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NAS CECIL FIELD, FL
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FIRST SEMI-ANNUAL FIFTH YEAR GROUNDWATER MONITORING LETTER REPORT FOR NORTH SOUTH APRON PLUME NAS CECIL FIELD FL

4/8/2010

TETRA TECH NUS INC

TETRA TECH

PITT-04-10-011

April 8, 2010

Project Number 112G02267

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 V Contract Number N62470-08-D-1001
Contract Task Order JM09

Subject: Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year – January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

Tetra Tech, Inc. (Tetra Tech) is pleased to submit this Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year – January 2010, for the North-South Apron Plume. This Semi-Annual Groundwater Monitoring Report was prepared for the United States Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE), under the Comprehensive Long-Term Environmental Action Navy (CLEAN) V Contract Number N62470-08-D-1001.

The primary objective of the sampling activities detailed herein is to monitor groundwater associated with the intermediate and deep zones of the shallow surficial aquifer at the site on a semi-annual basis. The sampling activities were accomplished in general accordance with the Natural Attenuation Monitoring Plan Approval Order (NAMPAO) issued by the Florida Department of Environmental Protection (FDEP) on October 21, 2005, based on Chapter 62-770.690, Florida Administrative Code (F.A.C.). A copy of the NAMPAO is provided in Attachment A. This report summarizes the field operations and analytical results for the subject site for the 1st Semi-Annual, 5th Year – January 2010 sampling event. Figure 1 shows the location of the North-South Apron Plume site.

FIELD OPERATIONS

January 2010 field operations were performed in general accordance with FDEP and Tetra Tech Standard Operating Procedures (SOPs). Groundwater samples were collected on January 21, 2010, using low-flow methods from the three intermediate monitoring wells (CEF-M18-04I, CEF-M18-05I, and CEF-M18-09I) and one deep monitoring well (CEF-M18-12D) listed in the 2003 Supplemental Site Assessment Letter Report II and 2005 NAMPAO. Following collection, the groundwater samples were placed on ice and delivered via FedEx under chain of custody to Empirical Laboratories, for analysis in Nashville, Tennessee. All samples were analyzed for benzene, the contaminant of concern (COC), using United States Environmental Protection Agency (USEPA) Method SW-846 8260B.

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Prior to obtaining the January 2010 groundwater samples, synoptic water levels and total well depths were measured in the eight intermediate wells in the area (CEF-M18-02I, CEF-M18-03I, CEF-M18-04I, CEF-M18-05I, CEF-M18-06I, CEF-M18-08I, CEF-M18-09I, and CEF-M18-10I) and recorded on a site-specific groundwater level measurement sheet. The depth-to-water measurements were subtracted from known top-of-casing elevations to calculate groundwater elevations.

RESULTS

Groundwater elevations in the intermediate wells ranged from 66.21 to 68.21 feet above mean sea level. Table 1 provides the groundwater elevation data. Figure 2 shows that the direction of groundwater flow was to the southeast in the intermediate zone in January 2010. These results are consistent with previous measurements and calculations for the site.

The analytical results for this event are summarized in Table 2, and the laboratory report is provided as Attachment B. Figure 3 presents the analytical results for this event. As indicated in Table 2, the Groundwater Cleanup Target Level (GCTL) for benzene was exceeded in CEF-M18-04I during this sampling event. In CEF-M18-04I, the benzene concentration decreased slightly from 6.0 micrograms per liter (µg/L) in July 2009 to 3.0 µg/L in January 2010. The GCTL for benzene is 1.0 µg/L. The Natural Attenuation Default Concentration for benzene, as defined in Chapter 62-777, F.A.C., was not exceeded in the groundwater samples collected during this event. Benzene was not detected in the intermediate perimeter wells, CEF-M18-05I and CEF-M18-09I, or in the deep well, CEF-M18-12D, during the July 2009 sampling event.

CONCLUSIONS AND RECOMMENDATIONS

During the January 2010 sampling event, benzene concentrations decreased slightly in CEF-M18-04I from the July 2009 sampling event. Well CEF-M18-04I is the only well at the site where benzene concentrations have exceeded the GCTL since the May 2007 sampling event. This well continues to be the only well exhibiting exceedances. Benzene was not detected in perimeter wells CEF-M18-5I, CEF-M18-09I or deep well CEF-M18-12D.

Tetra Tech recommends continuing the semi-annual groundwater monitoring program in accordance with the 2005 NAMPAO. The 2nd Semi-Annual, 5th Year sampling event is scheduled for July 2010. Water levels in monitoring wells CEF-M18-02I through CEF-M18-10I will be measured to evaluate groundwater flow at the site. A 2nd Semi-Annual, 5th Year Groundwater Monitoring Report will be prepared when the results from the sampling event have been received and evaluated.

The electronic copy of this submittal is available on the Cecil Field Document Warehouse System (DWS) at http://dws.navy-env.com/. If you have any questions with regard to this submittal, please contact Robert Simcik at (412) 921-8163 or by email at Robert.Simcik@ttnus.com.

Sincerely,

Robert Simcik, P.E.
Task Order Manager
P.E. License Number 61263

Kara F. Wimble
Project Scientist

TETRA TECH

Enclosures (7)

c: A. Sanford, NAVFAC SE (electronic copy)
M. Davidson, NAVFAC SE (electronic copy)
M. Halil, CH2M Hill (electronic only)
S. Currie, Tetra Tech CTO JM09 project file (1 copy, unbound)
J. Trepanowski, Tetra Tech
M. Speranza, Tetra Tech (letter only)
M. Jonnet, Tetra Tech (electronic copy)
J. Johnson, Tetra Tech (1 copy for Information Repository)
K. Wimble, Tetra Tech (1 copy)

CERTIFICATION

The information contained herein is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the professional engineer should be notified to evaluate the effects of any additional information on the information described in this report. This Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 15th Year, January 2010 was developed for the North-South Apron Plume at Naval Air Station Cecil Field and should not be construed to apply to any other site.

