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NAS CECIL FIELD, FL
5090.3a

SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR TRUCK STAND SITE
FACILITY 372 NAS CECIL FIELD FL
6/8/2001
TETRA TECH NUS INC

Truck Stand Site Facility 372

Semi-Annual Groundwater Monitoring Report

Naval Air Station Cecil Field
Jacksonville, Florida



**Southern Division
Naval Facilities Engineering Command**

Contract Number N62467-94-D-0888

Contract Task Order 0107

June 2001



TETRA TECH NUS, INC.

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(904) 281-0400 ■ FAX (904) 281-0070 ■ www.tetrattech.com

Document No. 01JAX0064

June 8, 2001

Project Number 0486

Mr. David Grabka
Remedial Project Manager
Technical Review/Federal Facilities
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reference: Clean Contract Number N62467-94-D0888
Contract Task Order Number 0121

Subject: Semi-annual Groundwater Monitoring Report
Truck Stand Site, Facility 372
Former Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Semi-annual Groundwater Monitoring Letter Report for the referenced Contract Task Order (CTO). This report was prepared by TtNUS for the United States Navy, Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62467-94-D-0888. The objective of this task is to semi-annually monitor groundwater associated with the site. The guidance document for this report is Chapter 62-770, Florida Administrative Code (FAC). The sampling program for the site was conducted in general accord with the original monitoring only program (MOP) as modified by the MOP Addendum and the April 2000 Base Closure Team meeting minutes.

This report summarizes the fieldwork and analytical results for the subject site (Figure 1) at the former Naval Air Station Cecil Field (NASCF) for January 2001. The work was performed in general accord with the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998).

This sampling event was originally scheduled for September 2000. However, in anticipation of remedial activity set to begin at that time for the North Fuel Farm and the Truck Stand, TtNUS was directed to postpone this sampling program until the remedial action contractor (RAC) was finished. Following TtNUS' recommendation, the RAC removed the soil around monitoring well CEF-372-13 down to the water table (approximately 7 feet below land surface). This necessitated removal and replacement of that well, which was completed by the RAC on February 7, 2001. Therefore, the well was given a new designation as CEF-372-13R.

FIELD OPERATIONS

Prior to the collection of the groundwater samples, depth to water level measurements were recorded from each of the wells that were sampled, CEF-372-07, CEF-372-13R and CEF-372-14, and two other

monitoring wells, CEF-372-01 and CEF-372-20. The depth to water ranged from 6.28 feet below top-of-casing (btoc) in monitoring well CEF-372-20 to 7.30 feet btoc in monitoring well CEF-372-13R. The depth to water measurements, along with top-of-casing elevations, were used to calculate groundwater elevations. Elevation data for well CEF-372-13R was not calculated pending survey of the new top-of-casing. Groundwater elevation data from this event are shown on Table 1. The groundwater flow direction with elevation data is shown on Figure 2. Based on these data, the inferred direction of groundwater flow is to the southeast.

On February 9, 2001, TtNUS collected groundwater samples from wells CEF-372-07, CEF-372-13R, and CEF-372-14. Following collection, the groundwater samples were placed on ice and shipped to Accura Laboratories in Norcross, Georgia, for analysis. The samples were analyzed for select volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method SW846 8260B and polynuclear aromatic hydrocarbons (PAHs) by USEPA Method SW846 8270C.

RESULTS

Figure 3 depicts the contaminant concentrations that were detected above Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels (GCTLs) in the February 2001 samples. The analytical results are summarized in Table 2. A copy of the laboratory report is provided in Attachment A.

No contaminants of concern (COC) were detected above the laboratory's reporting limits for wells CEF-372-07 and CEF-372-14. A duplicate groundwater sample was collected from monitoring well CEF-372-13R, which has historically shown elevated contaminant concentrations. The averaged concentration values from the sample and the duplicate, which exceeded the FDEP GCTLs, are as follows: 3.25 micrograms per liter ($\mu\text{g/L}$) benzene, 41.5 $\mu\text{g/L}$ ethylbenzene, 51.5 $\mu\text{g/L}$ total xylenes, 120 $\mu\text{g/L}$ naphthalene, 72 $\mu\text{g/L}$ 1-methylnaphthalene and 98.5 $\mu\text{g/L}$ 2-methylnaphthalene. FDEP GCTL for benzene is 1 $\mu\text{g/L}$, ethylbenzene 30 $\mu\text{g/L}$, and the GCTL for the other compounds is 20 $\mu\text{g/L}$. No other tested constituent was detected in CEF-372-13R above GCTL criteria.

The results of the February 2001 sampling event were reviewed and compared to FDEP GCTLs, FDEP Approval Order action levels, and historical groundwater data (Table 2). The analytical results for groundwater samples from CEF-372-07 and CEF-372-14 indicated no detectable petroleum constituents, as they have since the inception of the monitoring program. The following COCs are highlighted for well CEF-372-13R:

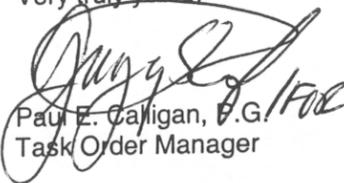
- Benzene levels in samples from this well declined from 20 $\mu\text{g/L}$ in November 1997 to below detection limits in October 1998. Data from subsequent sampling events indicate that benzene levels are remaining stable at about 3 to 5 $\mu\text{g/L}$. The action level is 250 $\mu\text{g/L}$, and benzene levels are below that concentration.
- Total xylene concentrations in samples from this well have continued to increase since the October 1998 sampling event.
- The action level for total VOCs is 1000 $\mu\text{g/L}$, and the concentration for this round is 96.25 $\mu\text{g/L}$.
- Naphthalene concentrations in samples from this well appear to be fluctuating between 80 and 120 $\mu\text{g/L}$ with no apparent natural attenuation.
- The action level for total naphthalenes is 2000 $\mu\text{g/L}$, and the concentration for this round is about 290.5 $\mu\text{g/L}$.

