

N60200.AR.003121
NAS CECIL FIELD, FL
5090.3a

"FIRST SEMI-ANNUAL FIRST YEAR GROUNDWATER MONITORING LETTER REPORT FOR
BUILDING 860 TANKS 860 A, B AND D NAS CECIL FIELD FL"

10/31/2001

TETRA TECH NUS INC

Document Tracking Number 01JAX0166

October 31, 2001

Project Number N0394

Commander, Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Nick Ugolini Code ES242
2155 Eagle Drive
North Charleston, South Carolina 29406

Reference: Clean Contract No. N62467-94-D-0888
Contract Task Order No. 0108

Subject: Groundwater Monitoring Report, 1st Semi-Annual, 1st Year (August 2001)
Building 860 –Tanks 860 A/B/D
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Ugolini:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Groundwater Monitoring Letter Report for the referenced Contract Task Order (CTO). This report was prepared by TtNUS for the U.S. 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 monitor groundwater associated with the site semi-annually. The guidance document for this report is Chapter 62-770, Florida Administrative Code (FAC). The sampling program was accomplished in general accordance with the Natural Attenuation Monitoring Only Plan (MOP) Approval Order that was issued by the Florida Department of Environmental Protection (FDEP) on April 6, 2001 (Attachment A). This report summarizes the fieldwork and analytical results for the subject site that was conducted in August 2001. The work was performed in general accord with the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998).

FIELD OPERATIONS

Figure 1 shows the location of the site. On August 6, 2001, water level measurements were obtained from eight monitoring wells prior to sample collection. The depth to water ranged from 5.00 to 6.05 feet (ft) below top of casing (btoc). The depth-to-water measurements, along with top-of-casing elevations, were used to calculate groundwater elevations.

Groundwater samples were collected on August 6, 2001 from five monitoring wells in general accord with the MOP Approval Order, and they were analyzed for total recoverable petroleum hydrocarbons (TRPH). Those wells included CEF-860-2S (perimeter well), CEF-860-3S (contaminated well), CEF-860-4S (contaminated well), CEF-860-7S (perimeter well) and CEF-860-8S (perimeter well).

The analytical results from the August 6, 2001 sampling event indicated the TRPH MOP action level [5 milligrams per liter (mg/L)] was exceeded by the sample from monitoring well CEF-860-2S. The reported concentration was 17.4 mg/L. In accordance with the MOP order, TtNUS personnel re-sampled the well on September 11, 2001 for TRPH.

Following collection efforts on both occasions, the groundwater samples were shipped on ice and under chain of custody to Accutest Laboratories in Orlando, Florida, for analysis. The samples were analyzed using the Florida – Petroleum Range Organics (FL-PRO) method for TRPH.

RESULTS

Figure 2 illustrates the groundwater elevations as measured on August 6, 2001. The groundwater contours on that figure indicate flow to the northwest. Table 1 provides the water table elevation data for the event.

The laboratory reports for this event are provided as Attachment B, and the results are summarized in Table 2. The laboratory data indicates that TRPH was detected in three of the five monitoring wells that were sampled. As previously indicated, the TRPH concentration of the sample from well CEF-860-2S exceeded the MOP action level (5 mg/L) in August, but the concentration was significantly less than the action level in September. The concentration reported for the sample from CEF-860-3S (5.62 mg/L) was below the contaminated well action level of 50 mg/L. The reported concentrations for the other three wells were below the GCTL.

The historical laboratory data for the site is included on Table 3. This table indicates the historical TRPH data for well CEF-860-2S is generally below the GCTL with the single exception occurring for the August 2001 sampling event. The historical data for the contaminated wells (CEF-860-3S and CEF-860-4S) indicates that the TRPH concentrations for those wells are decreasing. Lastly, the historical data for the downgradient perimeter wells (CEF-860-7S and CEF-860-8S) continues to show no impacts from TRPH.

CONCLUSIONS AND RECOMMENDATIONS

Groundwater flow direction to the northeast has remained generally unchanged for this site.

Figure 3 depicts TRPH concentrations that were detected in the groundwater samples. The TRPH plume is outlined on this figure based on the GCTL, and it appears to be localized around well CEF-860-3S. Attachment C shows the plume as mapped from the Site Assessment Report (SAR) (TtNUS, 2000). A comparison of these plume maps indicates the TRPH plume has decreased in size.

The analytical data shows that the TRPH concentration in a source well is still greater than the GCTL. Overall, there appears to be a downward trend in TRPH concentration, but there is a limited amount of data to date. TtNUS recommends that we continue the monitoring program in accordance with the MOP Approval Order.

Mr. Nick Ugolini
SOUTHNAVFACENGCOM
October 31, 2001 - Page 3

The next semi-annual sampling event is scheduled for February 2002. If you have any questions with regard to this submittal, or if we can be of assistance in any way, please contact Joe Logan at (412) 921-7231.

Sincerely,

Joseph W. Logan
Task Order Manager

Debbie Wroblewski
Program Manager

JL/mdo

Attachments (9)

cc: D. Grabka, FDEP
D. Vaughn-Wright, USEPA
D. Wroblewski, TtNUS (cover letter only)
M. Perry, TtNUS (unbound)
Project File

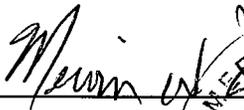
Mr. Nick Ugolini
SOUTHNAVFACENGCOM
October 31, 2001 – Page 4

bcc: M. Dale, TtNUS
P. Calligan, TtNUS
J. Logan, TtNUS
R. Simcik, TtNUS (Bookcase File)
J. Johnson, TtNUS (Information Repository)

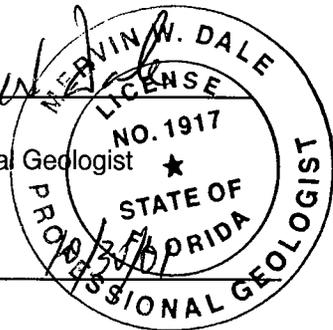
TABLES

PROFESSIONAL REVIEW CERTIFICATION

The Groundwater Monitoring Report, 1st Semi-Annual, 1st Year (August 2001) for Building 860, Tanks 860 A/B/D was prepared using sound hydrogeologic principles and judgment. This report is based on the groundwater monitoring activities and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the monitoring activities described in this report. This report was developed for Building 860, Tanks 860 A/B/D at the former NAS Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.