ROBERT F. SIMICK LICENSE No. 00061263 STATE OF FLORIDA REGISTERED ENGINEER

April 7, 2010
Robert F. Simick, P.E.
License Number 61263

TABLES

Table 1
Groundwater Elevation Data

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year - January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification	Well Depth (feet btoc)	TOC Elevation (feet above msl)	February 23, 2005		July 6, 2006		November 22, 2006		February 2, 2007		May 2, 2007		August 1, 2007		November 19, 2007	
			Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)
CEF-M18-01S	15	75.89	7.17	68.72	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-02S	15	76.02	7.97	68.05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-02I	35	75.78	7.79	67.99	NM	NM	NM	NM	NM	NM	NM	NM	7.53	68.25	7.50	68.28
CEF-M18-03I	35	75.13	7.24	67.89	NM	NM	NM	NM	NM	NM	NM	NM	7.02	68.11	6.89	68.24
CEF-M18-04I	35	74.66	7.71	66.95	8.01	66.65	8.98	65.68	8.58	66.08	8.33	66.33	7.42	67.24	7.29	67.37
CEF-M18-05I	35	73.42	7.35	66.07	7.59	65.83	8.64	64.78	8.12	65.30	8.88	64.54	6.89	66.53	6.80	66.62
CEF-M18-06I	35	76.11	8.18	67.93	NM	NM	NM	NM	NM	NM	NM	NM	7.91	68.20	7.89	68.22
CEF-M18-07I	35	76.26	8.14	68.12	NM	NM	NM	NM	NM	NM	NM	NM	7.86	68.40	7.82	68.44
CEF-M18-08I	35	75.54	7.49	68.05	NM	NM	NM	NM	NM	NM	NM	NM	7.20	68.34	7.17	68.37
CEF-M18-09I	35	74.32	6.98	67.34	7.32	67.00	8.25	66.07	7.83	66.49	9.30	65.02	6.73	67.59	6.58	67.74
CEF-M18-10I	35	74.98	8.33	66.65	NM	NM	NM	NM	NM	NM	NM	NM	8.05	66.93	7.91	67.07
CEF-M18-11D	55	75.80	7.74	68.06	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-12D	55	74.14	6.70	67.44	7.03	67.11	7.99	66.15	7.60	66.54	8.58	65.56	NM	NM	NM	NM

Table 1
Groundwater Elevation Data

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year - January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification	Well Depth (feet btoc)	TOC Elevation (feet above msl)	May 28, 2008		November 10, 2008		July 24, 2009		January 21, 2010	
			Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)	Depth to Water (feet btoc)	Water Level Elevation (feet above msl)
CEF-M18-01S	15	75.89	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-02S	15	76.02	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-02I	35	75.78	8.21	67.57	7.69	68.09	5.82	69.96	7.64	68.14
CEF-M18-03I	35	75.13	7.79	67.34	7.14	67.99	5.11	70.02	7.15	67.98
CEF-M18-04I	35	74.66	8.24	66.42	7.59	67.07	5.34	69.32	7.62	67.04
CEF-M18-05I	35	73.42	7.86	65.56	7.26	66.16	4.74	68.68	7.21	66.21
CEF-M18-06I	35	76.11	8.41	67.70	8.06	68.05	6.22	69.89	8.04	68.07
CEF-M18-07I	35	76.26	8.51	67.75	8.02	68.24	6.16	70.10	NM	NM
CEF-M18-08I	35	75.54	7.93	67.61	7.39	68.15	5.51	70.03	7.33	68.21
CEF-M18-09I	35	74.32	7.62	66.70	6.88	67.44	4.71	69.61	6.91	67.41
CEF-M18-10I	35	74.98	8.86	66.12	8.21	66.77	5.94	69.04	8.25	66.73
CEF-M18-11D	55	75.80	NM	NM	NM	NM	NM	NM	NM	NM
CEF-M18-12D	55	74.14	NM	NM	NM	NM	NM	NM	NM	NM

TOC = Top of casing.
msl = Mean sea level.
btoc = Below top of casing.
NM = Not measured.

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year - January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Parameter	GCTL	NADC	CEF-M18-04I									
			03/28/00	03/28/00	09/14/00	05/02/01	08/07/01	08/07/01	11/06/01	02/14/02	03/01/05	07/07/06
VOCs (µg/L)												
Benzene	1	100	1.0 U	1.0 U	**7.7**	**8.0**	**8.7**	**8.7**	**8.8**	**9.1**	**13.1**	**13.3**
Toluene	40	400	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	0.5 U
Ethylbenzene	30	300	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	0.5 U
Xylenes, total	20	200	3.0 U	3.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.0 U	1 U

Parameter	GCTL	NADC	CEF-M18-04I (continued)									
			11/22/06	02/02/07	05/02/07	11/19/07	05/29/08		11/10/08	07/24/09	01/21/10	
							Sample	Duplicate			Sample	Duplicate
VOCs (µg/L)												
Benzene	1	100	**11**	**9.64**	0.48 U	**8.6**	**5.5**	**5.6**	**8.5**	**6**	**3.4**	**3.3**
Toluene	40	400	0.3 U	0.2 U	0.25 U	0.28 U	NA	NA	NA	NA	NA	NA
Ethylbenzene	30	300	0.2 U	0.3 U	0.99 U	0.34 U	NA	NA	NA	NA	NA	NA
Xylenes, total	20	200	0.3 U	0.3 U	0.6 U	0.38 U	NA	NA	NA	NA	NA	NA

Parameter	GCTL	NADC	CEF-M18-05I									
			11/30/00		05/02/01	08/07/01	11/06/01	02/14/02	03/01/05	07/07/06	11/22/06	02/02/07
			Sample	Duplicate								
VOCs (µg/L)												
Benzene	1	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.5 U	0.2 U	0.2 U
Toluene	40	400	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	0.5 U	0.3 U	0.2 U
Ethylbenzene	30	300	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	0.5 U	0.2 U	0.3 U
Xylenes, total	20	200	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.0 U	1 U	0.3 U	0.3 U

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year - January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Parameter	GCTL	NADC	CEF-M18-05I (continued)							CEF-M18-09I	
			05/02/07	11/19/07	05/29/08	11/10/08	07/24/09 Sample	07/24/09 Duplicate	01/21/10	10/23/02	02/28/05
VOCs (µg/L)											
Benzene	1	100	0.48 U	0.23 U	0.23 U	0.4 U	0.11 U	0.11 U	0.12 U	**14.5**	**16.0**
Toluene	40	400	0.25 U	0.28 U	NA	NA	NA	NA	NA	1.0 U	0.50 U
Ethylbenzene	30	300	0.99 U	0.34 U	NA	NA	NA	NA	NA	1.0 U	0.50 U
Xylenes, total	20	200	0.6 U	0.38 U	NA	NA	NA	NA	NA	3.0 U	1.0 U

Parameter	GCTL	NADC	CEF-M18-09I (continued)								
			07/06/06 Sample	07/06/06 Duplicate	11/22/06	02/02/07	05/02/07	11/19/07 Sample	11/19/07 Duplicate	05/29/08	11/10/08
VOCs (µg/L)											
Benzene	1	100	**3.5**	**3.5**	**1.4**	**1.28**	**5.6**	0.31 J	0.38 J	0.23 U	0.40 U
Toluene	40	400	0.5 U	0.5 U	0.3 U	0.2 U	0.25 U	0.28 U	0.28 U	NA	NA
Ethylbenzene	30	300	0.5 U	0.5 U	0.2 U	0.3 U	0.99 U	0.34 U	0.34 U	NA	NA
Xylenes, total	20	200	1 U	1 U	0.3 U	0.3 U	0.6 U	0.38 U	0.38 U	NA	NA

