



TETRA TECH NUS, INC.

7018 A.C. Skinner Parkway ■ Suite 250 ■ Jacksonville, FL 32256
(904) 281-0400 ■ FAX (904) 281-0070 ■ www.tetrattech.com

Document Tracking Number 02JAX0143

June 28, 2002

Project Number N2872

Commander, Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Wayne Hansel (Code ES24)
2155 Eagle Drive
North Charleston, South Carolina 29406

Reference: CLEAN Contract Number N62467-94-D-0888
Contract Task Order Number 0192

Subject: Site Screening Letter Report
Petroleum Contaminated Area 22AC
Naval Air Station Jacksonville, Jacksonville, Florida

Dear Mr. Hansel:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Site Screening Letter Report for Petroleum Contaminated Area (PCA) 22AC. This Site Screening Letter Report was prepared for the U.S. Navy (Navy) Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under Contract Task Order (CTO) 0192, for the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62467-94-D0888. The objective of the Site Screening Letter Report is to document results of the field screening activities for soil and groundwater contamination. The field screening activities were performed in accordance with the Work Plan for Site Screening at Various Petroleum Sites dated August 2001.

Background Information

PCA 22AC is the former location of an underground storage tank (UST) near House 1150 located at the Housing Subdivision Allegheny Circle (AC) at Naval Air Station (NAS) Jacksonville (Figure 1). The UST was used to supply fuel oil to a home's furnace. On October 15, 1997, the tank was removed by Bechtel Environmental, Inc. (Bechtel) and a tank closure assessment was completed. The assessment report, prepared by Bechtel, reported that the UST and surrounding area was excavated to a total depth of 6 feet (ft) below land surface (bls). Organic vapor analyzer (OVA) readings performed during the tank closure indicated evidence of soil contamination in the tank excavation. Prior to back filling, a temporary well was installed 4 ft below the water table in the region of the highest OVA readings. Groundwater samples were collected and analyzed for Volatile Organic Compounds (VOC) by United States Environmental Protection Agency (EPA) Methods 602 and Polynuclear Aromatic Hydrocarbons (PAH) by EPA Method 610. Benzene and Naphthalene were detected at concentrations exceeding current Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTL).

SOUTHNAVFACENGCOM contracted TtNUS to screen each PCA site for possible soil and groundwater contamination. To accomplish this, TtNUS was to install one soil boring near the center of the previous tank location. Figures showing the PCA Site Plans were obtained from the station and were used in the

planning documents. TtNUS was to collect and screen soil samples, and have one soil and one groundwater sample analyzed for petroleum constituents at a laboratory.

The activities completed by TtNUS and the results are detailed below.

Field Screening Activities

On December 18, 2001, TtNUS mobilized to PCA 22AC (House 1150) for the field screening activities. The field screening activities consisted of soil and groundwater sample collection. During field screening activities, one soil boring (JAX-22AC-SB-1) was installed at PCA 22AC via hand auger to a depth of 6 ft bls. The location of PCA 22AC with surrounding features, former tank location, and the location of the soil boring is indicated on Figure 2.

Site Lithology

The site is underlain by a layer of black fine sand from the surface to 1 ft bls. A light brown sand begins at 1 ft bls and continues to a depth of 6 ft bls.

Soil Vapor Analysis

The potential for petroleum impacted soil in the vadose zone was assessed through soil headspace analysis. OVA headspace analysis was conducted using a flame ionization detector (FID). The soil vapor analysis was performed according to the head space method prescribed in Chapter 62-770.200 (2), Florida Administrative Code (FAC). Soil samples were collected at 2-ft intervals to the water table, which was encountered at 4 ft bls. The results of the soil vapor screening are presented in Table 1. Results of the analysis indicate no soil vapor readings were reported to contain petroleum vapors. All readings were below instrument detection limits.