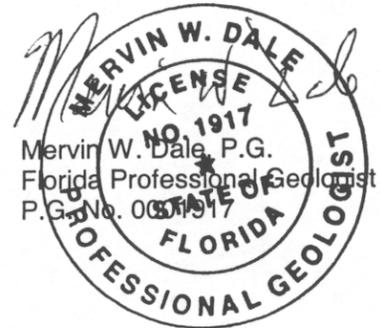
CONCLUSIONS and RECOMMENDATIONS

The data from the February 9, 2001 sampling event indicate that no significant contaminant migration is occurring at the Truck Stand Site because no contaminants were detected in the peripheral wells of the site. In addition, contaminant concentrations in well CEF-372-13R have not changed significantly over the last three semi-annual sampling events. Despite the recent soil removal efforts by the RAC before the last sampling event, the contaminant concentrations show no signs of decreasing. Though action levels stipulated by FDEP have not been exceeded, the FDEP Approval Order (Attachment B) stipulates that if additional monitoring and supplemental assessment activities do not succeed then remedial action may be required. Since those options have been tried without success, TtNUS recommends preparation of a Remedial Action Plan (RAP) for the Truck Stand Site.

If you have any questions with regard to this submittal, or if I can be of assistance in any way, please contact me at (850) 385-9899 extension 24.

Very truly yours,


Paul E. Calligan, P.G.
Task Order Manager



PEC/rlm

Attachments (7)

cc: N. Ugolini, SOUTHDIV (1 cd only)
D. Vaughn-Wright, USEPA (1 copy)
D. Wroblewski, TtNUS (cover letter only)
M. Perry, TtNUS (1 copy unbound)

TABLES

Table 1
Water Table Elevation and Monitoring Well Construction Data

Semi-Annual Groundwater Monitoring Report
Truck Stand Site-Facility 372
Naval Air Station Cecil Field
Jacksonville, Florida
1 of 2

Wells	Total Depth (feet, bls)	Top-of Casing Elevation ¹ (feet, msl)	March 25, 1998		October 1, 1998		March 31, 1999	
			Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)
CEF-372-01	12.2	81.08	3.10	77.98	2.67	78.41	NC	NC
CEF-372-07	11.7	80.60	2.62	77.98	1.82	78.78	6.79	73.81
CEF-372-13R ²	11.0	81.25	3.28	77.97	2.65	78.60	7.41	73.84
CEF-372-14	11.5	80.68	2.65	78.03	2.12	78.56	6.89	73.79
CEF-372-20	11.6	79.97	2.58	77.39	1.60	78.37	6.06	73.91

See notes at end of table.

Table 1 (cont'd)
Water Table Elevation and Monitoring Well Construction Data

Semi-Annual Groundwater Monitoring Report
 Truck Stand Site-Facility 372
 Naval Air Station Cecil Field
 Jacksonville, Florida
 2 of 2

Wells	Total Depth (feet, bls)	Top-of Casing Elevation ¹ (feet, msl)	September 24, 1999		March 2, 2000		February 9, 2001	
			Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet, msl)
CEF-372-01	12.2	81.08	NC	NC	6.30	74.78	7.25	73.83
CEF-372-07	11.7	80.60	5.95	74.65	6.00	74.60	6.98	73.62
CEF-372-13R ²	11.0	81.25	6.63	74.62	6.64	74.61	7.30	NA
CEF-372-14	11.5	80.68	6.13	74.55	6.12	74.56	7.09	73.59
CEF-372-20	11.6	79.97	5.24	74.73	5.31	74.66	6.28	73.69

¹ Benchmark elevation of 79.48 feet is located in a concrete box cut in the center top headwall at the northeast corner of Loop Road and "A" Avenue intersection.

² This monitoring well replaced on 2/7/01 by JA Jones.

Notes: bls= below land surface.

msl = mean sea level.

NA = not available, awaiting re-survey of well since re-installed on 2/7/01.

NC = not collected.

Table 2
Summary of Groundwater Sample Analytical Results

Semi-Annual Groundwater Monitoring Report
Truck Stand Site-Facility 372
Naval Air Station Cecil Field
Jacksonville, Florida
1 of 3

Compounds	GCTL ¹ / NADSC ³	FDEP ⁶ Action Levels	CEF-372-07						
			11/19/97	3/25/98	10/1/98	3/31/99	9/24/99	3/2/00	2/9/01
Volatile Organic Compounds (USEPA Method 8260B) ($\mu\text{g/L}$)									
Benzene	1/100	50	ND	ND	ND	ND	ND	ND	ND
Toluene	40/400	None	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30/300	None	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	20/200	None	ND	ND	ND	ND	ND	ND	ND
Total VOCs ⁴	Not applicable	50	ND	ND	ND	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (USEPA Method 8270C) ($\mu\text{g/L}$)									
Naphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	280/2800	None	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	210/2100	None	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	210/2100	None	ND	ND	ND	ND	ND	ND	ND
Total Naphthalenes ⁵	Not applicable	100	ND	ND	ND	ND	ND	ND	ND
See notes at end of table.									