Parameter	GCTL	NADC	CEF-M18-09I (continued)		CEF-M18-12D						
			07/24/09	01/21/10	07/11/03 Sample	07/11/03 Duplicate	02/28/05	07/06/06	11/22/06 Sample	11/22/06 Duplicate	02/02/07
VOCs (µg/L)											
Benzene	1	100	0.11 U	0.12 U	**1.2**	**1.1**	0.55	0.5 U	0.4 I	0.4 I	0.33 I
Toluene	40	400	NA	NA	1.0 U	1.0 U	0.50 U	0.5 U	0.3 U	0.3 U	0.2 U
Ethylbenzene	30	300	NA	NA	1.0 U	1.0 U	0.50 U	0.5 U	0.2 U	0.2 U	0.3 U
Xylenes, total	20	200	NA	NA	3.0 U	3.0 U	1.0 U	1 U	0.3 U	0.3 U	0.3 U

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 5th Year - January 2010
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Parameter	GCTL	NADC	CEF-M18-12D (continued)					
			05/02/07	11/19/07	05/29/08	11/10/08	07/24/09	01/21/10
VOCs (µg/L)								
Benzene	1	100	0.6 J	0.23 U	0.23 U	0.40 U	0.11 U	0.12 U
Toluene	40	400	0.25 U	0.28 U	NA	NA	NA	NA
Ethylbenzene	30	300	0.99 U	0.34 U	NA	NA	NA	NA
Xylenes, total	20	200	0.6 U	0.38 U	NA	NA	NA	NA

GCTL = Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels(F.A.C.). from Chapter 62-777, Florida Administrative Code.

NADC = Natural Attenuation Default Concentration from Chapter 62-777, F.A.C.

VOCs = Volatile organic compounds.

µg/L = Micrograms per liter.

Bold indicates concentration greater than FDEP GCTL.

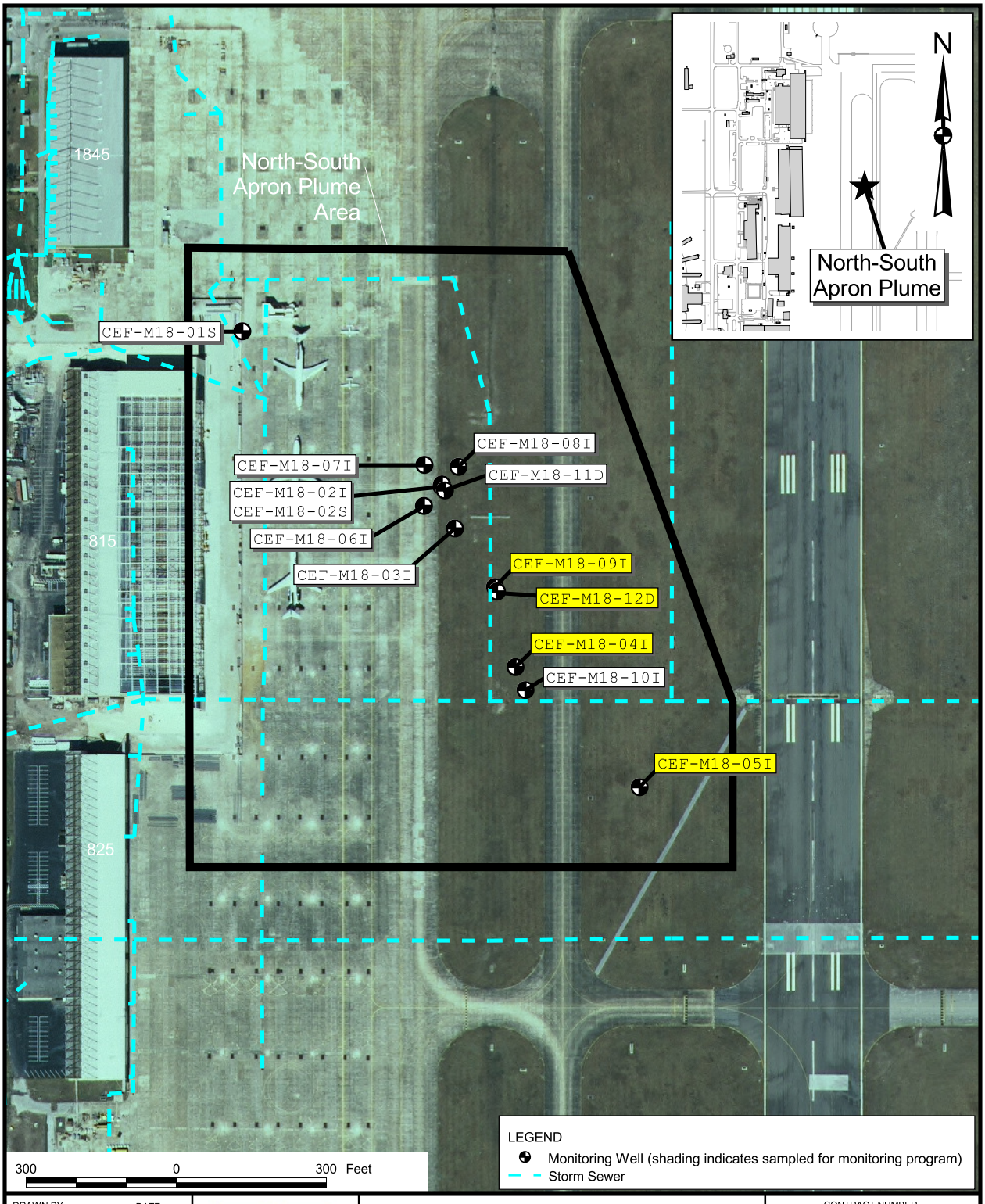
U = Not detected at detection limit shown.

I = Reported value is between laboratory method detection limit and laboratory practical quantitation limit.

J = Estimated value.

NA# = Not analyzed.