Soil Sampling Results

One soil sample [JAX-22AC-SB-1(3)] was collected at 3 ft bls. The soil sample was placed on ice, shipped to Accutest Laboratories in Orlando, Florida, and analyzed for VOCs by EPA Method 8021B, PAHs by EPA Method 8310, and total recoverable petroleum hydrocarbons (TRPH) by Florida Petroleum Range Organics (FL-PRO). Results of the laboratory analysis indicated the presence of petroleum compounds (TRPH), but the concentration did not exceed Chapter 62-770, FAC, Soil Cleanup Target Levels (SCTLs). 1,1-Dichloroethene was also detected in the soil sample but at a concentration below the listed FDEP SCTLs. A summary of detected constituents is presented in Table 2. The complete set of analytical results is presented in Attachment A.

Groundwater Sampling Results

For groundwater sample collection, soil-boring JAX-22AC-SB-1 was converted to a temporary monitoring well. For the installation of the temporary monitoring well, the soil boring was advanced to 6 ft bls by hand auger, and a $\frac{3}{4}$ inch polyvinyl chloride (PVC) 0.01 inch slot well screen was installed. The screen intersected the water column from 4 to 6 ft bls. For groundwater recovery, Teflon[®] tubing was inserted into the well, and the tubing was connected to a peristaltic pump for low-flow purging and sampling. Several screen volumes were then pumped from the well in order to reduce the turbidity level (based on visual observation) and ensure a representative sample. One groundwater sample [JAX-22AC-GW (4-6)] was collected from 4 to 6 ft bls. The groundwater sample was placed on ice, shipped to Accutest laboratories in Orlando, Florida, and analyzed for VOCs using USEPA Method 8021B, PAHs using EPA Method 8310, TRPH using FL-PRO, and ethylene dibromide (EDB) using EPA Method 504.1. The groundwater analytical results, presented Attachment A, indicate no constituents were detected.

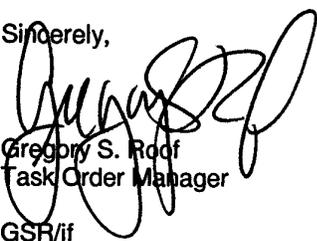
Mr. Wayne Hansel
Naval Facilities Engineering Command
June 28, 2002 – Page 3

Conclusions and Recommendations

Data obtained during the field screening at PCA 22AC indicated no headspace readings greater than 50 parts-per-million (ppm) and "excessively contaminated" soil was not present at the site. The soil analytical results for the site were below FDEP SCTLs. No petroleum compounds were detected in groundwater.

During the sampling efforts performed during the tank closure in 1997, OVA results were reported to exceed the FDEP "contaminated soil" criteria and benzene and naphthalene were detected in groundwater in excess of regulatory standards. However, the site screening did not detect exceedances of current regulatory criteria. TtNUS has had preliminary conversations with the FDEP regarding an appropriate action for this site. Based on that conversation and the lack of detectable soil and groundwater contamination at the site during the screening, TtNUS recommends that this site be granted "no further action" status.

Sincerely,



Gregory S. Roof
Task Order Manager

GSR/jf

Enclosures (6)

cc: Frank Sigona, NAS Jacksonville
Jorge Caspary, FDEP
D. Wroblewski, TtNUS (cover letter only)
M. Perry, TtNUS (unbound copy)
File – CTO 192

TABLES

**TABLE 1
SOIL VAPOR MEASUREMENTS**

**PCA 22AC
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA**

Soil Boring Number	Date of Measurement	Sample Depth (ft bls)	Headspace Readings (ppm)		
			Total Organic Reading	Carbon Filtered Reading	Net Reading
JAX-22AC-SB1	12/18/2001	1	0	0	0
		3	0	0	0

Notes:

Wet Soils encountered at depths ranging at approximately 4 ft bls.