Mervin W. Dale
Florida Professional Geologist
P.G. No. 0001917



Date

TABLE 1

**MONITORING WELL CONSTRUCTION AND WATER TABLE ELEVATION DATA
BUILDING 860 TANKS A/B/D
GROUNDWATER MONITORING REPORT
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA**

Monitoring Well Identification	Total depth (feet, btoc)	Screened interval (feet, btoc)	Top of casing elevation (feet, msl)	February 18, 2001		August 6, 2001	
				Depth to water (feet, btoc)	Water Level Elevation (feet, msl)	Depth to water (feet, btoc)	Water Level Elevation (feet, msl)
CEF-860-1S	15	5-15	74.63	7.30	67.33	6.05	68.58
CEF-860-2S	14	4-14	73.53	6.41	67.12	5.30	68.23
CEF-860-3S	14	4-14	73.73	6.58	67.15	5.44	68.29
CEF-860-4S	14	4-14	74.35	6.98	67.37	5.76	68.59
CEF-860-5S	14	4-14	74.46	7.02	67.44	5.84	68.62
CEF-860-6S	14	4-14	74.02	6.41	67.61	5.23	68.79
CEF-860-7S	14	4-14	73.35	6.19	67.16	5.00	68.35
CEF-860-8S	14	4-14	73.35	6.70	66.65	5.51	67.84

Notes:

btoc = below top of casing

msl = mean sea level

Elevation is referenced to 1988 NGVD

TABLE 2

**SUMMARY OF DETECTIONS
 BUILDING 860 TANKS A/B/D
 GROUNDWATER MONITORING REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA**

Location Sample Date	Perimeter Monitoring Wells		Contaminated Wells				Action Levels for Perimeter Wells/ Contaminated Wells	Milestone Objective for contaminated wells after year 1
	CEF-860-2S 6-Aug-01	CEF-860-2S 11-Sep-01	CEF-860-3S 6-Aug-01	CEF-860-4S 6-Aug-01	CEF-860-7S 6-Aug-01	CEF-860-8S 6-Aug-01		
Total Petroleum Hydrocarbons (mg/L)								
TRPH	17.4	0.215	5.62	0.389	0.25 U	0.28 U	5/50	13

Notes:

Bold values are greater than action levels.
 mg/L - milligram per liter
 U = undetected at detection limit shown.

TABLE 3

**HISTORICAL ANALYTICAL DATA
BUILDING 860 TANKS A/B/D
GROUNDWATER MONITORING REPORT
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
PAGE 1 OF 4**

Location	FDEP	CEF-860-1S	CEF-860-1S	CEF-860-1S
Sample Number	GCTL	CEF-860-1S	CEF-860-GW-1S-03	CEF-860-GW-DU06
Sample Date	FAC 62-777	10-Jul-98	10-May-00	10-May-00
Well Depth, feet		15	15	15
Volatile Organic Compounds (µg/L)				
ETHYLBENZENE	30	21	NM	NM
XYLENES	20	1.7	NM	NM
Semivolatile Organic Compounds (µg/L)				
1-METHYLNAPHTHALENE	20	40	2 U	2 U
2-METHYLNAPHTHALENE	20	45	2 U	2 U
ACENAPHTHENE	20	2 U	2 U	2 U
ANTHRACENE	2100	3	2 U	2 U
BENZO(G,H,I)PERYLENE	210	0.2 U	0.2 U	0.2 U
NAPHTHALENE	20	27	2 U	2 U
PHENANTHRENE	210	2.6	2 U	2 U
PYRENE	210	3	2 U	2 U
Total Petroleum Hydrocarbons (mg/L)				
TRPH	5	12	3.33	2.88
Location	FDEP	CEF-860-2S	CEF-860-2S	CEF-860-2S
Sample Number	GCTL	CEF-860-GW-2S-01	CEF-860-GW-2S	CEF-860-GW-2S-01A
Sample Date	FAC 62-777	6-Oct-99	6-Aug-01	11-Sep-01
Well Depth, feet		14	14	14
Volatile Organic Compounds (µg/L)				
ETHYLBENZENE	30	1 U	NM	NM
XYLENES	20	3 U	NM	NM
Semivolatile Organic Compounds (µg/L)				
1-METHYLNAPHTHALENE	20	1 U	NM	NM
2-METHYLNAPHTHALENE	20	1 U	NM	NM
ACENAPHTHENE	20	1 U	NM	NM
ANTHRACENE	2100	1 U	NM	NM
BENZO(G,H,I)PERYLENE	210	0.16 U	NM	NM
NAPHTHALENE	20	1 U	NM	NM
PHENANTHRENE	210	1 U	NM	NM
PYRENE	210	1 U	NM	NM
Total Petroleum Hydrocarbons (mg/L)				
TRPH	5	1.09	17.4	0.215

TABLE 3

**HISTORICAL ANALYTICAL DATA
BUILDING 860 TANKS A/B/D
GROUNDWATER MONITORING REPORT
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA
PAGE 2 OF 4**

Location	FDEP	CEF-860-3S	CEF-860-3S	CEF-860-3S
Sample Number	GCTL	CEF-860-GW-3S-01	CEF-860-GW-3S-03	CEF-860-GW-3S
Sample Date	FAC 62-777	7-Oct-99	10-May-00	6-Aug-01
Well Depth, feet		14	14	14
Volatile Organic Compounds (µg/L)				
ETHYLBENZENE	30	1 U	NM	NM
XYLENES	20	3 U	NM	NM
Semivolatile Organic Compounds (µg/L)				
1-METHYLNAPHTHALENE	20	1.1 UJ	2 U	NM
2-METHYLNAPHTHALENE	20	1.1 UJ	2 U	NM
ACENAPHTHENE	20	1.1 UJ	2 U	NM
ANTHRACENE	2100	1 U	2 U	NM
BENZO(G,H,I)PERYLENE	210	0.17 UJ	0.2 U	NM
NAPHTHALENE	20	1.1 UJ	2 U	NM
PHENANTHRENE	210	1.1 UJ	2 U	NM
PYRENE	210	1 UJ	2 U	NM
Total Petroleum Hydrocarbons (mg/L)				
TRPH	5	6.86	13.6	5.62
Location	FDEP	CEF-860-4S	CEF-860-4S	CEF-860-4S
Sample Number	GCTL	CEF-860-GW-4S-01	CEF-860-GW-4S-03	CEF-860-GW-4S
Sample Date	FAC 62-777	7-Oct-99	10-May-00	6-Aug-01
Well Depth, feet		14	14	14
Volatile Organic Compounds (µg/L)				
ETHYLBENZENE	30	1 U	NM	NM
XYLENES	20	3 U	NM	NM
Semivolatile Organic Compounds (µg/L)				
1-METHYLNAPHTHALENE	20	1 UJ	2 U	NM
2-METHYLNAPHTHALENE	20	1 UJ	2 U	NM
ACENAPHTHENE	20	1 UJ	2 U	NM
ANTHRACENE	2100	1 U	2 U	NM
BENZO(G,H,I)PERYLENE	210	0.44 J	0.2 U	NM
NAPHTHALENE	20	1 UJ	2 U	NM
PHENANTHRENE	210	1 UJ	2 U	NM
PYRENE	210	1 UJ	2 U	NM
Total Petroleum Hydrocarbons (mg/L)				
TRPH	5	26	10.9	0.389