FIGURES



DRAWN BY: MJJ	DATE: 13Mar10	MONITORING WELL LOCATION MAP NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER: 2267
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE: AS NOTED	NAVFAC		DRAWING NO.: FIGURE 1 / REV: 0

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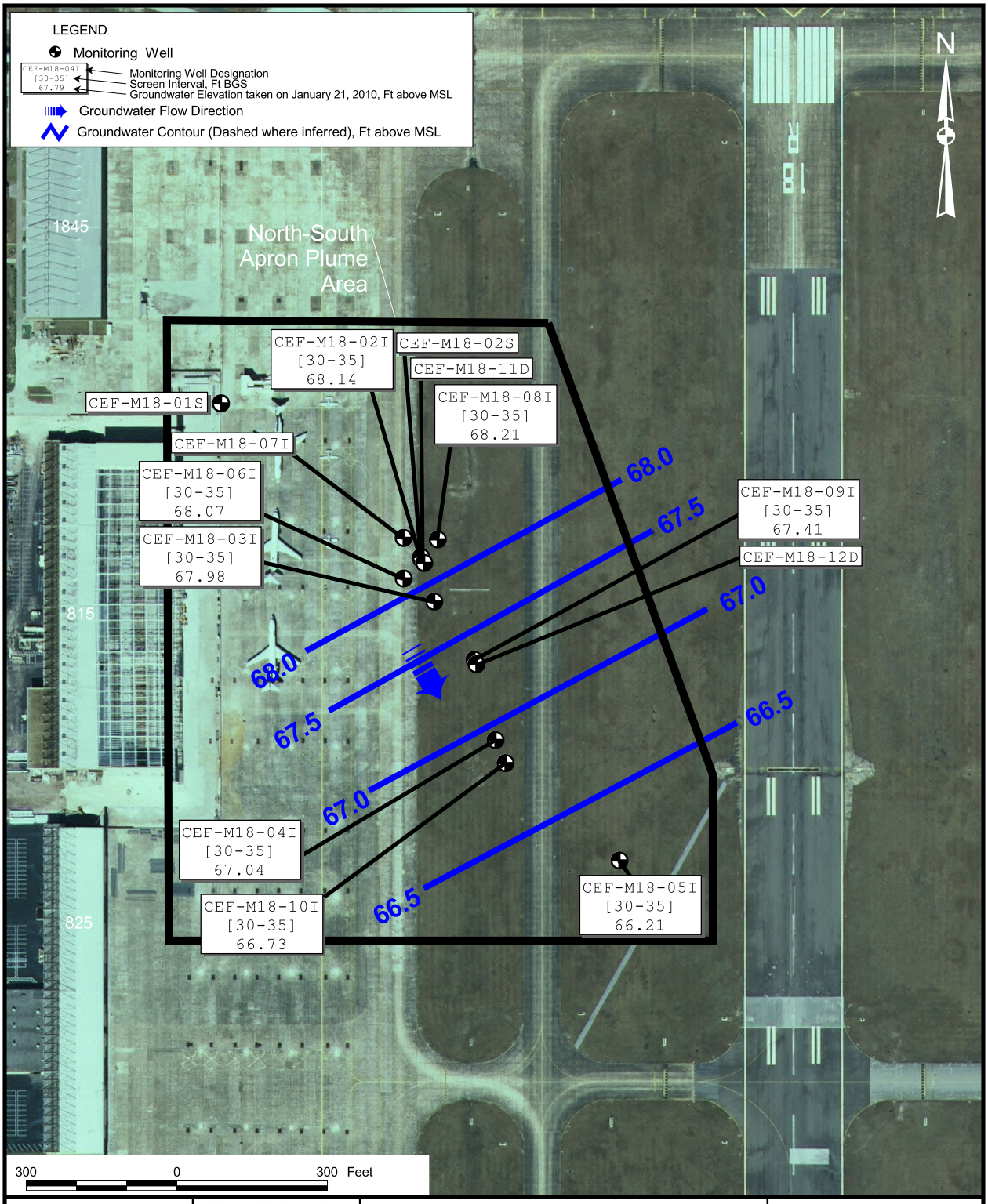

DRAWN BY: MJJ	DATE: 13Mar10	GROUNDWATER FLOW MAP - JANUARY 2010 NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER: 2267
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE: AS NOTED	NAVFAC		DRAWING NO.: FIGURE 2 / REV: 0

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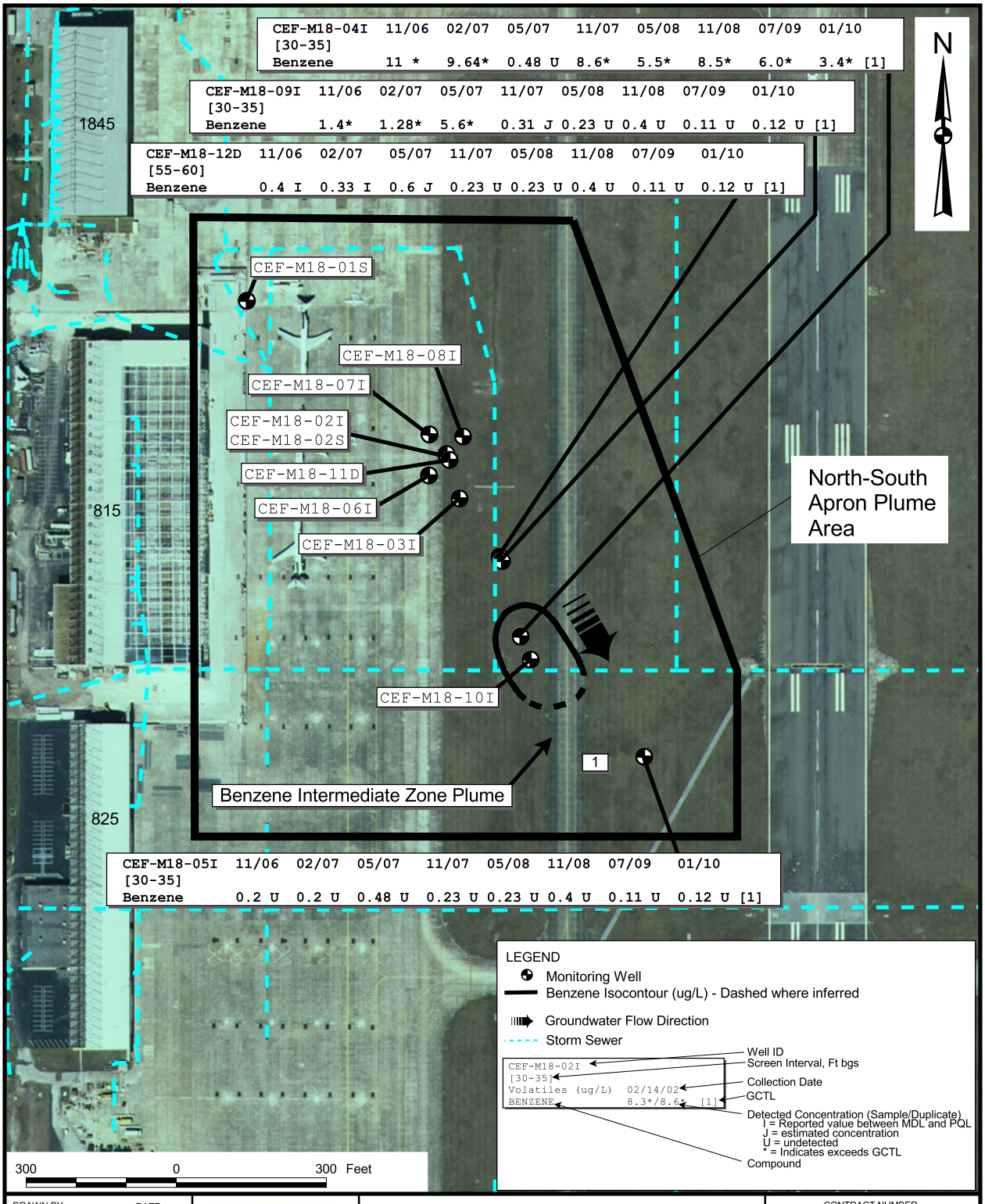