ft bls = foot/feet below land surface

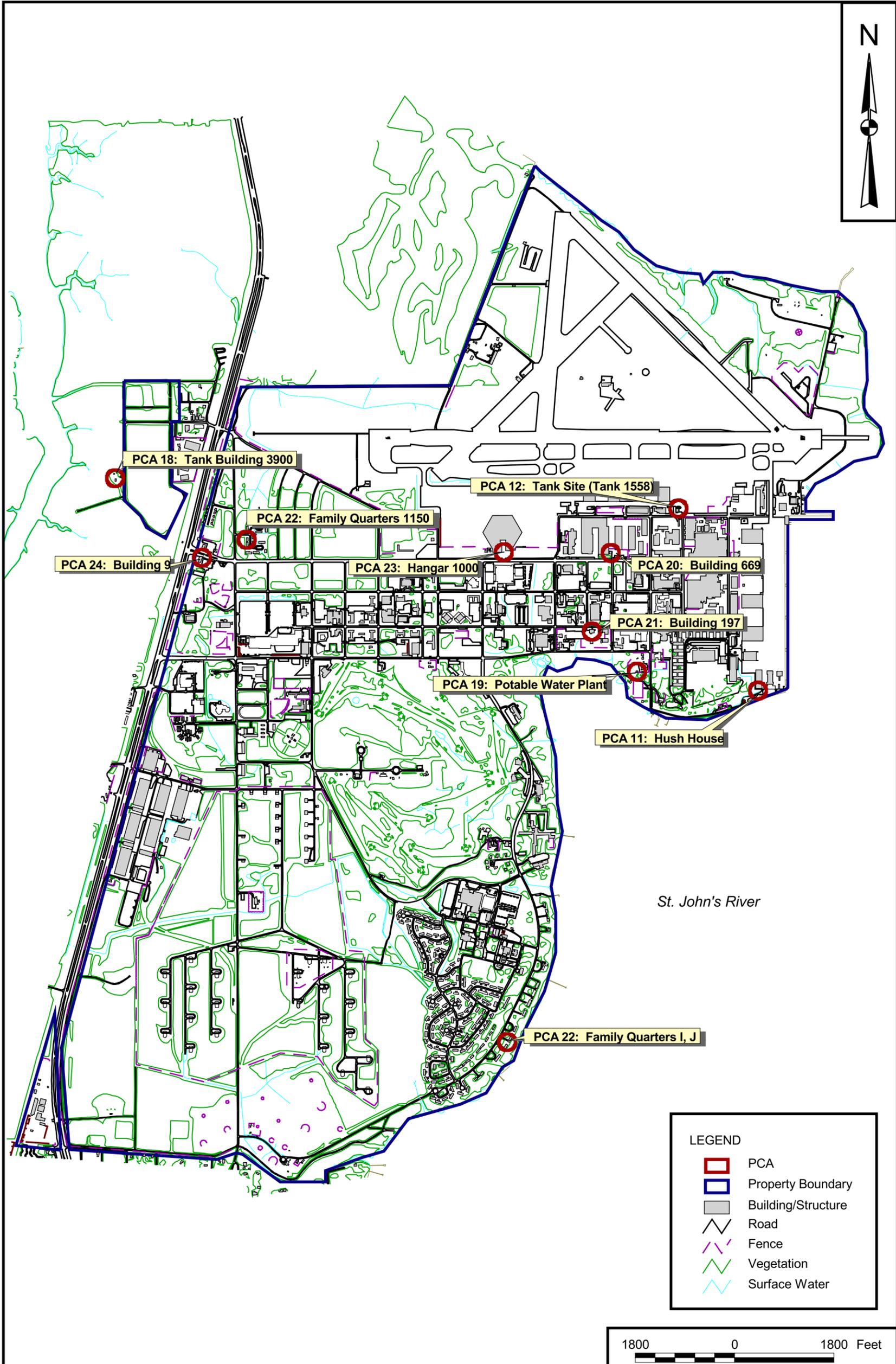
ppm = parts-per-million

**TABLE 2
CONFIRMATORY SOIL SAMPLING ANALYTICAL RESULTS**

**PCA 22AC
NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA**

Compound	Direct Exposure Residential ¹	Leachability Based on Groundwater Criteria ¹	PCA 22AC
			JAX-22AC-SB-1(3)
			12/18/2001
Sample Depth			3 ft bls
<u>Volatile Organic Compounds (USEPA Method 8021B(µg/kg))</u>			
1,1-Dichloroethene	90	60	10.1
<u>TRPH (FL-PRO) (mg/kg)</u>			
TRPH	340	340	16.3
Notes: ¹ Chapter 62-770, FAC (April 30, 1999) Bold values are above target levels. mg/kg = milligrams per kilogram µg/kg = micrograms per kilogram ft bls = foot/feet below land surface			

