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NAS CECIL FIELD, FL
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SECOND SEMI-ANNUAL THIRD YEAR GROUNDWATER MONITORING LETTER REPORT FOR BUILDING 80 TANK 80 NAS CECIL FIELD FL

1/7/2004

TETRA TECH NUS INC

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January 7, 2004

Project Number N4093

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 III Contract Number N62467-94-D-0888
Contract Task Order Number 0209

Subject: Groundwater Monitoring Report, 2nd Semi-Annual, 3rd Year (July 2003)
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Semi-Annual Groundwater Monitoring Report for the referenced Contract Task Order (CTO) for the Building 80, Tank 80. This groundwater monitoring report was prepared for the United States Navy Southern Division, Naval Facilities Engineering Command (NAVFAC EFD SOUTH) under the Comprehensive Long-term Environmental Action Navy (CLEAN) III Contract Number N62467-94-D-0888. The objective of this task is to semi-annually monitor groundwater associated with this site. 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 Plan (MONA) Approval Order signed by the Florida Department of Environmental Protection (FDEP) on September 30, 1999, (Attachment A) and as modified by an FDEP e-mail message dated October 26, 2001 (Attachment B).

This report summarizes the fieldwork and analytical results for the sampling event conducted in July 2003. The work was performed in general accordance with the Base-wide Generic Work Plan Volumes I and II (TtNUS, 1998). The location of the site is presented on Figure 1.

FIELD OPERATIONS

On July 22, 2003, water level measurements were recorded from each of the site's monitoring wells prior to sample collection. The depth to water ranged from 3.20 feet (ft) below top of casing (btoc) (CEF-80-14S) to 4.09 ft btoc (CEF-80-08S). The depth-to-water measurements, along with top-of-casing elevations, were used to calculate groundwater elevations.

Groundwater samples were collected from five shallow monitoring wells (CEF-80-08S, CEF-80-09S, CEF-80-14S, CEF-80-15S, and CEF-80-16S) on July 22, 2003 (Figure 1). Following collection, the samples were placed on ice and subsequently shipped under chain-of-custody to Accutest Laboratories in Orlando, Florida. The laboratory analyzed the samples for purgeable aromatics by United States

Environmental Protection Agency (USEPA) Method SW846 8260B and polynuclear aromatic hydrocarbons (PAHs) by USEPA Method SW846 8310.

RESULTS

Groundwater elevation data from this event and the previous sampling events are shown on Table 1. The groundwater flow direction with elevation data is shown on Figure 2. Based on the data, the inferred general direction of groundwater flow is to the west.

Compounds of concern (COCs) reported by the laboratory for the groundwater samples collected for this sampling event were compared to FDEP Groundwater Cleanup Target Levels (GCTLs) and Natural Attenuation Default Source Concentrations (NADSCs). The data and comparable standards are indicated on Table 2 and the results are illustrated on Figure 3. For this sampling event, groundwater analytical results indicated all COCs were below detection limits and were below their respective NADSCs. A copy of the laboratory report for the July 22, 2003, sampling event is provided as Attachment C.

CONCLUSIONS and RECOMMENDATIONS

The previous sampling event held in January 2003 reported a northeasterly groundwater flow direction. Following comparison with the latest groundwater flow map, which indicates a westerly flow direction, it appears that there is a general seasonal shift in the flow direction of the site.

The analytical results for this sampling event (Table 2) indicate that the groundwater COC concentrations have continued to remain below detection limits for two consecutive sampling events in CEF-80-14S. The concentrations of COCs for the perimeter wells for this sampling event also continue to be below detection limits.

The concentrations of COCs have remained below GCTLs for the past two consecutive sampling events. Based on the sampling results and in accordance with Chapter 62-770.690(7)(b), FAC, TtNUS recommends that the monitoring program be discontinued and a No Further Action Order be issued for this site.

If you have any questions in regard to this submittal, please feel free to contact me at (813) 806-0202.

Sincerely,

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

Mervin W. Dale, P.G.
Florida Professional Geologist
P.G. Number 001917

MERVIN W. DALE
LICENSE NO. 1917
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

PC/clg

Attachments (8)

pc: G. Magwood, NAVFAC EFD SOUTH (CD only)
M. Perry, TtNUS (unbound and CD)
D. Wroblewski, TtNUS (cover letter only)
Project File – CTO 0209

TABLES

Table 1
Water Table Elevation Data

Semi-Annual Groundwater Monitoring Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification	Well Depth (ft, btoc)	Top-of-Casing Elevation (ft, msl)	September 25, 2000		March 6, 2001		December 14, 2001		June 18, 2002		January 7, 2003		July 22, 2003	
			Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)	Depth to Water (ft, btoc)	Water-Level Elevation (ft, msl)
CEF-80-08S	13.10	78.58	3.48	75.10	6.50	72.08	4.87	73.71	7.12	71.46	5.28	73.30	4.09	74.49
CEF-80-09S	14.00	78.64	3.84	74.80	6.49	72.15	4.84	73.80	7.1	71.54	5.40	73.24	3.92	74.72
CEF-80-14S	14.70	78.57	3.22	75.35	6.38	72.19	4.28	74.29	6.85	71.72	4.64	73.93	3.20	75.37
CEF-80-15S	12.95	78.54	NA	NA	NA	NA	4.67	73.87	7.32	71.22	5.36	73.18	3.80	74.74
CEF-80-16S	12.88	78.83	NA	NA	NA	NA	5.05	73.78	7.03	71.80	5.57	73.26	3.92	74.91