Table 2 (cont'd)
Summary of Groundwater Sample Analytical Results

Semi-Annual Groundwater Monitoring Report
 Truck Stand Site-Facility 372
 Naval Air Station Cecil Field
 Jacksonville, Florida
 2 of 3

Compounds	GCTL ¹ / NADSC ³	FDEP ⁶ Action Levels	CEF-372-13R						
			11/19/97	3/25/98	10/1/98	3/31/99	9/24/99 ²	3/2/00 ²	2/9/01 ²
Volatile Organic Compounds (USEPA Method 8260B) ($\mu\text{g/L}$)									
Benzene	1/100	250	20	4	ND	4.6	4	5.2	3.25
Toluene	40/400	None	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30/300	None	70	15	23.2	33	26	25.2	41.5
Total Xylenes	20/200	None	100	7	4.9	25.2	25	32.8	51.5
Total VOCs ⁴	Not applicable	1000	190	26	28.1	62.8	55	63.2	96.25
Polynuclear Aromatic Hydrocarbons (USEPA Method 8270C) ($\mu\text{g/L}$)									
Naphthalene	20/200	None	360	64	167	110	100	80.2	120
1-Methylnaphthalene	20/200	None	130	43	105	60	59	85.7	72
2-Methylnaphthalene	20/200	None	260	60	119	66	76	57.8	98.5
Fluoranthene	280/2800	None	NDE	NDE	NDE	NDE	1.2	ND	ND
Acenaphthylene	210/2100	None	NDE	NDE	NDE	NDE	6.1	ND	ND
Phenanthrene	210/2100	None	NDE	NDE	NDE	NDE	17	ND	ND
Total Naphthalenes ⁵	Not applicable	2000	750	167	391	236	235	223.7	290.5
See notes at end of table.									

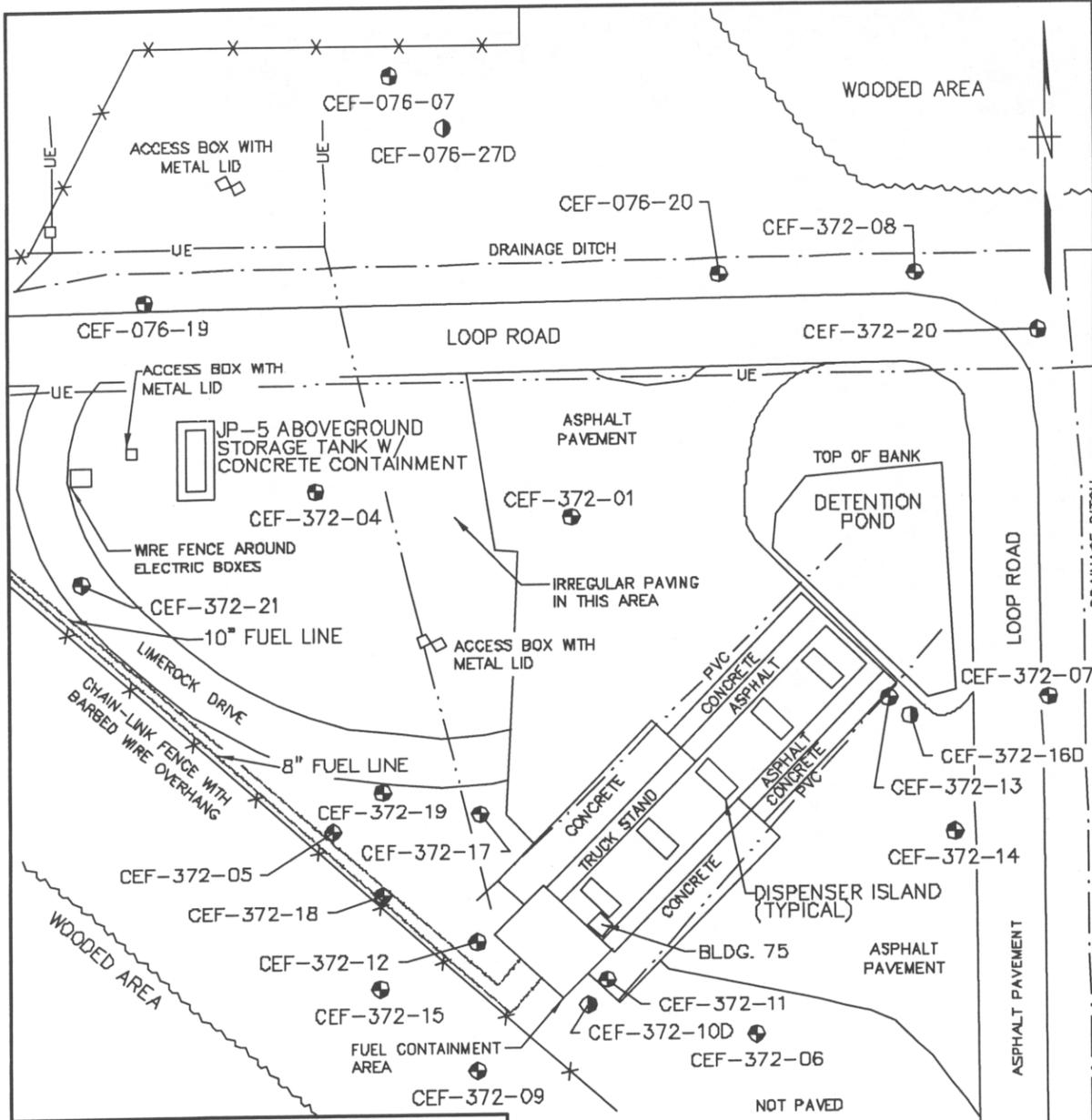
Table 2 (cont'd)
Summary of Groundwater Sample Analytical Results

Semi-Annual Groundwater Monitoring Report
 Truck Stand Site-Facility 372
 Naval Air Station Cecil Field
 Jacksonville, Florida
 3 of 3