TABLE 3

HISTORICAL ANALYTICAL DATA
 BUILDING 860 TANKS A/B/D
 GROUNDWATER MONITORING REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 3 OF 4

Location	FDEP	CEF-860-5S	CEF-860-5S	CEF-860-5S
Sample Number	GCTL	CEF-860-GW-5S-01	CEF-860-GW-DU02	CEF-860-GW-5S-03
Sample Date	FAC 62-777	6-Oct-99	6-Oct-99	10-May-00
Well Depth, feet		14	14	14
Volatile Organic Compounds (µg/L)				
ETHYLBENZENE	30	1 U	1 U	NM
XYLENES	20	3 U	3 U	NM
Semivolatile Organic Compounds (µg/L)				
1-METHYLNAPHTHALENE	20	16.5	11	10
2-METHYLNAPHTHALENE	20	18.1	11.8	12.7
ACENAPHTHENE	20	13.4	9.8	2 U
ANTHRACENE	2100	1 U	1 U	2 U
BENZO(G,H,I)PERYLENE	210	0.15 U	0.15 U	0.2 U
NAPHTHALENE	20	21.7	15.5	13.8
PHENANTHRENE	210	2.6	1.8	2 U
PYRENE	210	1 U	1 U	2 U
Total Petroleum Hydrocarbons (mg/L)				
TRPH	5	13.5	16.5	5.48

Location	FDEP	CEF-860-6S	CEF-860-6S
Sample Number	GCTL	CEF-860-GW-6S-02	CEF-860-GW-DU03-02
Sample Date	FAC 62-777	18-Feb-00	18-Feb-00
Well Depth, feet		14	14
Volatile Organic Compounds (µg/L)			
ETHYLBENZENE	30	1 U	1 U
XYLENES	20	3 U	3 U
Semivolatile Organic Compounds (µg/L)			
1-METHYLNAPHTHALENE	20	1 U	1 U
2-METHYLNAPHTHALENE	20	1 U	1 U
ACENAPHTHENE	20	1 U	1 U
ANTHRACENE	2100	1 U	1 U
BENZO(G,H,I)PERYLENE	210	0.16 U	0.16 U
NAPHTHALENE	20	1 U	1 U
PHENANTHRENE	210	1 U	1 U
PYRENE	210	1 U	1 U
Total Petroleum Hydrocarbons (mg/L)			
TRPH	5	0.25 U	0.28 U

TABLE 3

HISTORICAL ANALYTICAL DATA
 BUILDING 860 TANKS A/B/D
 GROUNDWATER MONITORING REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA
 PAGE 4 OF 4

Location	FDEP	CEF-860-7S	CEF-860-7S	CEF-860-7S
Sample Number	GCTL	CEF-860-GW-7S-02	CEF-860-GW-7S	CEF-860-GW-DUP1
Sample Date	FAC 62-777	18-Feb-00	6-Aug-01	6-Aug-01
Well Depth, feet		14	14	14

Volatile Organic Compounds (µg/L)

ETHYLBENZENE	30	1 U	NM	NM
XYLENES	20	3 U	NM	NM

Semivolatile Organic Compounds (µg/L)

1-METHYLNAPHTHALENE	20	NM	NM	NM
2-METHYLNAPHTHALENE	20	NM	NM	NM
ACENAPHTHENE	20	NM	NM	NM
ANTHRACENE	2100	NM	NM	NM
BENZO(G,H,I)PERYLENE	210	NM	NM	NM
NAPHTHALENE	20	NM	NM	NM
PHENANTHRENE	210	NM	NM	NM
PYRENE	210	NM	NM	NM

Total Petroleum Hydrocarbons (mg/L)

TRPH	5	0.28 U	0.25 U	0.25 U
------	---	--------	--------	--------

Location	FDEP	CEF-860-8S	CEF-860-8S
Sample Number	GCTL	CEF-860-GW-8S-02	CEF-860-GW-8S
Sample Date	FAC 62-777	18-Feb-00	6-Aug-01
Well Depth, feet		14	14

Volatile Organic Compounds (µg/L)

ETHYLBENZENE	30	1 U	NM
XYLENES	20	3 U	NM

Semivolatile Organic Compounds (µg/L)

1-METHYLNAPHTHALENE	20	NM	NM
2-METHYLNAPHTHALENE	20	NM	NM
ACENAPHTHENE	20	NM	NM
ANTHRACENE	2100	NM	NM
BENZO(G,H,I)PERYLENE	210	NM	NM
NAPHTHALENE	20	NM	NM
PHENANTHRENE	210	NM	NM
PYRENE	210	NM	NM

Total Petroleum Hydrocarbons (mg/L)