FIGURES



LEGEND

- PCA
- Property Boundary
- Building/Structure
- Road
- Fence
- Vegetation
- Surface Water

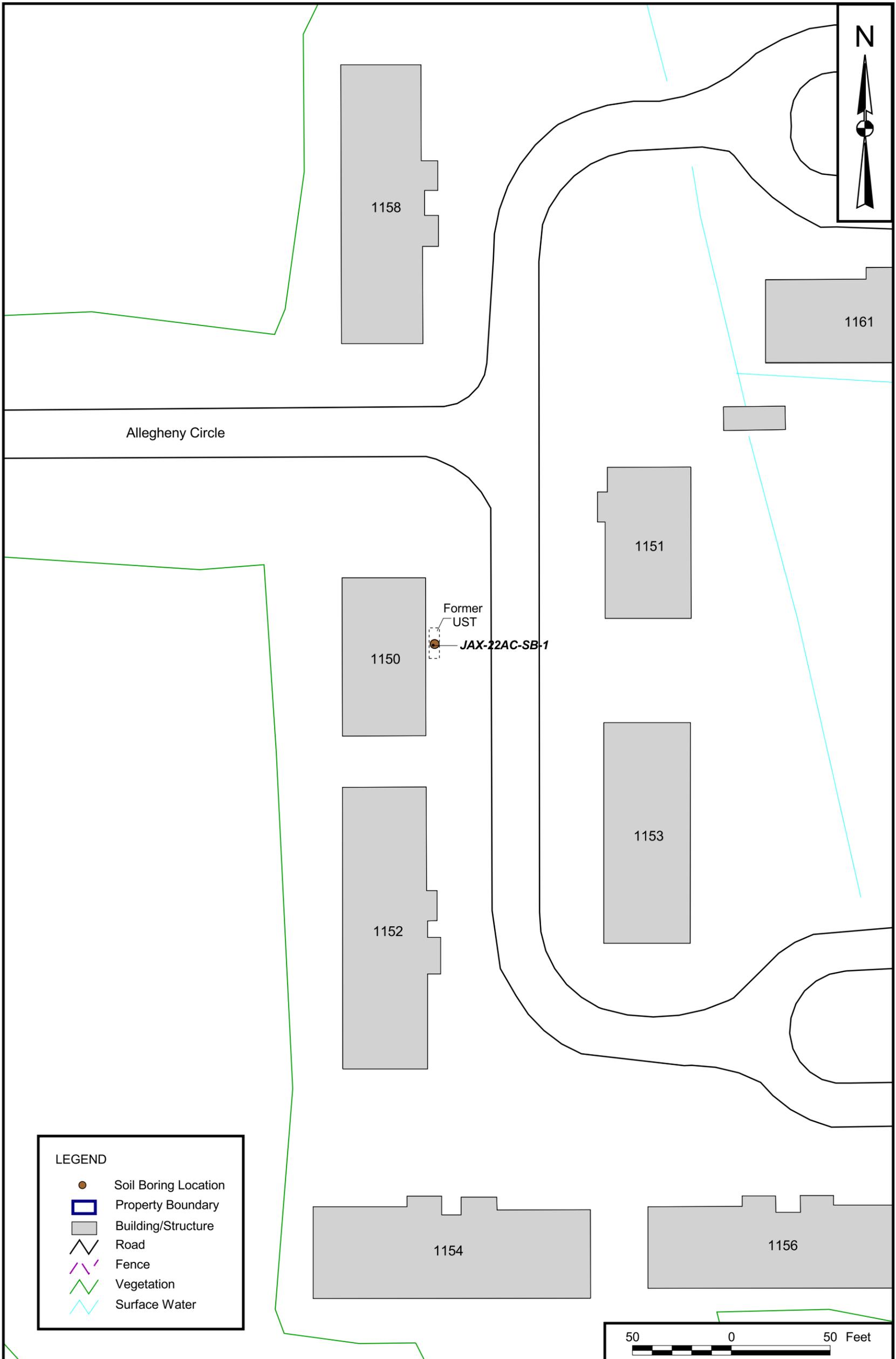


DRAWN BY J. LAMEY	DATE 5/14/02
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