Compounds	GCTL ¹ / NADSC ³	FDEP ⁶ Action Levels	CEF-372-14						
			11/19/97	3/25/98	10/1/98	3/31/99	9/24/99	3/2/00	2/9/01
Volatile Organic Compounds (USEPA Method 8260B) ($\mu\text{g/L}$)									
Benzene	1/100	50	ND	ND	ND	ND	ND	ND	ND
Toluene	40/400	None	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	30/300	None	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	20/200	None	ND	ND	ND	ND	ND	ND	ND
Total VOCs ⁴	Not applicable	50	ND	ND	ND	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (USEPA Method 8270C) ($\mu\text{g/L}$)									
Naphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	20/200	None	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	280/2800	None	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	210/2100	None	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	210/2100	None	ND	ND	ND	ND	ND	ND	ND
Total Naphthalenes ⁵	Not applicable	100	ND	ND	ND	ND	ND	ND	ND
¹ Groundwater Contamination Target Levels, Chapter 62-770, Florida Administrative Code (September 23, 1997). ² Duplicate data for well CEF-372-13R were averaged with sample concentration data to provide the concentrations shown for this sampling event. ³ Natural Attenuation Default Source Concentration, FDEP Chapter 62-777 Table V ⁴ Total VOCs = benzene, toluene, ethylbenzene, and total xylenes. ⁵ Total Naphthalenes = naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. ⁶ FDEP = Florida Department of Environmental Protection Notes: $\mu\text{g/L}$ = micrograms per liter; ND = none detected; NDE = none detected, elevated detection limits.									

FIGURES

S:\PROJECTS\NASCF\CTO 121\MONA6\TRUCKSTAND\7895MW01



LEGEND	
●	SHALLOW MONITORING WELL
●	DEEP MONITORING WELL
●	SHALLOW MONITORING WELL



DRAWN BY LLK	DATE 11/10/99
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	

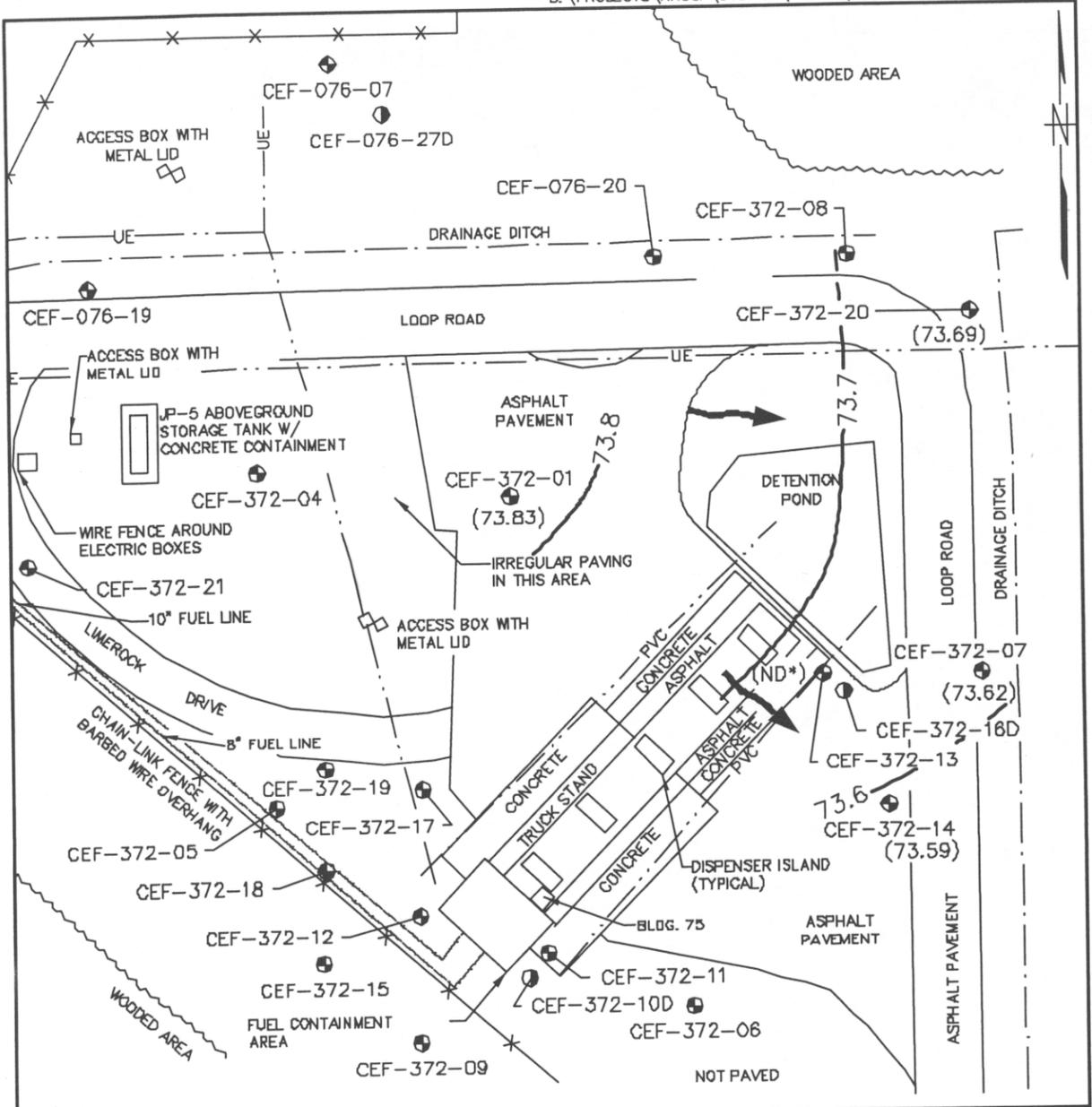


SITE MAP
TRUCK STAND, FACILITY 372
SEMI-ANNUAL MONITORING REPORT
NAVAL AIR STATION, CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 0486	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 1	REV. 0