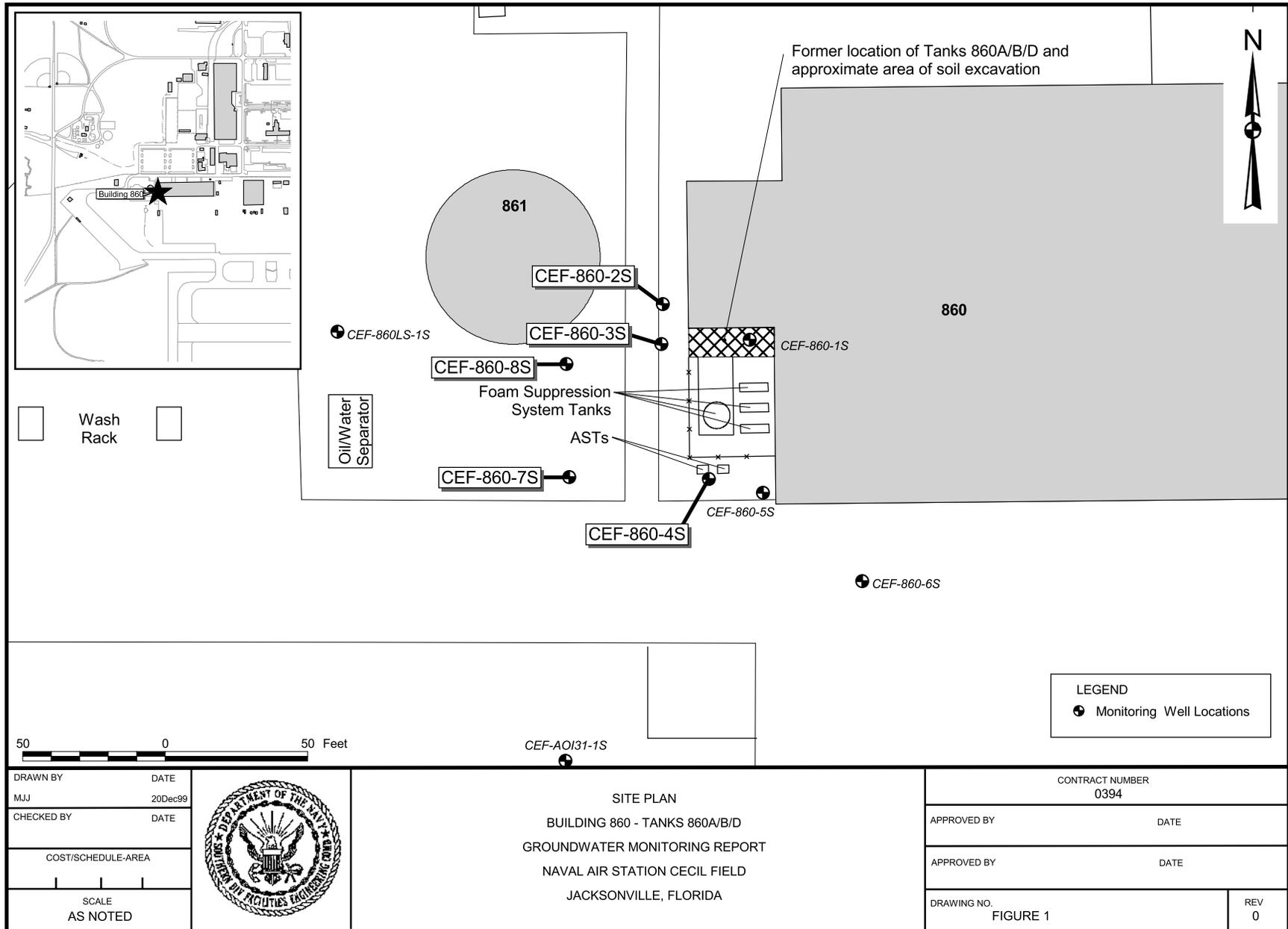
TRPH	5	0.907	0.28 U
------	---	-------	--------

Notes:

GCTL - Groundwater Cleanup Target Level
 Bold values are greater than criteria.
 µg/L - microgram per liter

mg/L - milligram per liter
 NM - Not measured
 U - Undetected at detection limit shown
 J - Estimated value