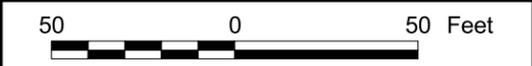
SITE LOCATION MAP
PETROLEUM SITE SCREENING
NAVAL AIR STATION
JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 1	REV 0



LEGEND

- Soil Boring Location
- Property Boundary
- Building/Structure
- Road
- Fence
- Vegetation
- Surface Water



DRAWN BY J. LAMEY	DATE 4/26/02
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SOIL BORING LOCATIONS
 PCA 22 - FAMILY QUARTERS 1150
 PETROLEUM CONTAMINATION ASSESSMENT
 NAVAL AIR STATION
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 2872	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2	REV 0

**ATTACHMENT A
ANALYTICAL RESULTS**

CTO192-NAS JACKSONVILLE

SOIL DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:	JAX-22AC-SB1(3)	JAX-22J-SB1(5)	JAX-22J-SB1(5)	
SAMPLE DATE:	12/18/01	12/18/01	12/18/01	//
LABORATORY ID:	F11846-5	F11846-3	F11846-4	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	83.4 %	80.2 %	73.9 %	100.0 %
UNITS:	UG/KG	UG/KG	UG/KG	
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE									
VOLATILES												
1,1,1-TRICHLOROETHANE	6.3	U		6	U		7.1	U				
1,1,2,2-TETRACHLOROETHANE	6.3	U		6	U		7.1	U				
1,1,2-TRICHLOROETHANE	6.3	U		6	U		7.1	U				
1,1-DICHLOROETHANE	6.3	U		6	U		7.1	U				
1,1-DICHLOROETHENE	10.1			6			11.6					
1,2-DICHLOROBENZENE	6.3	U		6	U		7.1	U				
1,2-DICHLOROETHANE	6.3	U		6	U		7.1	U				
1,2-DICHLOROPROPANE	6.3	U		6	U		7.1	U				
1,3-DICHLOROBENZENE	6.3	U		6	U		7.1	U				
1,4-DICHLOROBENZENE	6.3	U		6	U		7.1	U				
2-CHLOROETHYL VINYL ETHER	13	U		12	U		14	U				
BENZENE	6.3	U		6	U		7.1	U				
BROMODICHLOROMETHANE	6.3	U		6	U		7.1	U				
BROMOFORM	6.3	U		6	U		7.1	U				
BROMOMETHANE	6.3	U		6	U		7.1	U				
CARBON TETRACHLORIDE	6.3	U		6	U		7.1	U				
CHLOROBENZENE	6.3	U		6	U		7.1	U				
CHLORODIBROMOMETHANE	6.3	U		6	U		7.1	U				
CHLOROETHANE	6.3	U		6	U		7.1	U				
CHLOROFORM	6.3	U		6	U		7.1	U				
CHLOROMETHANE	6.3	U		6	U		7.1	U				
CIS-1,2-DICHLOROETHENE	6.3	U		6	U		7.1	U				
CIS-1,3-DICHLOROPROPENE	6.3	U		6	U		7.1	U				
DICHLORODIFLUOROMETHANE	6.3	U		6	U		7.1	U				
ETHYLBENZENE	6.3	U		6	U		7.1	U				
METHYL TERT-BUTYL ETHER	6.3	U		6	U		7.1	U				
METHYLENE CHLORIDE	13	U		12	U		14	U				
TETRACHLOROETHENE	6.3	U		6	U		7.1	U				
TOLUENE	6.3	U		6	U		7.1	U				
TOTAL XYLENES	19	U		18	U		21	U				
TRANS-1,2-DICHLOROETHENE	6.3	U		6	U		7.1	U				
TRANS-1,3-DICHLOROPROPENE	6.3	U		6	U		7.1	U				

CTO192-NAS JACKSONVILLE

SOIL DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:	JAX-22AC-SB1(3)	JAX-22I-SB1(5)	JAX-22J-SB1(5)	
SAMPLE DATE:	12/18/01	12/18/01	12/18/01	//
LABORATORY ID:	F11846-5	F11846-3	F11846-4	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	83.4 %	80.2 %	73.9 %	100.0 %
UNITS:	UG/KG	UG/KG	UG/KG	
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE									
VOLATILES												
TRICHLOROETHENE	6.3	U		6	U		7.1	U				
TRICHLOROFLUOROMETHANE	6.3	U		6	U		7.1	U				
VINYL CHLORIDE	6.3	U		6	U		7.1	U				

