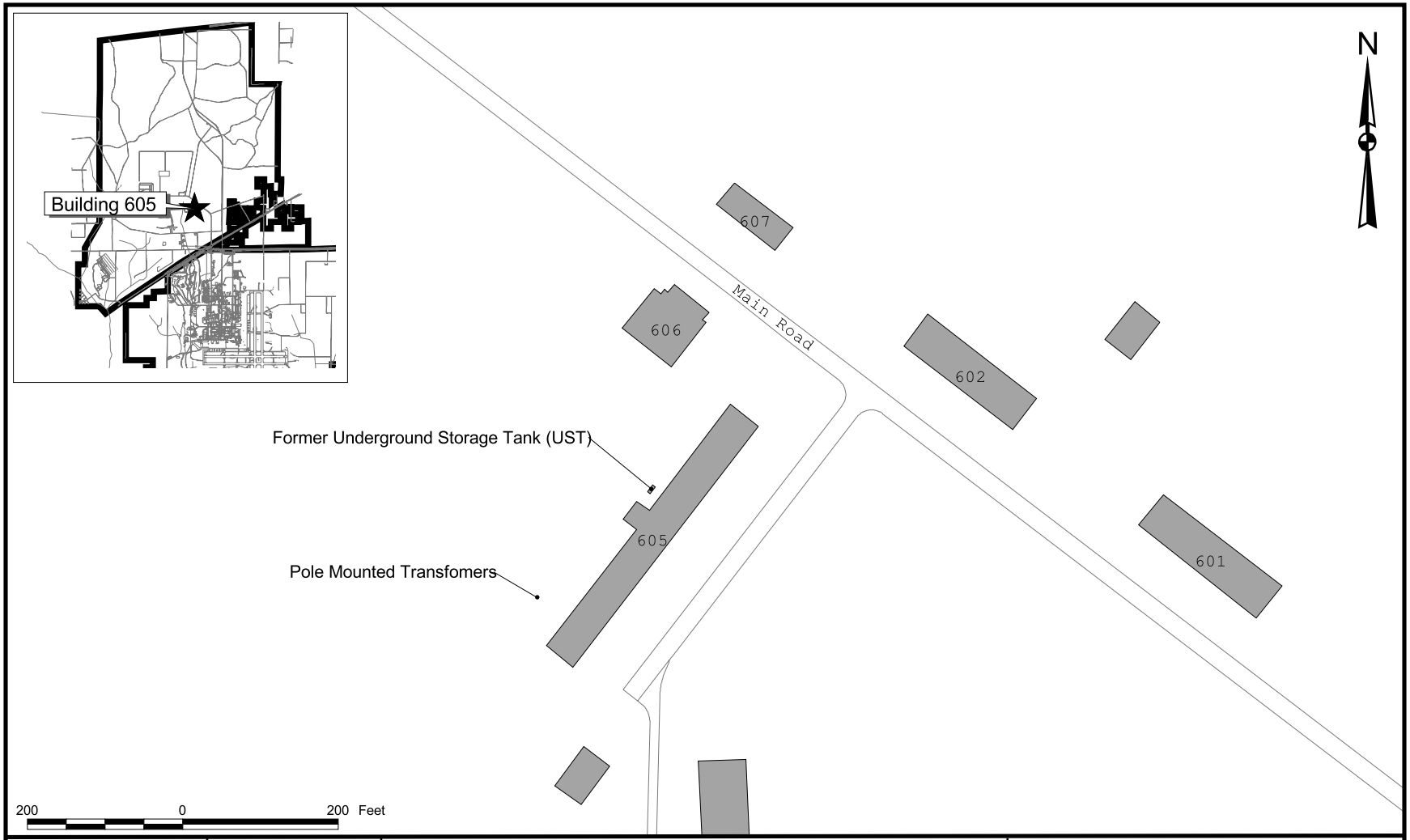
WELL ID	SAMPLING DATE		CHLOROETHANE (ug/L)
TARGET CLEANUP GOAL*			12
CEF-605-03S	Jul-98	Sample	**17**
		Duplicate	**20**
	Oct-00		**19**
	Apr-01 (1)		**13.3**
	Apr-01 (2)		**1.2 J**
	May-01 (3)	Sample	**29.4**
		Duplicate	**30.6**
	Jul-01	Sample	**19**
		Duplicate	**17.6**
CEF-605-04S	Jul-01		5 U
CEF-605-06S	Jul-01		5 U

U = Not detected at or above method detection limit (associated va
J = Estimated concentration.
Bolded values exceed detection limit.
Shaded values exceed target cleanup goal.
* Florida Administrative Code (F.A.C.) 62-777. (FDEP, 1999).
(1) - April 4, 2001 Treatability Study Sample. Sample collected before strat-up of Air Sparge Treatability Test.
(2) - April 11, 2001 Treatability Study Sample. Sample collected one week after Air Sparge Treatability Test.
(3) - May 8, 2001 Treatability Study Sample. Sample collected one month after Air Sparge Treatability Test.

TABLE 2
SUMMARY OF ANALYTICAL METHODS, BOTTLEWARE, PRESERVATION, AND HOLDING TIMES
BUILDING 605
NAS CECIL FIELD, FLORIDA

Analysis	Analytical Method	Sample Volume[1]	Bottleware	Preservation[2]	Holding Time[3]
Sample one monitoring well CEF-605-3S for the following parameter					
TCL VOCs (includes chlorinated VOCs)	SW-846 8021B	3 x 40 mL	Glass; Teflon-lined septum cap	HCl to pH<2; Cool to 4°C; zero headspace	14 days to analysis

1 Sample volume may vary based on the laboratory.
2 HCI - Hydrochloric acid.
3 Holding times are measured from the date of sample collection.