FIGURES

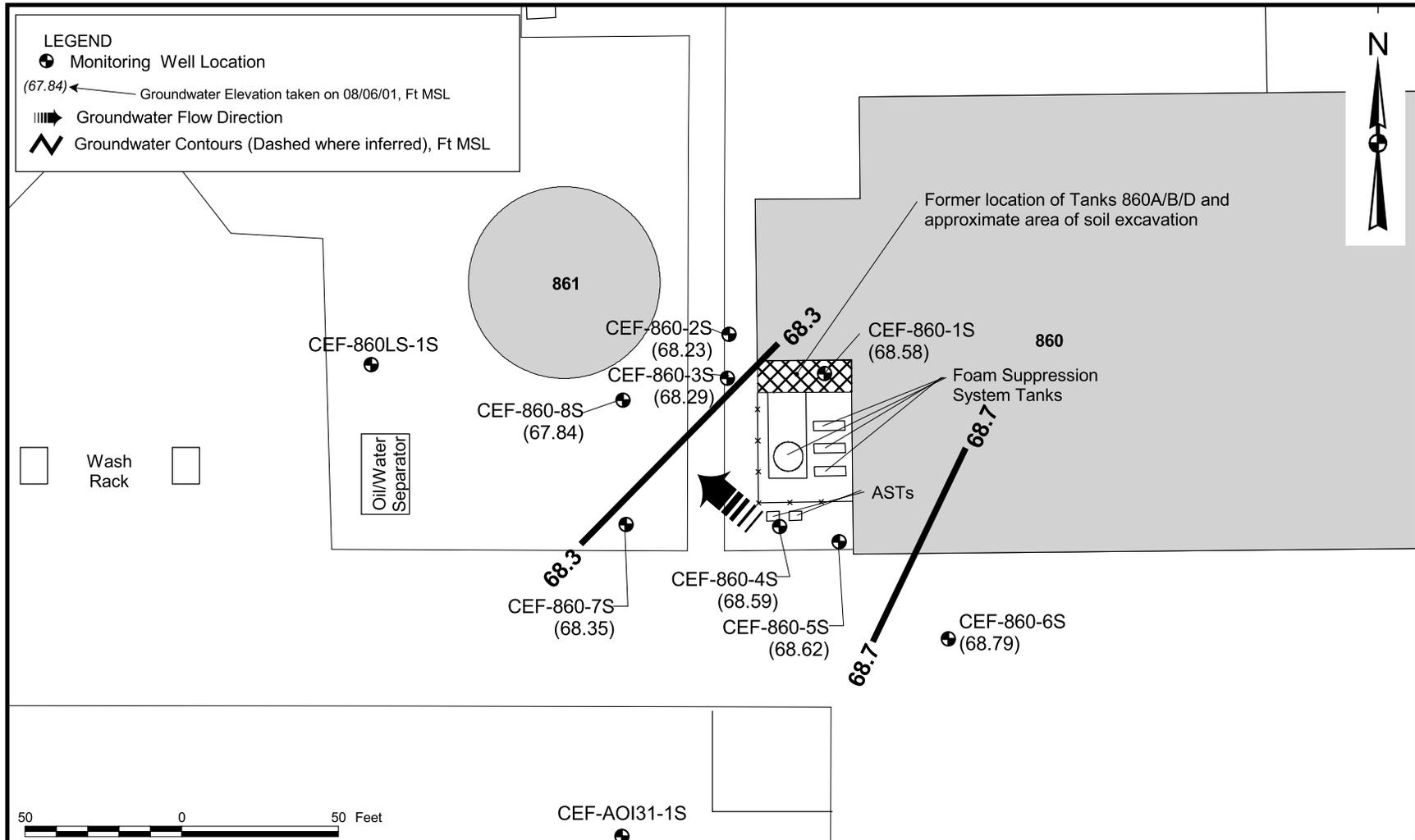


DRAWN BY	DATE
MJJ	20Dec99
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

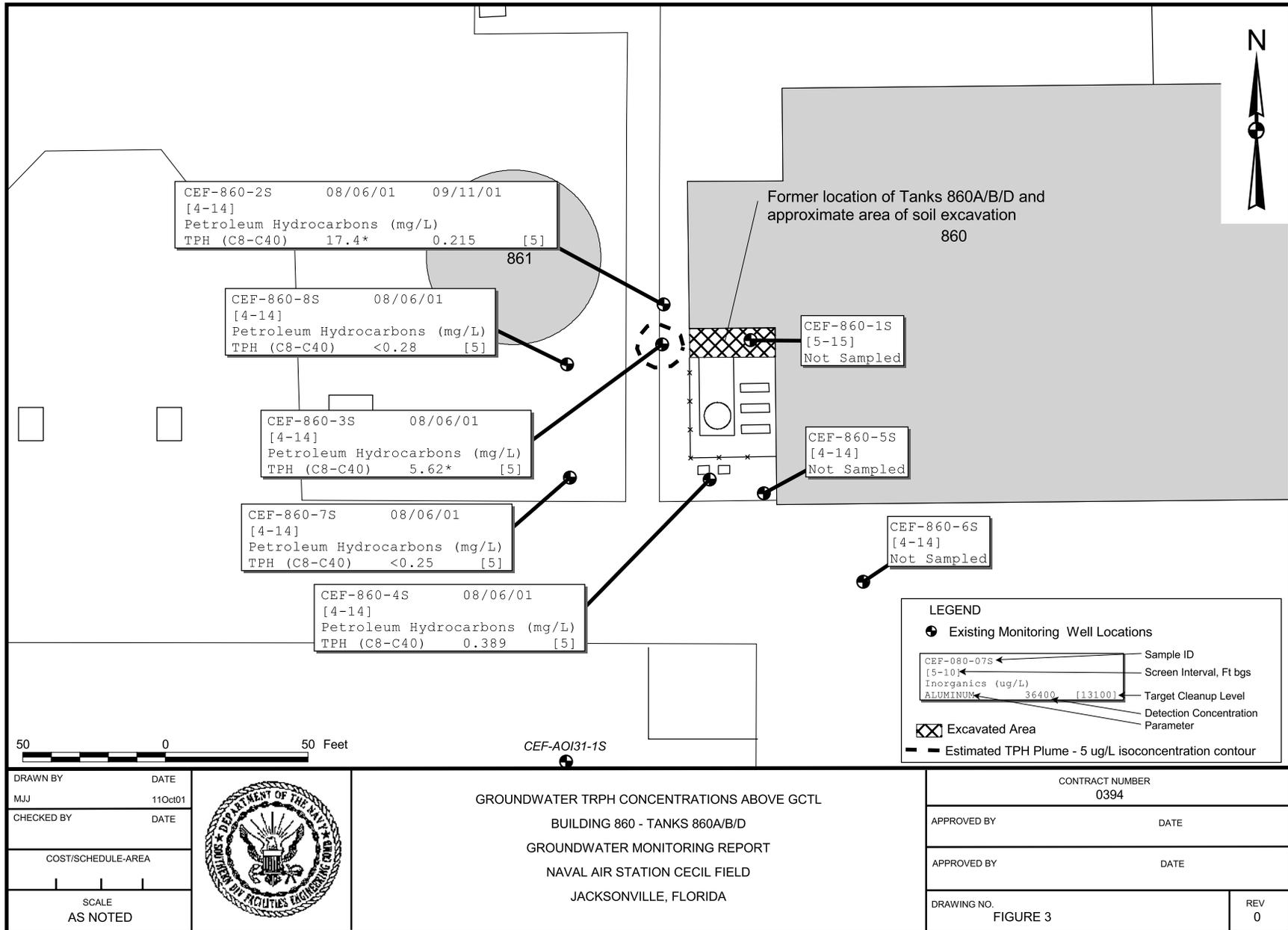


SITE PLAN
 BUILDING 860 - TANKS 860A/B/D
 GROUNDWATER MONITORING REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0394	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 1	REV 0



DRAWN BY MJJ CHECKED BY COST/SCHEDULE-AREA SCALE AS NOTED	DATE 11Oct01 DATE DATE	 <p> GROUNDWATER FLOW MAP BUILDING 860 - TANKS 860A/B/D GROUNDWATER MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA </p>	CONTRACT NUMBER 0394
			APPROVED BY _____ DATE _____
			APPROVED BY _____ DATE _____
			DRAWING NO. FIGURE 2



ATTACHMENT A
FDEP MONA APPROVAL ORDER



Department of Environmental Protection

CC Dale
Calligan

(C70 108)

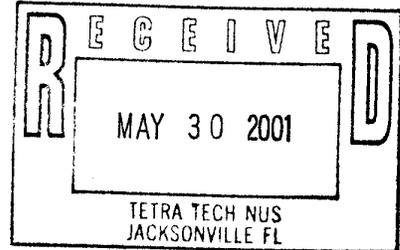
Jeb Bush
Governor

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

David B. Struhs
Secretary

April 6, 2001

Mr. Nick Ugolini
Code 1843 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010



RE: **Site Assessment Report Addendum, Building 860, Tanks 860 *
A/B/D, Naval Air Station Cecil Field, Jacksonville, Florida**

Dear Mr. Ugolini:

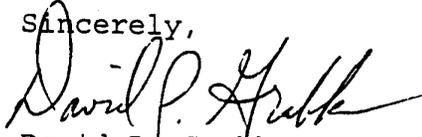
I have completed the review of the Site Assessment Report Addendum (SARA) and Monitoring Only Proposal (MOP) for Building 860, Tanks 860 A/B/D, Naval Air Station Cecil Field, dated March 2001 (received March 19, 2001), prepared and submitted by Tetra Tech NUS, Inc. The SAR provides adequate evidence that natural attenuation at this site will reduce contaminant concentrations to below groundwater cleanup target levels (GCTLs) in five years. I have attached a Monitoring Only Plan Approval Order signed by Douglas A. Jones specifying the actions to be taken in monitoring the site.