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

S:\PROJECTS\NASCF\CTO 121\MONAs\TRUCKSTAND\7895GF01FEB01



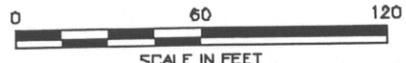
LEGEND

- SHALLOW MONITORING WELL
CEF-372-09
- DEEP MONITORING WELL
CEF-372-10D
- (73.69) WATER TABLE ELEVATION (FT MSL)

— 73.7 EQUIPOTENTIAL LINE (FT MSL)
(DASHED WHERE INFERRED)

→ INFERRED DIRECTION OF GROUNDWATER FLOW

(ND*) DATA NOT USED PENDING NEW SURVEY



DRAWN BY LLK	DATE 3/29/01
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE AS NOTED	

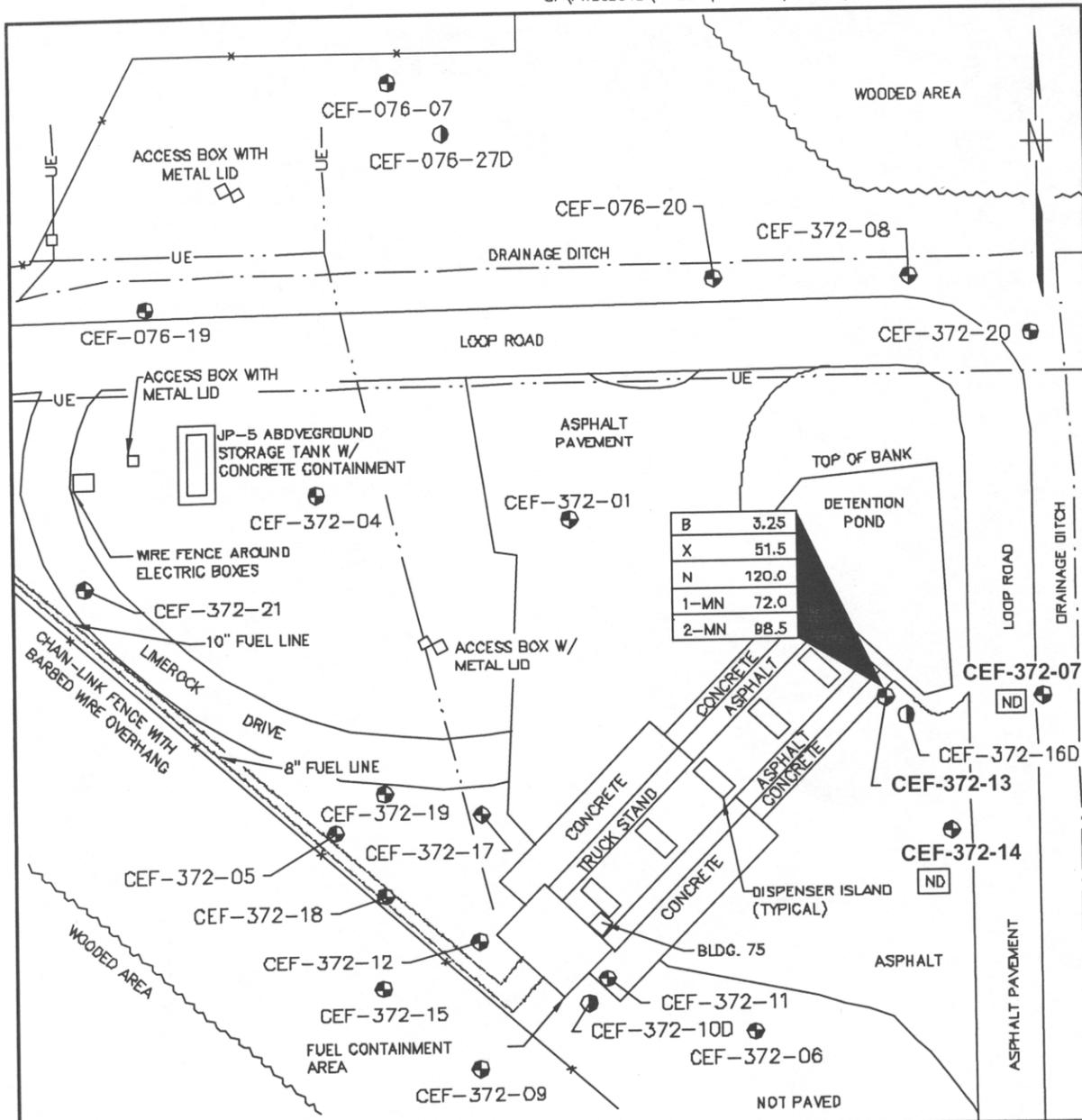


GROUNDWATER ELEVATION CONTOUR MAP
FEBRUARY 9, 2001
TRUCK STAND, FACILITY 372
SEMI-ANNUAL MONITORING REPORT
NAVAL AIR STATION, CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NO. 0486	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2	REV. 0

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

S:\PROJECTS\NASCF\CTO 121\MONAs\TRUCKSTAND\7895GAD01FEB01



LEGEND
 ● SHALLOW MONITORING WELL (BOLD = SAMPLED WELL)
● CEF-372-09
 ○ DEEP MONITORING WELL
 ○ CEF-372-10D

BENZENE	▶	B	3.25
XYLENES	▶	X	51.5
NAPHTHALENE	▶	N	120.0
1-METHYLNAPHTHALENE	▶	1-MN	72.0
2-METHYLNAPHTHALENE	▶	2-MN	98.5

ND
NONE DETECTED



ALL VALUES REPORTED IN MICROGRAMS PER LITER (µg/L)