DRAWN BY: MJJ	DATE: 24Jan01	SITE LOCATION MAP BUILDING 605 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 1 / REV: 0

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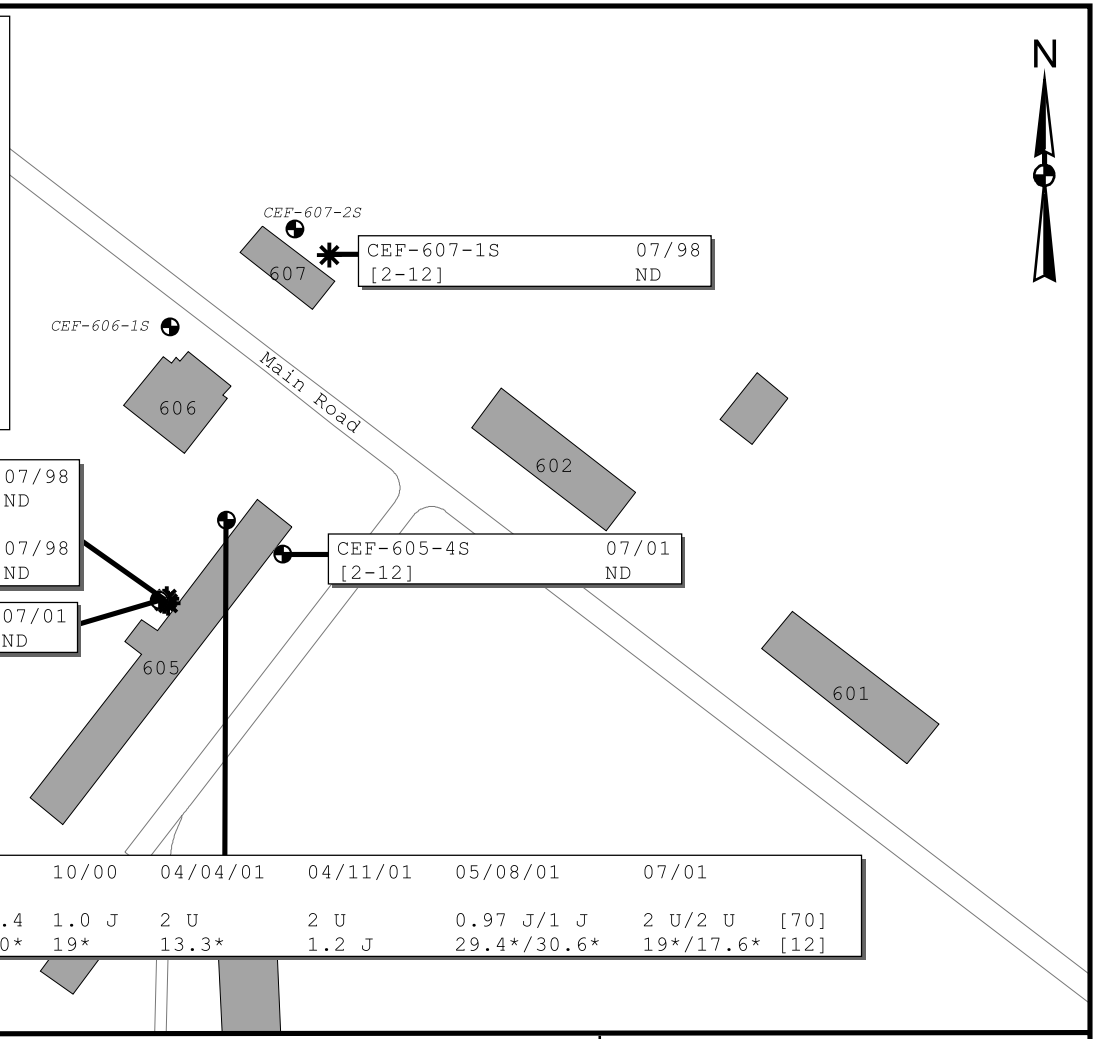
LEGEND
Monitoring Well Location
Abandoned Monitoring Well Location

CEF-080-07S — Sample ID
[5-10] — Screen Interval
Inorganics (ug/L)
ALUMINUM 36400 [13100] — Target Cleanup Level; Detection Concentration; Parameter

* = Concentration Exceeds Target Cleanup Goal.
J = Estimated Concentration.
R = Surrogate Recovery Noncompliance.
U = Not Detected At Or Above Method Detection Limit (Associated Value).
NA = Not Analyzed
ND = None Detected
[5-15] = Well Screen Interval in feet below ground surface
All Results in ug/L
Duplicate Sample Results Reported As sample/duplicate.



CEF-605-3S	07/98	10/00	04/04/01	04/11/01	05/08/01	07/01	
[2-12]							
1,1-DICHLOROETHANE	2.9/2.4	1.0 J	2 U	2 U	0.97 J/1 J	2 U/2 U	[70]
CHLOROETHANE	17*/20*	19*	13.3*	1.2 J	29.4*/30.6*	19*/17.6*	[12]

200 0 200 Feet

DRAWN BY	DATE
MJJ	24Jan01
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE	
AS NOTED	

MONITORING WELL CEF-605-3S
BUILDING 605
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0039
APPROVED BY — DATE —
APPROVED BY — DATE —
DRAWING NO. FIGURE 2
REV 0

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