Based on the information provided in the SARA, petroleum contaminated soil has been removed to the extent practicable. Building footings, containment wall footings, a road and the water table has limited further removal of contaminated soil. The contaminated soil remaining does not appear to be at concentrations that would cause groundwater contamination above the Departments GCTLs. Also, most of the contaminated soil remaining on site is located beneath structures that act as a cap to prevent leaching of the contaminants to groundwater. As proposed in the SARA, institutional controls should be put in place to restrict access to the residual contaminated material and restrict the site for industrial use. The restrictions should also require that the roadway and earth cover be maintained in good condition.

If I can be of any further assistance with this matter, please contact me at (850) 488-3693.

Mr. Nick Ugolini
Building 860, Tanks 860 A/B/D
Naval Air Station Cecil Field
April 6, 2001
Page Two

Sincerely,



David P. Grabka
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Mark Speranza, TetraTech NUS, Pittsburgh
Sam Ross, CH2M Hill Constructors, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB TJB

JJC JJC

ESN ESN

Mr. Nick Ugolini
Building 860, Tanks 860 A/B/D
Cecil Field Naval Air Station

P.G. CERTIFICATION

SARA/MOP for Building 860, Tanks 860 A/B/D

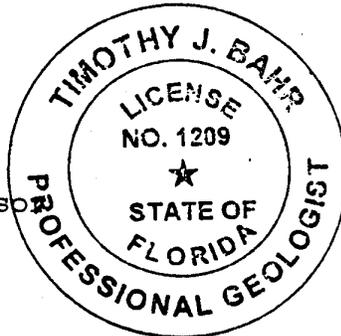
I hereby certify that in my professional judgement, the components of this Site Assessment Report Addendum and Monitoring Only Plan for Building 860, Tanks 860 A/B/D, Cecil Field Naval Air Station, Jacksonville, Florida, satisfy the requirements set forth in Chapter 62-770, F.A.C., and that the geological interpretations in this report provide reasonable assurances of achieving the Assessment objectives stated in Chapter 62-770, F.A.C.

I personally completed this review.

This review was conducted by David P. Grabka working under my supervision.



Timothy J. Bahr, P.G.
Professional Geologist Supervisor
Technical Review Section



Date

4/6/01



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

April 6, 2001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Nick Ugolini
Code 1843 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

Subject: Natural Attenuation Monitoring Plan Approval Order
Building 860, Tanks 860 A/B/D
Cecil Field Naval Air Station
Jacksonville, Duval County

Dear Mr. Ugolini:

The Bureau of Waste Cleanup has completed the review of the Site Assessment Report Addendum and Natural Attenuation Monitoring Plan dated March 2001 (received March 19, 2001), submitted for the petroleum product discharge discovered at this site. Pursuant to Rule 62-770.690, Florida Administrative Code (F.A.C.), the Department of Environmental Protection (Department) approves the Natural Attenuation Monitoring Plan. Pursuant to Rule 62-770.690(7), F.A.C., you are required to complete the monitoring program outlined below. The first sampling event should be performed within 60 days of receipt of this Natural Attenuation Monitoring Plan Approval Order (Order). Water-level measurements should be made immediately prior to each sampling event. The analytical results (laboratory report), chain of custody, cumulative summary table of the analytical results, site map(s) illustrating the most recent analytical results, and the water-level elevation information (cumulative summary table and most recent flow interpretation map), should be submitted to the Department within 60 days of sample collection.

The monitoring wells to be sampled, the sampling parameters, and the sampling frequency are as follows:

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

Mr. Nick Ugolini
April 6, 2001
Page Two

<u>Monitoring Wells</u>	<u>Contaminants of Concern</u>	<u>Frequency</u>	<u>Duration</u>
CEF-860-3S, CEF-860-4S, CEF-860-2S, CEF-860-7S, CEF-860-8S	TRPH	Semi-annual	Five years

The approved Remedial Action by Natural Attenuation monitoring period is five years. The sampling frequency will be evaluated following the submittal of the first annual report to determine whether semiannual or annual sampling may be appropriate.

The following are the "milestone" objectives that will be used for annual evaluation of remediation progress by natural attenuation. An explanation of the progress relative to these milestone objectives, and the need for corrective action (if applicable), should be provided in the annual evaluation:

<u>TRPH</u>	<u>CEF-860-3S</u>	<u>CEF-860-4S</u>
End of year 1	13 mg/l	13 mg/l
End of year 2	11 mg/l	11 mg/l
End of year 5	<5 mg/l	<5 mg/l

If concentrations of contaminants of concern in any of the designated wells increase above the action levels listed below, the well or wells must be resampled no later than 30 days after the initial positive results are known. If the results of the resampling confirm the initial sampling results, then a proposal must be submitted to the Department, as described in Rule 62-770.690(7)(f), F.A.C.

Contaminated wells:

CEF-860-3S and CEF-860-4S: 50 mg/l TRPH

Perimeter well (temporary point of compliance):

CEF-860-2S, CEF-860-7S and CEF-860-8S: 5 mg/l TRPH

If the applicable No Further Action criteria in Rule 62-770.680, F.A.C., are met at the end of the monitoring period, a Site Rehabilitation Completion Report, summarizing the monitoring program and containing documentation supporting the opinion that the cleanup objectives have been achieved, should be submitted as required in Rule 62-770.690(8), F.A.C. If the applicable No Further Action criteria in Rule 62-770.680, F.A.C., are not met following five years of monitoring, then a report summarizing the monitoring program should be submitted, including a proposal as described in Rule 62-770.690(7)(g), F.A.C.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative proceeding (hearing) is filed under Sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

If you choose to accept the above decision by the Department about the Site Assessment Report Addendum you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

If you disagree with the decision, you may do one of the following:

- (1) File a petition for administrative hearing with the Department's Office of General Counsel within 21 days of receipt of this Order; or
- (2) File a request for an extension of time to file a petition for hearing with the Department's Office of General Counsel within 21 days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Commanding Officer, Southern Division Naval Facilities Engineering Command, shall mail a copy of the request to Commanding Officer, Southern Division Naval Facilities Engineering Command at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Commanding Officer,

Southern Division Naval Facilities Engineering Command , shall mail a copy of the petition to Commanding Officer, Southern Division Naval Facilities Engineering Command at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Pursuant to Section 120.54(5)(b)4. a., F.S. (1998, Supp.), and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the name, address, and telephone number of the petitioner's representative, if any, the site owner's name and address, if different from the petitioner, the FDEP 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) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by the petitioner, or a statement that there are no disputed facts;
- (e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an order responding to supplemental information provided pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, 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 30 days after this Order is filed with the clerk of the Department (see below).