CTO192-NAS JACKSONVILLE

SOIL DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:

JAX-22AC-SB1(3)

JAX-22I-SB1(5)

JAX-22J-SB1(5)

SAMPLE DATE:

12/18/01

12/18/01

12/18/01

//

LABORATORY ID:

F11846-5

F11846-3

F11846-4

QC_TYPE:

NORMAL

NORMAL

NORMAL

% SOLIDS:

83.4 %

80.2 %

73.9 %

100.0 %

UNITS:

UG/KG

UG/KG

UG/KG

FIELD DUPLICATE OF:

	RESULT	QUAL	CODE									
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	400	U		410	U		450	U				
2-METHYLNAPHTHALENE	400	U		410	U		450	U				
ACENAPHTHENE	790	U		830	U		900	U				
ACENAPHTHYLENE	790	U		830	U		900	U				
ANTHRACENE	400	U		410	U		450	U				
BENZO(A)ANTHRACENE	400	U		410	U		450	U				
BENZO(A)PYRENE	79	U		83	U		90	U				
BENZO(B)FLUORANTHENE	79	U		83	U		90	U				
BENZO(G,H,I)PERYLENE	79	U		83	U		90	U				
BENZO(K)FLUORANTHENE	79	U		83	U		90	U				
CHRYSENE	400	U		410	U		450	U				
DIBENZO(A,H)ANTHRACENE	79	U		83	U		90	U				
FLUORANTHENE	400	U		410	U		450	U				
FLUORENE	400	U		410	U		450	U				
INDENO(1,2,3-CD)PYRENE	79	U		83	U		90	U				
NAPHTHALENE	400	U		410	U		450	U				
PHENANTHRENE	400	U		410	U		450	U				
PYRENE	400	U		410	U		450	U				

CTO192-NAS JACKSONVILLE

SOIL DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:	JAX-22AC-SB1(3)	JAX-22I-SB1(5)	JAX-22J-SB1(5)	
SAMPLE DATE:	12/18/01	12/18/01	12/18/01	//
LABORATORY ID:	F11846-5	F11846-3	F11846-4	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	83.4 %	80.2 %	73.9 %	100.0 %
UNITS:	MG/KG	MG/KG	MG/KG	
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE									
PETROLEUM HYDROCARBONS												
TOTAL PETROLEUM HYDROCARBONS	16.3			10	U		11	U				

CTO192-NAS JACKSONVILLE

WATER DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:

JAX-22AC-GW(4-6)

JAX-22J-GW(9-14)

SAMPLE DATE:

12/18/01

12/18/01

LABORATORY ID:

F11846-2

F11846-1

QC_TYPE:

NORMAL

NORMAL

% SOLIDS:

0.0 %

0.0 %

UNITS:

UG/L

UG/L

FIELD DUPLICATE OF:

UG/L

100.0 %

100.0 %

	RESULT	QUAL	CODE									
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2-DIBROMOETHANE	0.02	U		0.02	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROETHANE	1	U		1	U							
1,3-DICHLOROETHANE	1	U		1	U							
1,4-DICHLOROETHANE	1	U		1	U							
2-CHLOROETHYL VINYL ETHER	1	U		1	U							
BENZENE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROETHANE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	1	U		1	U							
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	1	U		1	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							
DICHLORODIFLUOROMETHANE	1	U		1	U							
ETHYLBENZENE	1	U		1	U							
METHYL TERT-BUTYL ETHER	1	U		1	U							
METHYLENE CHLORIDE	5	U		5	U							
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TOTAL XYLENES	3	U		3	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							

CTO192-NAS JACKSONVILLE

WATER DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:	JAX-22AC-GW(4-6)	JAX-22J-GW(9-14)		
SAMPLE DATE:	12/18/01	12/18/01	//	//
LABORATORY ID:	F11846-2	F11846-1		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE									
VOLATILES												
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
TRICHLOROFLUOROMETHANE	1	U		1	U							
VINYL CHLORIDE	1	U		1	U							