DRAWN BY LLK DATE 3/28/01
 CHECKED BY DATE
 COST/SCHED-AREA
 SCALE AS NOTED



DISSOLVED HYDROCARBONS
 FEBRUARY 9, 2001
 TRUCK STAND, FACILITY 372
 SEMI-ANNUAL MONITORING REPORT
 NAVAL AIR STATION, CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NO. 0486
 APPROVED BY DATE
 APPROVED BY DATE
 DRAWING NO. FIGURE 3
 REV. 0

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

ATTACHMENT A
GROUNDWATER ANALYTICAL REPORT

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

CASE NARRATIVE for Project Number: 26965

Client Project: NAS Cecil Field – Truck Stand / N0486.GHO.050

CTO Manager: Paul Calligan

The following items were noted concerning this project:

1. The following samples were received by Accura Analytical Laboratory on 02/10/01 at 1130:

<u>Client I.D.</u>	<u>Laboratory I.D.</u>
CEF-372-GW-DUP-05	AC07875
CEF-372-GW-07-05	AC07876
CEF-372-GW-13-05	AC07877
CEF-372-GW-14-05	AC07878
CEF-372-GW-20-05	AC07879

2. The sample cooler temperature was noted to be 2⁰C upon receipt.
3. The “J” values noted for the VOC results indicate estimated concentrations that were above the method detection limits, but below the reporting limits.
4. The pH for the following samples was as noted for the VOC analysis:

<u>VOC – SW-846-8260B</u>	
CEF-372-GW-DUP-05	(1.0)
CEF-372-GW-07-05	(1.0)
CEF-372-GW-13-05	(4.0)
CEF-372-GW-14-05	(1.0)
CEF-372-GW-20-05	(1.0)

5. The following sample required dilution due to high analyte concentration, resulting in elevated detection limits:

<u>VOC – SW-846-8260B</u>	
CEF-372-GW-DUP-05	(Ethylbenzene)
CEF-372-GW-13-05	(Ethylbenzene)

6. The laboratory control sample recovery was outside the project specified limit for the following analyte:

VOC – SW-846-8260B
Bromomethane

The laboratory control sample recovery was bias high, and there were no hits of Bromomethane in the samples; therefore the data results were accepted.

7. The following spike recoveries were outside the advisory limits:

<u>VOC – SW-46-8260B</u>		
Matrix Spike -	Bromomethane	2-Chloroethylvinyl ether
Matrix Spike Duplicate -	Bromomethane	2-Chloroethylvinyl ether

There were no hits of these analytes in the samples; therefore the data results were accepted.

8. The relative percent difference between the matrix spike and matrix spike duplicate was outside the project specified limit for the following analyte:

VOC – SW-846-8260B
2-Chloroethylvinyl ether

Quality Assurance

ANALYSIS X VOC Sample Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-128)	99		
4-Bromofluorobenzene (86-112)	101		
Toluene-d8 (84-108)	100		

Accura Analytical Laboratory,

ANALYSIS X VOC Sample Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B
Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-128)	105		
4-Bromofluorobenzene (86-112)	100		
Toluene-d8 (84-108)	105		

Accura Analytical Laboratory,

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
 FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved
 LABORATORY REPORT

Accura Sample ID AC07877

Accura Project 26965

Client: Tetra Tech Nus -Tallahassee
 Client Contact: PAUL CALLIGAN
 Client Project N0486.GHO.050
 Client Project Name: NAS CECIL FIELD-TRUCK STAND
 Client Sample ID: CEF-372-GW-13-05

Date 2/9/01
 Date 2/10/01
 Date 3/7/01
 Sample WATER

ANALYSIS PAH's - Low Level

Date 2/12/01

Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1-Methylnaphthalene	70		1.0
2-Methylnaphthalene	97		1.0
Acenaphthene	<RDL		1.0
Acenaphthylene	<RDL		1.0
Anthracene	<RDL		1.0
Benzo(a)anthracene	<RDL		1.0
Benzo(a)pyrene	<RDL		1.0
Benzo(b)fluoranthene	<RDL		1.0
Benzo(g,h,i)perylene	<RDL		1.0
Benzo(k)fluoranthene	<RDL		1.0
Chrysene	<RDL		1.0
Dibenz(a,h)anthracene	<RDL		1.0
Fluoranthene	<RDL		1.0
Fluorene	<RDL		1.0
Indeno(1,2,3-cd)pyrene	<RDL		1.0
Naphthalene	120		1.0
Phenanthrene	<RDL		1.0
Pyrene	<RDL		1.0

ANALYSIS VOC's - Cecil Field(25 ml purge)

Date 2/15/01

Date Analyzed: 2/15/01

Method Ref: 8260B
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
Benzene	3.4		1.0
Ethylbenzene	40		5.0
Methyl-tert-butyl ether (MTBE)	<RL		10
Toluene	<RL		1.0
Xylenes (Total)	55		2.0

ANALYSIS X B/N Sample Surrogates (Waters)

Date 2/12/01

Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
2-Fluorobiphenyl (Range	81		
Nitrobenzene-d5 (Range 37-104)	68		
p-Terphenyl-d14 (Range 15-132)	54		

ACCURA ANALYTICAL LABORATORY, INC.
 Client Sample ID: CEF-372-GW-13-05

<RL = Less than Reporting Limit

Pg 5 of 12

AALSample ID #: AC07877 Accura Project #: 26965

ANALYSIS X VOC Sample Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-128)	107		
4-Bromofluorobenzene (86-112)	105		
Toluene-d8 (84-108)	102		

Accura Analytical Laboratory,

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
 FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID AC07878