DRAWN BY MJJ	DATE 13Mar10	GROUNDWATER RESULTS NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 2267
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3 / REV 0

NAVFAC

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ATTACHMENT A

NATURAL ATTENUATION MONITORING PLAN APPROVAL ORDER

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

October 21, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commanding Officer
Attn: Mr. Gabe Magwood
Code ES24 (UST RPM)
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Subject: Natural Attenuation Monitoring Plan Approval Order
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Duval County

Dear Mr. Magwood:

The Bureau of Waste Cleanup has reviewed the Supplemental Site Assessment Letter Report II and Natural Attenuation Monitoring Plan dated August 3, 2005 (received August 5, 2005), prepared and submitted by Tetra Tech NUS, Inc. for the petroleum product discharge discovered at this site. Pursuant to paragraph 62-770.690(5)(a), Florida Administrative Code (F.A.C.), the Florida Department of Environmental Protection (Department) approves the Natural Attenuation Monitoring Plan. Pursuant to rule 62-770.690(8), F.A.C., you are required to complete the monitoring program outlined below. The first sampling event must be performed within 60 days of receipt of this Natural Attenuation Monitoring Plan Approval Order (Order). Water-level measurements must be made immediately prior to each sampling event. The analytical results (laboratory report), chain of custody record form, cumulative summary tables as required by subparagraph 62-770.600(8)(a)25., F.A.C. (updated as applicable), site map(s) that illustrate the most recent analytical results, and the water-level elevation information (cumulative summary table and most recent flow interpretation map), must be submitted to the Department within 60 days of sample collection.

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

Monitoring Wells	Contaminants of Concern	Frequency	Duration
CEF-M18-04I; CEF-M18-09I; CEF-M18-12D; and CEF-M18-05I	BTEX	Quarterly	One year

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.

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 the monitoring report referenced in paragraph 62-770.690(8)(d), F.A.C., must be signed and sealed by an appropriate registered professional pursuant to rule 62-770.490, F.A.C., and must include a proposal as described in paragraph 62-770.690(8)(e), F.A.C.

Contaminated well[s]:
CEF-M18-04I and CEF-M18-09I: 100 µg/L Benzene
Perimeter well[s] (temporary point[s] of compliance):
CEF-M18-12D and CEF-M18-05I: 1 µg/L Benzene

If the applicable No Further Action criteria of rule 62-770.680, F.A.C., are met for two consecutive sampling events, a Site Rehabilitation Completion Report with a No Further Action Proposal, that summarizes the monitoring program and contains documentation to support the opinion that the cleanup objectives have been achieved, must be submitted as required in subsection 62-770.690(10), F.A.C. If the applicable No Further Action criteria of rule 62-770.680, F.A.C., are not met following five years of monitoring, then the monitoring report must include a proposal as described in subsection 62-770.690(8)(f), F.A.C.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative 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 an administrative hearing are set forth below.

Persons affected by this Order have the following options:

(A) If you choose to accept the Department's decision regarding the Supplemental Site Assessment Letter Report II and Natural Attenuation

Monitoring Plan 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.

(B) If you choose to challenge the decision, you may do the following:

(1) File a request for an extension of time to file a petition for an administrative hearing with the Department's Agency Clerk in the 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 an administrative hearing; or

(2) File a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order.

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 an Administrative Hearing

For good cause shown, pursuant to subsection 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for an administrative hearing. Such a request must be filed (received) by the Department's Agency Clerk in the 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 Southern Division Naval Facilities Engineering Command, shall mail a copy of the request to 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 an administrative hearing must be made.

How to File a Petition for an 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) by the Department's Agency Clerk in the 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 Southern Division Naval Facilities Engineering Command, shall mail a copy of the petition to 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 subsection 120.569(2), F.S. and rule 28-106.201, F.A.C., a petition for an 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 facility 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 when and how 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 disputed issues of material fact, 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 an 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 to the Department 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 Department's Agency Clerk in the Office of General Counsel at 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 Department's clerk (see below).

Questions

Any questions regarding the Department's review of your Supplemental Site Assessment Letter Report II and Natural Attenuation Monitoring Plan should be directed to David P. Grabka at (850) 245-8997. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. 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: David P. Grabka, FDEP – BWC
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 REPORT

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**R. SIMCIK**	**DATE:**	**FEBRUARY 5, 2010**
FROM:	**A. COGNETTI**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – BENZENE**
LIMITED REVIEW
NAS CECIL FIELD – CTO JM09
SAMPLE DELIVERY GROUP (SDG) –CTOJM09CF_004

SAMPLES: 6/Aqueous/Benzene

CEF-M18-04I-20100121	CEF-M18-05I-20100121	CEF-M18-09I-20100121
CEF-M18-12D-20100121	CEF-M18-DUP01-20100121	Trip Blank 200100121

Overview

The sample set for NAS CECIL FIELD, CTO JM09, SDG CTOJM09CF_004, consists of five (5) aqueous environmental samples and one (1) trip blank. All samples were analyzed for the volatile organic compound (VOC), benzene. There is one (1) field duplicate pair associated with this SDG: CEF-M18-04I-20100121 and CEF-M18-DUP01-20100121.

The samples were collected by Tetra Tech NUS on January 21, 2010 and analyzed by Empirical Laboratory under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. VOC analyses for benzene were conducted using SW-846 method 8260B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Initial and Continuing Calibrations
* • Laboratory Method Blank Analyses
* • Field Duplicate Precision
* • Detection Limits

* - All quality control criteria were met for this parameter.

Volatiles- None.

Notes- None.