CTO192-NAS JACKSONVILLE

WATER DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:

JAX-22AC-GW(4-6)

JAX-22J-GW(9-14)

SAMPLE DATE:

12/18/01

12/18/01

LABORATORY ID:

F11846-2

F11846-1

QC_TYPE:

NORMAL

NORMAL

% SOLIDS:

0.0 %

0.0 %

UNITS:

UG/L

UG/L

FIELD DUPLICATE OF:

	RESULT	QUAL	CODE									
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	2	U		2	U							
2-METHYLNAPHTHALENE	2	U		2	U							
ACENAPHTHENE	4	U		4	U							
ACENAPHTHYLENE	4	U		4	U							
ANTHRACENE	2	U		2	U							
BENZO(A)ANTHRACENE	0.2	U		0.2	U							
BENZO(A)PYRENE	0.2	U		0.2	U							
BENZO(B)FLUORANTHENE	0.2	U		0.2	U							
BENZO(G,H,I)PERYLENE	0.2	U		0.2	U							
BENZO(K)FLUORANTHENE	0.2	U		0.2	U							
CHRYSENE	2	U		2	U							
DIBENZO(A,H)ANTHRACENE	0.2	U		0.2	U							
FLUORANTHENE	2	U		2	U							
FLUORENE	2	U		2	U							
INDENO(1,2,3-CD)PYRENE	0.2	U		0.2	U							
NAPHTHALENE	2	U		2	U							
PHENANTHRENE	2	U		2	U							
PYRENE	2	U		2	U							

CTO192-NAS JACKSONVILLE

WATER DATA

Accutest, NJ

SDG: F11846

SAMPLE NUMBER:	JAX-22AC-GW(4-6)	JAX-22J-GW(9-14)		
SAMPLE DATE:	12/18/01	12/18/01	//	//
LABORATORY ID:	F11846-2	F11846-1		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	MG/L	MG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE									
TOTAL PETROLEUM HYDROCARBONS	0.25	U		0.28	U							

Report of Analysis

Client Sample ID:	JAX-22AC-SB1(3)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-5	Date Received:	12/19/01
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8260B		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H014877.D	1	12/28/01	KW	n/a	n/a	VH477
Run #2							

VOA 8021 List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	6.3	ug/kg	
75-27-4	Bromodichloromethane	ND	6.3	ug/kg	
75-25-2	Bromoform	ND	6.3	ug/kg	
108-90-7	Chlorobenzene	ND	6.3	ug/kg	
75-00-3	Chloroethane	ND	6.3	ug/kg	
67-66-3	Chloroform	ND	6.3	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	13	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.3	ug/kg	
75-35-4	1,1-Dichloroethylene	10.1	6.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.3	ug/kg	
124-48-1	Dibromochloromethane	ND	6.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.3	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.3	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	6.3	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.3	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.3	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.3	ug/kg	
100-41-4	Ethylbenzene	ND	6.3	ug/kg	
74-83-9	Methyl bromide	ND	6.3	ug/kg	
74-87-3	Methyl chloride	ND	6.3	ug/kg	
75-09-2	Methylene chloride	ND	13	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.3	ug/kg	
108-88-3	Toluene	ND	6.3	ug/kg	
79-01-6	Trichloroethylene	ND	6.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.3	ug/kg	
75-01-4	Vinyl chloride	ND	6.3	ug/kg	
1330-20-7	Xylene (total)	ND	19	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-SB1(3)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-5	Date Received:	12/19/01
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8260B		
Project:	NAS JAX- N2872 KJ0050115		