Mr. Nick Ugolini
April 6, 2001
Page Five

Questions

Any questions regarding the Department's review of your Site Assessment Report Addendum should be directed to David P. Grabka at (850) 488-3693. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 488-9314. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,

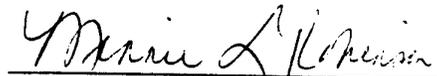


Douglas A. Jones, Chief
Bureau of Waste Cleanup
Division of Waste Management

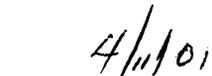
DAJ/dpg

cc: Mike Fitzsimmons, FDEP Northeast District Office
Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Mark Speranza, Tetra Tech NUS, Pittsburgh
Sam Ross, CH2M Hill Constructors, Inc.
File

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to
§120.52 Florida Statutes, with the
designated Department Clerk, receipt
of which is hereby acknowledged.



Clerk
(or Deputy Clerk)



Date

ATTACHMENT B
GROUNDWATER ANALYTICAL REPORTS



Southeast

ACCUTEST®

08/17/01

Technical Report for

Tetra Tech, NUS

NAS Cecil Field

WORK RELEASE# CF-26

Accutest Job Number: F10514

Report to:

Tetra Tech, NUS

davisb@tnus.com

ATTN: Bob Davis

Total number of pages in report: 8



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

H. Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sample Summary

Tetra Tech, NUS

Job No: F10514

NAS Cecil Field

Project No: WORK RELEASE# CF-26

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F10514-1	08/06/01	14:15 ER	08/07/01	AQ	Ground Water	CEF-860-GW-2S
F10514-2	08/06/01	14:23 ER	08/07/01	AQ	Ground Water	CEF-860-GW-3S
F10514-3	08/06/01	16:05 ER	08/07/01	AQ	Ground Water	CEF-860-GW-4S
F10514-4	08/06/01	16:33 ER	08/07/01	AQ	Ground Water	CEF-860-GW-7S
F10514-5	08/06/01	14:25 ER	08/07/01	AQ	Ground Water	CEF-860-GW-8S
F10514-6	08/06/01	00:00 ER	08/07/01	AQ	Ground Water	CEF-860-GW-DUP1

Report of Analysis

Client Sample ID: CEF-860-GW-2S Lab Sample ID: F10514-1 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16549.D	20	08/11/01	MCC	08/09/01	OP3624	GOP639
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	17.4	5.2	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	70%		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

Report of Analysis

Client Sample ID: CEF-860-GW-3S Lab Sample ID: F10514-2 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16533.D	10	08/10/01	MCC	08/09/01	OP3624	GOP638
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	5.62	2.5	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	81%		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

Report of Analysis

Client Sample ID: CEF-860-GW-4S Lab Sample ID: F10514-3 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16534.D	1	08/10/01	MCC	08/09/01	OP3624	GOP638
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.389	0.25	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	82%		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

Report of Analysis

Client Sample ID: CEF-860-GW-7S Lab Sample ID: F10514-4 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16536.D	1	08/10/01	MCC	08/09/01	OP3624	GOP638
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	61%		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

Report of Analysis

Client Sample ID: CEF-860-GW-8S Lab Sample ID: F10514-5 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16537.D	1	08/10/01	MCC	08/09/01	OP3624	GOP638
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.28	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	65%		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

Report of Analysis

Client Sample ID: CEF-860-GW-DUP1 Lab Sample ID: F10514-6 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 08/06/01 Date Received: 08/07/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP16540.D	1	08/10/01	MCC	08/09/01	OP3624	GOP638
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	59%		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
--	--



F10514

D10517

PROJECT NO: N0394	SITE NAME: Bldg 860	PROJECT MANAGER AND PHONE NUMBER: Joe Logan 412-921-7231	LABORATORY NAME AND CONTACT: Alameda - L. Williams
SAMPLERS (SIGNATURE):		FIELD OPERATIONS LEADER AND PHONE NUMBER: Elena Rodriguez 904-281-0400	ADDRESS: 4405 Vineland Rd #C-15
		CARRIER/WAYBILL NUMBER: FEDEX	CITY, STATE: Dulando FL 32811
STANDARD TAT <input checked="" type="checkbox"/> 21 day		CONTAINER TYPE: PLASTIC (P) or GLASS (G)	
RUSH TAT <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day		PRESERVATIVE USED: #2504	

DATE YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	COMMENTS
8/6	1415	CEF-860-GW-2'S	GW	G	2	X	Cool to 4°C
8/6	1425	CEF-860-GW-3'S	GW	G	2	X	
8/6	1605	CEF-860-GW-4'S	GW	G	2	X	Work Release #CF-26
8/6	1633	CEF-860-GW-7'S	GW	G	2	X	
8/6	1425	CEF-860-GW-8'S	GW	G	2	X	
8/6	0000	CEF-860-GW-DUPI	GW	G	2	X	
8/6	1425	CEF-860-GW-msmsDI	GW	G	4	X	(CEF-860-GW-8'S)

1. RELINQUISHED BY:	DATE: 8/6/01	TIME:	1. RECEIVED BY:	DATE: 8/6/01	TIME: 500
2. RELINQUISHED BY:	DATE:	TIME:	2. RECEIVED BY:	DATE:	TIME:
3. RELINQUISHED BY:	DATE:	TIME:	3. RECEIVED BY:	DATE:	TIME:

COMMENTS **N0394 FH 005A115**

Technical Report for

Tetra Tech, NUS

NAS Cecil Field

WORK RELEASE# CF-26

Accutest Job Number: F10878

Report to:

LoganJ@ttnus.com

Total number of pages in report: 3



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

H. Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sample Summary

Tetra Tech, NUS

Job No: F10878

NAS Cecil Field

Project No: WORK RELEASE# CF-26

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F10878-1	09/11/01	09:21 ER	09/12/01	AQ	Ground Water	CEF-860-GW-2S-01A