Executive Summary

Laboratory Performance: None.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Review", October 1999 and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Ann Cognetti
Chemist/ Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

Appendix A

Qualified Analytical Results

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can be any number of issues; e.g. poor chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 02267	NSAMPLE	CEF-M18-04I-20100121			CEF-M18-05I-20100121			CEF-M18-09I-20100121			CEF-M18-12D-20100121		
SDG: CTOJM09CF_004	LAB_ID	1001157-02			1001157-01			1001157-05			1001157-04		
FRACTION: OV	SAMP_DATE	1/21/2010			1/21/2010			1/21/2010			1/21/2010		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
BENZENE		3.4			0.12	U		0.12	U		0.12	U	

PROJ_NO: 02267	NSAMPLE	CEF-M18-DUP01-20100121			TRIP_BLANK_20100121		
SDG: CTOJM09CF_004	LAB_ID	1001157-03			1001157-06		
FRACTION: OV	SAMP_DATE	1/21/2010			1/21/2010		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	CEF-M18-04I-20100121					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
BENZENE		3.3			0.12	U	

Appendix B

Results as Reported by the Laboratory

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CEF-M18-0
4I-20100121

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115702

Level: (low/med) LOW Date Sampled: 01/21/10 11:45

% Moisture: not dec. _____ Date Analyzed: 01/28/10 18:01

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0	3.4	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CEF-M18-0
5I-20100121

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115701

Level: (low/med) LOW Date Sampled: 01/21/10 09:50

% Moisture: not dec. _____ Date Analyzed: 01/28/10 17:32

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0		U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CEF-M18-0
9I-20100121

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-05

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115705

Level: (low/med) LOW Date Sampled: 01/21/10 12:34

% Moisture: not dec. _____ Date Analyzed: 01/28/10 19:29

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0		U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CEF-M18-1
2D-20100121

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-04

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115704

Level: (low/med) LOW Date Sampled: 01/21/10 13:05

% Moisture: not dec. _____ Date Analyzed: 01/28/10 19:00

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0		U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CEF-M18-DUP
01-20100121

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115703

Level: (low/med) LOW Date Sampled: 01/21/10 :

% Moisture: not dec. _____ Date Analyzed: 01/28/10 18:30

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0	3.3	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 1001157-06

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0115706

Level: (low/med) LOW Date Sampled: 01/21/10 :

% Moisture: not dec. _____ Date Analyzed: 01/28/10 14:35

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0		U

FORM I VOA

Appendix C

Support Documentation

ORGANIC CASE NARRATIVE
Tetra Tech NUS, Inc./Nas Cecil Field (North/Sout Apron) JM09
SDG: CTOJM09CF_004

Sampled	Received	Lab ID	Client ID
1/21/2010	1/22/2010	1001157-01	CEF-M18-05I-20100121
1/21/2010	1/22/2010	1001157-02	CEF-M18-04I-20100121
1/21/2010	1/22/2010	1001157-03	CEF-M18-DUP01-20100121
1/21/2010	1/22/2010	1001157-04	CEF-M18-12D-20100121
1/21/2010	1/22/2010	1001157-05	CEF-M18-09I-20100121
1/21/2010	1/22/2010	1001157-06	Trip Blank

Volatiles

Method: The samples were analyzed by USEPA SW-846 Methods 5030B/8260B (purge and trap then capillary column GC/MS) for waters upon receipt to the laboratory in satisfactory condition.

Comments: The volatile analyses for these samples were satisfactorily completed within sample holding times and met the corresponding specifications with the following note/exceptions:

- Samples were analyzed for an abbreviated target list of benzene only.
- Quantitation signals were manually integrated in order to accurately reflect the peak areas based on the technical judgment of the analyst. A listing of the manual integrations performed and reason for the integration is included with the logs. Before and after "pictures" are available at the laboratory where manual integrations were performed.

I certify that, to the best of my knowledge and based upon my inquiry of those individuals immediately responsible for obtaining the information, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in the case narrative, as verified by the following signature.

Christine Gramaldo for
Jade Holliman
Organic Manager

1001157 Volatiles

TETRA TECH NUS, INC. **CHAIN OF CUSTODY** | NUMBER NO. 2016 | PAGE ___ OF ___

PROJECT NO: 112G02267	FACILITY: NAS Cecil Field NSAP	PROJECT MANAGER Rob Simcik	PHONE NUMBER	LABORATORY NAME AND CONTACT: Empirical Labs
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Kara Wimble	PHONE NUMBER 904 636-6125	ADDRESS 621 mainstream Drive Suite 270
		CARRIER/WAYBILL NUMBER FedEx Airbill #864351421538		CITY, STATE Nashville TN 37228

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2010	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: VOCs Benzene only 8030B/8260B	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl	COMMENTS: 100157
1/21/10	0950	CEF-M18-05I-20100121				GW	G	3	X			Cool to 4°C -01
1/21	1145	CEF-M18-04I-20100121				GW	G	3	X			-02
1/21	0000	CEF-M18-DUP01-20100121				GW	G	3	X			-03
1/21	1305	CEF-M18-12D-20100121				GW	G	3	X			-04
1/21	1234	CEF-M18-09I-20100121				GW	G	3	X			-05
1/21		Trip Blank				QC		2	X			-06

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1/21/10	1600	1. RECEIVED BY		
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE 1/22/10	TIME 08:30
COMMENTS					

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

3

EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

LIMS Number: 1001157 Number of Coolers: 1 of 1

Client: Tetra Tech NUS Project: NAS Cecil Field NSAP

Date/Time Received: **01/22/10 08:30** Date cooler(s) opened: **01/22/10**

Opened By (print): **WILLIAM SCHWAB** (signature): [signature]

Circle response below as appropriate

1. How did the samples arrive?: FedEx UPS DHL Hand Delivered
EL Courier Other: _____

If applicable, enter airbill number here: 1038

2. Were custody seals on outside of cooler(s)? ..... (Yes) No

How many: 2 Seal date: 1/21/10 Seal Initials: ?