VOA 8021 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		75-125%
2037-26-5	Toluene-D8	103%		75-125%
460-00-4	4-Bromofluorobenzene	104%		72-137%
17060-07-0	1,2-Dichloroethane-D4	103%		68-125%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-SB1(3)		Date Sampled:	12/18/01
Lab Sample ID:	F11846-5	Date Received:	12/19/01	
Matrix:	SO - Soil	Percent Solids:	83.4	
Method:	EPA 8310 SW846 3550B			
Project:	NAS JAX- N2872 KJ0050115			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE006895.D	1	01/02/02	MRE	12/28/01	OP4455	GEE313
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	790	ug/kg	
208-96-8	Acenaphthylene	ND	790	ug/kg	
120-12-7	Anthracene	ND	400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	ug/kg	
50-32-8	Benzo(a)pyrene	ND	79	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	79	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	79	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	79	ug/kg	
218-01-9	Chrysene	ND	400	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	79	ug/kg	
206-44-0	Fluoranthene	ND	400	ug/kg	
86-73-7	Fluorene	ND	400	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	79	ug/kg	
91-20-3	Naphthalene	ND	400	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	ug/kg	
85-01-8	Phenanthrene	ND	400	ug/kg	
129-00-0	Pyrene	ND	400	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	126%		37-158%
92-94-4	p-Terphenyl	140%		59-149%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-SB1(3)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-5	Date Received:	12/19/01
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	FLORIDA-PRO SW846 3550B		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP19103.D	1	12/31/01	ME	12/31/01	OP4463	GOP711
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	16.3	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		66-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-GW(4-6)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-2	Date Received:	12/19/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 504.1 EPA 504		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD04363.D	1	12/21/01	SKW	12/21/01	OP4425	GDD161
Run #2							

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-GW(4-6)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-2	Date Received:	12/19/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR008017.D	1	12/28/01	RA	n/a	n/a	GQR342
Run #2							

VOA 8021 List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-GW(4-6)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-2	Date Received:	12/19/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	NAS JAX- N2872 KJ0050115		

VOA 8021 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
75-29-6	2-Chloropropane	94%		56-125%
352-33-0	1-Chloro-4-fluorobenzene	98%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	97%		80-120%
98-08-8	aaa-Trifluorotoluene	98%		70-127%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-GW(4-6)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-2	Date Received:	12/19/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 8310 SW846 3510C		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA009823.D	1	12/26/01	MRE	12/22/01	OP4432	GAA436
Run #2							

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	51%		33-141%
92-94-4	p-Terphenyl	58%		31-122%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	JAX-22AC-GW(4-6)	Date Sampled:	12/18/01
Lab Sample ID:	F11846-2	Date Received:	12/19/01
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	FLORIDA-PRO SW846 3510C		
Project:	NAS JAX- N2872 KJ0050115		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP18996.D	1	12/26/01	ME	12/22/01	OP4433	GOP708
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		55-130%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER

121801-2

PAGE

1 OF 1

511896

PROJECT NO: N2872K5005015
 SAMPERS (SIGNATURE): [Signature]
 SITE NAME: VARIOUS PCAs
 PROJECT MANAGER AND PHONE NUMBER: GREG ROOF 904/281-0400
 FIELD OPERATIONS LEADER AND PHONE NUMBER: JOE FERRANTI
 CARRIERWAY/BILL NUMBER: Fed Ex 8311 6072 7119
 LABORATORY NAME AND CONTACT: ACCUTEST
 ADDRESS: 4408 Vinland Rd C-15
 CITY, STATE: Orlando, FL 32811

STANDARD TAP RUSH TAP
 24 hr. 48 hr. 72 hr. 7 day 14 day

CONTAINER TYPE: PLASTIC (P) or GLASS (G)
 PRESERVATIVE USED: HCl

DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (G)	No. OF CONTAINERS	TYPE OF ANALYSIS	COMMENTS
12/18	1420	JAX-22J-CW(9-14)	GW	G	10	3 3 3 2 2	TRPA (FL PKO) PAH (B370) TRPA/PAH
12/18	1615	JAX-22AC-GW(4-6)	GW	G	10	3 3 3 2 2	TRPA (FL PKO) PAH (B370) TRPA/PAH
12/18	1040	JAX-22I-SB1(5)	SOIL	G	4	3 1	
12/18	1350	JAX-22J-SB1(5)	SOIL	G	4	3 1	
12/18	1540	JAX-22AC-SB1(3)	SOIL	G	4	3 1	

1. RELINQUISHED BY: [Signature] DATE: 12-18-01 TIME: 1830
 2. RECEIVED BY: [Signature] DATE: 12/19/01 TIME: 10:00
 3. RECEIVED BY: DATE: TIME:

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 3.2 FORM NO. TINUS-001 3/99