Report of Analysis

Client Sample ID: CEF-860-GW-2S-01A Lab Sample ID: F10878-1 Matrix: AQ - Ground Water Method: FLORIDA-PRO SW846 3510C Project: NAS Cecil Field	Date Sampled: 09/11/01 Date Received: 09/12/01 Percent Solids: n/a
---	---

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP17117.D	1	09/21/01	SKW	09/18/01	OP3856	GOP662
Run #2							

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	0.215	0.25	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	87%		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

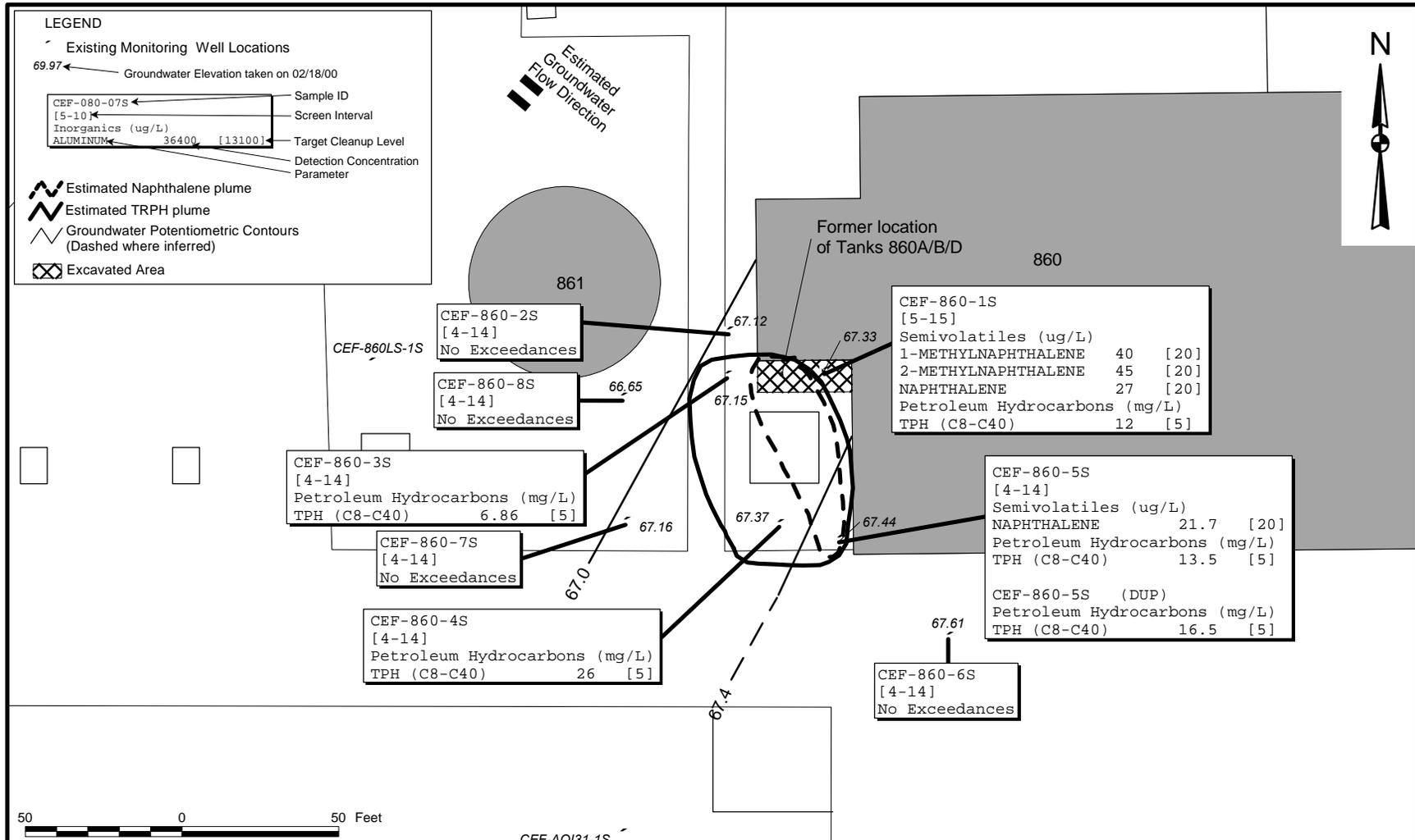
CEF 860-091701

PAGE 1 OF 1

F10878

PROJECT NO: N0394		SITE NAME: Bldg. 860		PROJECT MANAGER AND PHONE NUMBER Joe Logon 412 921 7231		LABORATORY NAME AND CONTACT: Accutest							
SAMPLERS (SIGNATURE) Aena Rodriguez		FIELD OPERATIONS LEADER AND PHONE NUMBER Mark Drake 904 281 0400		CARRIER/WAYBILL NUMBER Fedex 7901 5477 6380		ADDRESS 4405 Vine land Rd Ste C-15							
						CITY, STATE ORLANDO, FL 32811							
STANDARD TAT <input checked="" type="checkbox"/> RUSH TAT <input type="checkbox"/> <input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day				CONTAINER TYPE PLASTIC (P) or GLASS (G) G		PRESERVATIVE USED							
DATE YEAR 2001		TIME		MATRIX		GRAB (G) COMP (C)		No. OF CONTAINERS		TYPE OF ANALYSIS TRPH FL-PRO H2SO4		COMMENTS	
9/11		0921		CEF-860-GW-ZS-01A		GW G		2		✓		Cool to 4°C	
12 9/11		0921		CEF-860-GW-MSMSDZ		GW G		4		✓		Work Release # CF-26	
1. RELINQUISHED BY Aena Rodriguez		DATE 9/11/01		TIME 1500		1. RECEIVED BY Aena Rodriguez		DATE 9/12/01		TIME 1630			
2. RELINQUISHED BY		DATE		TIME		2. RECEIVED BY		DATE		TIME			
3. RELINQUISHED BY		DATE		TIME		3. RECEIVED BY		DATE		TIME			
COMMENTS												4.2	

ATTACHMENT C
SAR PLUME MAP



DRAWN BY	DATE
MJJ	04Apr00
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	



GROUNDWATER CONCENTRATIONS ABOVE FDEP CRITERIA
 BUILDING 860 - TANKS 860A/B/D
 SITE ASSESSMENT REPORT
 NAVAL AIR STATION CECIL FIELD
 JACKSONVILLE, FLORIDA

CONTRACT NUMBER 0394	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 2	REV 0