Accura Project 26965

Client: Tetra Tech Nus -Tallahassee
 Client Contact: PAUL CALLIGAN
 Client Project N0486.GHO.050
 Client Project Name: NAS CECIL FIELD-TRUCK STAND
Client Sample ID: CEF-372-GW-14-05

Date 2/9/01
 Date 2/10/01
 Date 3/7/01
 Sample WATER

ANALYSIS PAH's - Low Level

Date 2/12/01 Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1-Methylnaphthalene	<RDL		1.0
2-Methylnaphthalene	<RDL		1.0
Acenaphthene	<RDL		1.0
Acenaphthylene	<RDL		1.0
Anthracene	<RDL		1.0
Benzo(a)anthracene	<RDL		1.0
Benzo(a)pyrene	<RDL		1.0
Benzo(b)fluoranthene	<RDL		1.0
Benzo(g,h,i)perylene	<RDL		1.0
Benzo(k)fluoranthene	<RDL		1.0
Chrysene	<RDL		1.0
Dibenz(a,h)anthracene	<RDL		1.0
Fluoranthene	<RDL		1.0
Fluorene	<RDL		1.0
Indeno(1,2,3-cd)pyrene	<RDL		1.0
Naphthalene	<RDL		1.0
Phenanthrene	<RDL		1.0
Pyrene	<RDL		1.0

ANALYSIS VOC's - Cecil Field(25 ml purge)

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 8260B
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
Benzene	<RL		1.0
Ethylbenzene	<RL		1.0
Methyl-tert-butyl ether (MTBE)	<RL		10
Toluene	<RL		1.0
Xylenes (Total)	<RL		2.0

ANALYSIS X B/N Sample Surrogates (Waters)

Date 2/12/01 Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
2-Fluorobiphenyl (Range	84		
Nitrobenzene-d5 (Range 37-104)	82		
p-Terphenyl-d14 (Range 15-132)	85		

ACCURA ANALYTICAL LABORATORY, INC.

<RL = Less than Reporting Limit

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Client Sample ID: CEF-372-GW-14-05

AALSample ID #: AC07878 Accura Project #: 26965

ANALYSIS X VOC Sample Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-128)	108		
4-Bromofluorobenzene (86-112)	107		
Toluene-d8 (84-108)	106		

Accura Analytical Laboratory,

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LABORATORY REPORT

Accura Sample ID AC07879

Accura Project 26965

Client: Tetra Tech Nus -Tallahassee	Date	2/9/01
Client Contact: PAUL CALLIGAN	Date	2/10/01
Client Project N0486.GHO.050	Date	3/7/01
Client Project Name: NAS CECIL FIELD-TRUCK STAND	Sample	WATER
Client Sample ID: CEF-372-GW-20-05		

ANALYSIS PAH's - Low Level

Date	2/12/01	Date Analyzed: 2/17/01	Method Ref: 8270C
			Result Units: ug/L
<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1-Methylnaphthalene	<RL		1.0
2-Methylnaphthalene	<RL		1.0
Acenaphthene	<RL		1.0
Acenaphthylene	<RL		1.0
Anthracene	<RL		1.0
Benzo(a)anthracene	<RL		1.0
Benzo(a)pyrene	<RL		1.0
Benzo(b)fluoranthene	<RL		1.0
Benzo(g,h,i)perylene	<RL		1.0
Benzo(k)fluoranthene	<RL		1.0
Chrysene	<RL		1.0
Dibenz(a,h)anthracene	<RL		1.0
Fluoranthene	<RL		1.0
Fluorene	<RL		1.0
Indeno(1,2,3-cd)pyrene	<RL		1.0
Naphthalene	<RL		1.0
Phenanthrene	<RL		1.0
Pyrene	<RL		1.0

ANALYSIS VOC's - Cecil Field(25 ml purge)

Date	2/15/01	Date Analyzed: 2/15/01	Method Ref: 8260B
			Result Units: ug/L
<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
Benzene	<RL		1.0
Ethylbenzene	<RL		1.0
Methyl-tert-butyl ether (MTBE)	<RL		10
Toluene	<RL		1.0
Xylenes (Total)	<RL		2.0

ANALYSIS X B/N Sample Surrogates (Waters)

Date	2/12/01	Date Analyzed: 2/17/01	Method Ref: 8270C
			Result Units: %
<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
2-Fluorobiphenyl (Range	77		
Nitrobenzene-d5 (Range 37-104)	74		
p-Terphenyl-d14 (Range 15-132)	84		

ANALYSIS X VOC Sample Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-128)	104		
4-Bromofluorobenzene (86-112)	100		
Toluene-d8 (84-108)	101		

Accura Analytical Laboratory,

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 FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID AC07880

Accura Project 26965

Client: Tetra Tech Nus -Tallahassee
 Client Contact: PAUL CALLIGAN
 Client Project N0486.GHO.050
 Client Project Name: NAS CECIL FIELD-TRUCK STAND
Client Sample ID: METHOD BLANK

Date 2/10/01
 Date 2/10/01
 Date 3/7/01
 Sample WATER

ANALYSIS PAH's - Low Level

Date 2/12/01 Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1-Methylnaphthalene	<RL		1.0
2-Methylnaphthalene	<RL		1.0
Acenaphthene	<RL		1.0
Acenaphthylene	<RL		1.0
Anthracene	<RL		1.0
Benzo(a)anthracene	<RL		1.0
Benzo(a)pyrene	<RL		1.0
Benzo(b)fluoranthene	<RL		1.0
Benzo(g,h,i)perylene	<RL		1.0
Benzo(k)fluoranthene	<RL		1.0
Chrysene	<RL		1.0
Dibenz(a,h)anthracene	<RL		1.0
Fluoranthene	<RL		1.0
Fluorene	<RL		1.0
Indeno(1,2,3-cd)pyrene	<RL		1.0
Naphthalene	<RL		1.0
Phenanthrene	<RL		1.0
Pyrene	<RL		1.0

ANALYSIS VOC's - Cecil Field(25 ml purge)

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 8260B
 Result Units: ug/L

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
Benzene	<RL		1.0
Ethylbenzene	<RL		1.0
Methyl-tert-butyl ether (MTBE)	<RL		10
Toluene	<RL		1.0
Xylenes (Total)	<RL		2.0

ANALYSIS X Base Neutral OC Surrogates (W

Date 2/12/01 Date Analyzed: 2/17/01

Method Ref: 8270C
 Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
2-Fluorobiphenyl (Range	86		
Nitrobenzene-d5 (Range 50-103)	86		
p-Terphenyl-d14 (Range 64-113)	101		

ACCURA ANALYTICAL LABORATORY, INC.