3. Were custody seals unbroken and intact at the date and time of arrival?	(Yes)	No	N/A
4. Were custody papers sealed in a plastic bag included in the sample cooler?	(Yes)	No	N/A
5. Were custody papers filled out properly (ink, signed, etc.)?	(Yes)	No	N/A
6. Did you sign custody papers in the appropriate place for acceptance?	(Yes)	No	N/A
7. Was project identifiable from custody papers?	(Yes)	No	N/A
8. If required, was enough ice present in the cooler(s)?	(Yes)	No	N/A

Type of Coolant: (WET) DRY BLUE NONE Temperature of Samples upon Receipt: 2.4°C

Dates samples were logged-in: **01/22/10**

9. Initial this form to acknowledge login of sample(s): (Name): Will Schwab (Initial): WS

10. Were all bottle lids intact and sealed tightly?	(Yes)	No	N/A
11. Did all bottles arrive unbroken?	(Yes)	No	N/A
12. Was all required bottle label information complete?	(Yes)	No	N/A
13. Did all bottle labels agree with custody papers?	(Yes)	No	N/A
14. Were correct containers used for the analyses indicated?	(Yes)	No	N/A
15. Were preservative levels correct in all applicable sample containers?	Yes	No	(N/A)
16. Was residual chlorine present in any applicable sample containers?	Yes	No	(N/A)
17. Was sufficient amount of sample sent for the analyses required?	(Yes)	No	N/A
18. Was headspace present in any included VOA vials?	Yes	(No)	N/A

If Non-Conformance issues were present, list by sample ID: _____

_____ CAR#: _____

HOLDTIME

SDG CTOJM09CF_

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	%	Trip Blank	1001157-06	NM	01/21/2010	01/28/2010	01/28/2010	7.608	0	7.608
OV	%	CEF-M18-DUP01-201001	1001157-03	NM	01/21/2010	01/28/2010	01/28/2010	7.771	0	7.771
OV	%	CEF-M18-12D-20100121	1001157-04	NM	01/21/2010	01/28/2010	01/28/2010	7.247	0	7.247
OV	%	CEF-M18-09I-20100121	1001157-05	NM	01/21/2010	01/28/2010	01/28/2010	7.288	0	7.288
OV	%	CEF-M18-05I-20100121	1001157-01	NM	01/21/2010	01/28/2010	01/28/2010	7.321	0	7.321
OV	%	CEF-M18-04I-20100121	1001157-02	NM	01/21/2010	01/28/2010	01/28/2010	7.261	0	7.261
OV	UG/L	Trip Blank	1001157-06	NM	01/21/2010	01/28/2010	01/28/2010	7.608	0	7.608
OV	UG/L	CEF-M18-DUP01-201001	1001157-03	NM	01/21/2010	01/28/2010	01/28/2010	7.771	0	7.771
OV	UG/L	CEF-M18-12D-20100121	1001157-04	NM	01/21/2010	01/28/2010	01/28/2010	7.247	0	7.247
OV	UG/L	CEF-M18-09I-20100121	1001157-05	NM	01/21/2010	01/28/2010	01/28/2010	7.288	0	7.288
OV	UG/L	CEF-M18-05I-20100121	1001157-01	NM	01/21/2010	01/28/2010	01/28/2010	7.321	0	7.321
OV	UG/L	CEF-M18-04I-20100121	1001157-02	NM	01/21/2010	01/28/2010	01/28/2010	7.261	0	7.261

NAS CECIL FIELD
WATER DATA
CTOJM09CF_004

FRACTION	CHEMICAL	CEF-M18-04I-20100121	UNITS	EF-M18-DUP01-2010012	RPD	D
OV	BENZENE	3.4	UG/L	3.3	2.99	0.10

Current RPD Quality Control Limit: 30 %.
Shaded cells indicate RPDs that exceed the applicable quality control limit.

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMPIRICAL LABS Contract:

Lab Code: ELABN Case No.: NA SAS No.: NA SDG No.: SDGA84517

Lab File ID: SEQ-TUN1 BFB Injection Date: 01/24/10

Instrument ID: VOA4 BFB Injection Time: 0858

GC Column: DB-VRX ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.2
75	30.0 - 60.0% of mass 95	50.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	64.3
175	5.0 - 9.0% of mass 174	5.1 (8.0)1
176	95.0 - 101.0% of mass 174	61.1 (95.1)1
177	5.0 - 9.0% of mass 176	4.5 (7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4STD0.5PPB	SEQ-CAL2	SEQ-CAL2	01/24/10	1025
02	V4STD1.0PPB	SEQ-CAL3	SEQ-CAL3	01/24/10	1055
03	V4STD2.0PPB	SEQ-CAL4	SEQ-CAL4	01/24/10	1124
04	V4STD10PPB	SEQ-CAL5	SEQ-CAL5	01/24/10	1154
05	V4STD20PPB	SEQ-CAL6	SEQ-CAL6	01/24/10	1223
06	V4STD50PPB	SEQ-CAL7	SEQ-CAL7	01/24/10	1252
07	V4BLK0124LCS	SEQ-ICV1	SEQ-ICV1	01/24/10	1322
08	V4STD100PPB	SEQ-CAL8	SEQ-CAL8	01/24/10	1351
09	V4STD200PPB	SEQ-CAL9	SEQ-CAL9	01/24/10	1421
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS Contract:

Lab Code: ELABN Case No.: NA SAS No.: NA SDG No.: SDGA56295

Instrument ID: VOA4 Calibration Date(s): 11/13/09 01/24/10

Column: DB-VRX ID: 0.25 (mm) Calibration Time(s): 1121 1421

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2
Acetone	AVRG		8.045e-002		12.3
Acrolein	LINR	0.31840920	4.819e-002		0.999
Acrylonitrile	AVRG		8.36e-002		4.9
tert-Amyl Methyl Ether	AVRG		0.66401721		8.2
Benzene	AVRG		0.97053342		4.7
Bromobenzene	AVRG		0.63652492		3.5
Bromochloromethane	AVRG		0.12368124		8.2
Bromodichloromethane	AVRG		0.35661933		3.4
Bromoform	AVRG		0.33804057		4.2
Bromomethane	AVRG		0.22043599		5.3
2-Butanone	LINR	4.5e-002	0.11426293		0.998
t-Butyl alcohol	AVRG		1.969e-002		5.8
n-Butylbenzene	AVRG		1.76250298		4.3
sec-Butylbenzene	AVRG		2.17055135		4.5
tert-Butylbenzene	AVRG		1.33019028		5.3
Carbon disulfide	AVRG		0.82566870		2.4
Carbon tetrachloride	AVRG		0.28076864		3.4
Chlorobenzene	AVRG		1.27368042		6.2
Chloroethane	AVRG		0.21067206		3.6
2-Chloroethyl vinyl ether	AVRG		0.14485279		7.7
Chloroform	AVRG		0.49402965		12.4
Chloromethane	AVRG		0.30164077		10.0
1-Chlorohexane	AVRG		1.32411368		8.8
2-Chlorotoluene	AVRG		1.79210247		4.6
4-Chlorotoluene	AVRG		1.92777329		4.9
Cyclohexane	AVRG		0.36085028		2.3
Dibromochloromethane	AVRG		0.48975124		4.0
1,2-Dibromo-3-chloropropane	AVRG		0.11714269		12.3
1,2-Dibromoethane	AVRG		0.49581636		5.2
Dibromomethane	AVRG		0.18908237		2.7
1,2-Dichlorobenzene	AVRG		1.04944764		2.8
1,3-Dichlorobenzene	AVRG		1.11325773		3.0
1,4-Dichlorobenzene	AVRG		1.18422715		4.2
Dichlorodifluoromethane	AVRG		0.27685095		3.2
1,1-Dichloroethane	AVRG		0.44938146		2.5
1,2-Dichloroethane	AVRG		0.32889673		3.2
1,1-Dichloroethene	AVRG		0.23171664		5.2

FORM VI VOA

FORM 6
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: EMPIRICAL LABS Contract:

Lab Code: ELABN Case No.: NA SAS No.: NA SDG No.: SDGA56295

Instrument ID: VOA4 Calibration Date(s): 11/13/09 01/24/10

Column: DB-VRX ID: 0.25 (mm) Calibration Time(s): 1121 1421

COMPOUND	AVERAGE RF	MIN. RF	%RSD	MAX. %RSD
Acetone	0.08045		12.3	15.0
Acrolein	0.03843		19.7	15.0
Acrylonitrile	0.08360		4.9	15.0
tert-Amyl Methyl Ether	0.66402		8.2	15.0
Benzene	0.97053		4.7	15.0
Bromobenzene	0.63652		3.5	15.0
Bromochloromethane	0.12368		8.2	15.0
Bromodichloromethane	0.35662		3.4	15.0
Bromoform	0.33804	0.100	4.2	15.0
Bromomethane	0.22044		5.3	15.0
2-Butanone	0.09893		22.2	15.0
t-Butyl alcohol	0.01968		5.8	15.0
n-Butylbenzene	1.76250		4.3	15.0
sec-Butylbenzene	2.17055		4.5	15.0
tert-Butylbenzene	1.33019		5.3	15.0
Carbon disulfide	0.82567		2.4	15.0
Carbon tetrachloride	0.28077		3.4	15.0
Chlorobenzene	1.27368	0.300	6.2	15.0
Chloroethane	0.21067		3.6	15.0
2-Chloroethyl vinyl ether	0.14485		7.7	15.0
Chloroform	0.49403		12.4	15.0
Chloromethane	0.30164	0.100	10.0	15.0
1-Chlorohexane	1.32411		8.8	15.0
2-Chlorotoluene	1.79210		4.6	15.0
4-Chlorotoluene	1.92777		4.9	15.0
Cyclohexane	0.36085		2.3	15.0
Dibromochloromethane	0.48975		4.0	15.0
1,2-Dibromo-3-chloropropane	0.11714		12.3	15.0
1,2-Dibromoethane	0.49582		5.2	15.0
Dibromomethane	0.18908		2.7	15.0
1,2-Dichlorobenzene	1.04945		2.8	15.0
1,3-Dichlorobenzene	1.11326		3.0	15.0
1,4-Dichlorobenzene	1.18423		4.2	15.0
Dichlorodifluoromethane	0.27685		3.2	15.0
1,1-Dichloroethane	0.44938	0.100	2.5	15.0
1,2-Dichloroethane	0.32890		3.2	15.0
1,1-Dichloroethene	0.23172		5.2	15.0

FORM VI VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Lab File ID: SEQ-TUN1 BFB Injection Date: 01/28/10

Instrument ID: VOA4 BFB Injection Time: 1041

GC Column: DB-VRX ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.1
75	30.0 - 60.0% of mass 95	49.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	57.2
175	5.0 - 9.0% of mass 174	5.0 (8.8)1
176	95.0 - 101.0% of mass 174	57.4 (100.5)1
177	5.0 - 9.0% of mass 176	4.0 (7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SEQ-CCV1	SEQ-CCV1	SEQ-CCV1	01/28/10	1110
02	0A29005-BLK1	0A29005-BS1	V4LCS01	01/28/10	1140
03	0A29005-BLK1	0A29005-BLK1	V4BLK01	01/28/10	1307
04	TRIP BLANK	1001157-06	0115706	01/28/10	1435
05	CEF-M18-05I-	1001157-01	0115701	01/28/10	1732
06	CEF-M18-04I-	1001157-02	0115702	01/28/10	1801
07	CEF-M18-DUP0	1001157-03	0115703	01/28/10	1830
08	CEF-M18-12D-	1001157-04	0115704	01/28/10	1900
09	CEF-M18-09I-	1001157-05	0115705	01/28/10	1929
10	0A29005-BLK1	0A29005-BSD1	V4LCSD01	01/28/10	2156
11					
12					
13					
14					
15					
16					
17					
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19					
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21					
22					

FORM 7
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Instrument ID: VOA4 Calibration Date: 01/28/10 Time: 1110

Lab File ID: SEQ-CCV1 Init. Calib. Date(s): 03/05/08 01/24/10

Heated Purge: (Y/N) N Init. Calib. Times: 0908 1421

GC Column: DB-VRX ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF100	CURVE AMOUNT	CCAL AMOUNT	MIN RRF	CURVE	%D	MAX %D
Benzene	0.970	0.930	100.0	95.85		AVRG	-4.1	20.0
Dibromofluoromethane	0.298	0.308	30.00	31.03		AVRG	3.4	
1,2-Dichloroethane-d4	0.065	0.064	30.00	29.67		AVRG	-1.1	
Toluene-d8	2.033	1.816	30.00	26.80		AVRG	-10.7	
Bromofluorobenzene	0.854	0.864	30.00	30.34		AVRG	1.1	

FORM VII VOA

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

0A29005-BLK1

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Lab File ID: V4BLK01 Lab Sample ID: 0A29005-BLK1

Date Analyzed: 01/28/10 Time Analyzed: 1307

Column: DB-VRX ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	0A29005-BLK1	0A29005-BS1	V4LCS01	1140
02	TRIP BLANK	1001157-06	0115706	1435
03	CEF-M18-05I-	1001157-01	0115701	1732
04	CEF-M18-04I-	1001157-02	0115702	1801
05	CEF-M18-DUP0	1001157-03	0115703	1830
06	CEF-M18-12D-	1001157-04	0115704	1900
07	CEF-M18-09I-	1001157-05	0115705	1929
08	0A29005-BLK1	0A29005-BSD1	V4LCSD01	2156
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COMMENTS:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

0A29005-BLK1

Lab Name: EMPIRICAL LABS Contract: TETRATECH

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CTOJM09CF_004

Matrix: (soil/water) WATER Lab Sample ID: 0A29005-BLK1

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V4BLK01

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ Date Analyzed: 01/28/10 13:07

GC Column: DB-VRX ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
71-43-2	Benzene	0.12	1.0		U