<RL = Less than Reporting Limit

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Client Sample ID: METHOD BLANK

AALS sample ID #: AC07880 Accura Project #: 26965

ANALYSIS X VOC OC Surrogates-Waters

Date 2/15/01 Date Analyzed: 2/15/01

Method Ref: 5030B/8260B

Result Units: %

<u>Analyte Name</u>	<u>Analytical Results</u>	<u>Qualifier</u>	<u>Reported Detection</u>
1,2-Dichloroethane-d4 (78-114)	97		
4-Bromofluorobenzene (85-111)	98		
Toluene-d8 (88-106)	106		

Accura Analytical Laboratory,

ATTACHMENT B
FDEP APPROVAL ORDER



Department of Environmental Protection

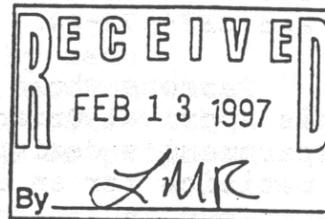
Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

February 4, 1997

CERTIFIED MAIL
RETURN RECEIPT REQUESTED



Commanding Officer
Mr. Bryan Kizer, Code 1842
SOUTHNAVFACENCOM
Post Office Box 190010
North Charleston, SC 29419-0068

RE: Contamination Assessment Report Addendum,
Building 372, Truck Stand, Naval Air Station Cecil
Field, Florida

Dear Mr. Kizer:

The Bureau of Waste Cleanup has reviewed the Contamination Assessment Report (CAR) Addendum and Monitoring Only Plan (MOP) dated December 1996 (received December 9, 1996), submitted for this site. Pursuant to Rule 62-770.630(4), Florida Administrative Code (F.A.C.), the Department approves the "monitoring only" proposal. Pursuant to Rules 62-770.660 and 62-770.700(3), F.A.C., you are required to complete the monitoring program outlined below, and to submit the analytical results to the Department within sixty (60) days of sample collection:

<u>Monitoring Wells</u>	<u>Parameters</u>	<u>Frequency</u>	<u>Duration</u>
CEF-372-01, CEF-371-07, CEF-372-13, CEF-372-14, and CEF-372-20	EPA Methods 601 and 610	Quarterly	One Year

If contaminant concentrations in the designated wells increase above the concentrations listed below, then the resampling/supplemental assessment described in Rule 62-770.660(6) should be performed. If the contaminant concentrations do not decrease below Rule 62-770.730(5) target cleanup levels (unless higher alternative site rehabilitation levels have been established) after the duration of the monitoring period, then additional monitoring, supplemental contamination assessment and/or remediation may be required:

CEF-372-13: 250 ug/l Benzene; 1000 ug/l Total
VOAs; and 2000 ug/l Total Naphthalenes

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Mr. Bryan Kizer
February 4, 1997
Page two

CEF-372-01, CEF- 50 ug/l Benzene; 50 ug/l Total VOAs,
372-07, CEF-372-14, abd 100 ug/l Total Napthalenes
and CEF-372-20:

Persons whose substantial interests are affected by this Approval Order have the right to challenge the Department's decision. Such a challenge may include filing a petition for an administrative determination (hearing) as described in the following paragraphs. However, pursuant to Chapter 62-103, F.A.C., you may request an extension of time to file the Petition. All requests for extensions of time or petitions for administrative determinations must be filed directly with the Department's Office of General Counsel at the address given below within twenty-one (21) days of receipt of this notice (do not send them to the Bureau of Waste Cleanup).

Notwithstanding the above, a person whose substantial interests are affected by this Approval Order may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within twenty-one (21) days of receipt of this notice. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S. Please be advised that mediation of this decision, pursuant to Section 120.573, F.S. is available.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the Department file number (DER facility number), and the name and address of the facility;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by each petitioner, if any;
- (e) A statement of facts which each petitioner contends warrant reversal or modification of the Department's action or proposed action;

Mr. Bryan Kizer
February 4, 1997
Page three

- (f) A statement of which rules or statutes each petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by each petitioner, stating precisely the action each petitioner wants the Department to take with respect to the Department's action or proposed action.

This Approval Order is final and effective on the date of receipt of this Order unless a petition (or time extension) is filed in accordance with the preceding paragraphs. Upon the timely filing of a petition, this Order will not be effective until further order of the Department.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, F.S., by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the Final Order is filed with the Clerk of the Department.

Any questions you may have on the technical aspects of this Approval Order should be directed to Michael J. Deliz (904) 488-3935. Contact with the above named person does not constitute a petition for administrative determination.

Sincerely,



John M. Ruddell, Director
Division of Waste Management

JMR/mjd

CC: Pat Kingcade, FDEP OGC/ Natural Resource Trustee File
Lewis Shields, City of Jacksonville
Debbie Vaughn-Wright - USEPA - Atlanta
Steve Wilson SOUTHDIVNAVFCENGCOM