Notes:
msl = mean sea level
NA = not applicable

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Compounds Detected	Source Area Well						NADSC[1]/ GCTL[2]	Milestone Objectives at End of Third Year for CEF-80-14S
	CEF-80-14S							
	9/25/2000	3/6/2001	12/14/2001	6/18/2002	1/7/2003	7/22/2003		
PAHs (USEPA Method 8270C or 8310) (µg/L)								
Acenaphthene	2.3	7.1	<4.4	NA	NA	<4.4	200/20	None
Fluorene	2.8	6	<2.2	NA	NA	<2.2	2800/280	None
Benzo(a)pyrene	<0.2	<0.2	<0.22	<0.20	<0.21	<0.22	20/0.2	<0.20
1-Methylnaphthalene	**34**	**69**	<2.2	**32.4**	<2.1	<2.2	200/20	60
2-Methylnaphthalene	**34**	**84**	<2.2	**34.1**	<2.1	<2.2	200/20	35
Naphthalene	**62**	**93**	<2.2	**32.6**	<2.1	<2.2	200/20	40
Phenanthrene	1.7	3.6	<2.2	NA	NA	<2.2	2100/210	None
Volatile Organic Compounds (USEPA Method 8260B) (µg/L)								
1,1-Dichloroethane	1.4	<1	NA	NA	NA	NA	700/70	None
Benzene	**5.8**	**2.8**	<1.0	<1.0	<1.0	<1.0	100/1	None
Chlorobenzene	3.5	<1	<2.0	NA	NA	NA	1,000/100	None
Methyl-tert-butyl ether	<10	<10	<2.0	NA	NA	NA	500/50	None
Trichloroethene	0.64J	<1	NA	NA	NA	NA	300/3	None
Methylene chloride	<5	<5	NA	NA	NA	NA	500/5	None
Ethylbenzene	7.5	<1	<2.0	<1.0	<1.0	<1.0	300/3	20

See notes at end of table.

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Compounds Detected	Perimeter Monitoring Well						NADSC[1]/ GCTL[2]
	CEF-80-08S						
	9/25/2000	3/6/2001	12/14/2001	6/18/2002	1/7/2003	7/22/2003	
PAHs (USEPA Method 8270C or 8310) (µg/L)							
Acenaphthene	<1	<1	<4.0	NA	NA	<4.2	200/20
Fluorene	<1	<1	<2.0	NA	NA	<2.1	2800/280
Benzo(a)pyrene	<0.2	<0.2	<0.20	<0.20	<0.21	<0.21	20/0.2
1-Methylnaphthalene	<1	<1	<2.0	<2.0	<2.1	<2.1	200/20
2-Methylnaphthalene	<1	<1	<2.0	<2.0	<2.1	<2.1	200/20
Naphthalene	<1	<1	<2.0	<2.0	<2.1	<2.1	200/20
Phenanthrene	<1	<1	<2.0	NA	NA	<2.1	2100/210
Volatile Organic Compounds (USEPA Method 8260B) (µg/L)							
1,1-Dichloroethane	1.4	<1	NA	NA	NA	NA	700/70
Benzene	0.68 J	<1	<1.0	<1.0	<1.0	<1.0	100/1
Chlorobenzene	9.1	1.8	<2.0	NA	NA	NA	1,000/100
Methyl-tert-butyl ether	<10	<10	<2.0	NA	NA	NA	500/50
Trichloroethene	<1	<1	NA	NA	NA	NA	300/3
Methylene chloride	<5	<5	NA	NA	NA	NA	500/5
Ethylbenzene	<1	<1	<2.0	<1.0	<1.0	<1.0	300/3

See notes at end of table.

Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Compounds Detected	Perimeter Monitoring Well						NADSC[1]/ GCTL[2]
	CEF-80-09S						
	9/25/2000	3/6/2001	12/14/2001	6/18/2002	1/7/2003	7/22/2003	
PAHs (USEPA Method 8270C or 8310) (µg/L)							
Acenaphthene	<1	<1	<4.0	NA	NA	<4.0	200/20
Fluorene	<1	<1	<2.0	NA	NA	<2.0	2800/280
Benzo(a)pyrene	<0.2	<0.2	<0.20	<0.19	<0.21	<0.20	20/0.2
1-Methylnaphthalene	<1	<1	<2.0	<1.9	<2.1	<2.0	200/20
2-Methylnaphthalene	<1	<1	<2.0	<1.9	<2.1	<2.0	200/20
Naphthalene	<1	<1	<2.0	<1.9	<2.1	<2.0	200/20
Phenanthrene	<1	<1	<2.0	NA	NA	<2.0	2100/210
Volatile Organic Compounds (USEPA Method 8260B) (µg/L)							
1,1-Dichloroethane	<1	<1	NA	NA	NA	NA	700/70
Benzene	0.5J	<1	<1.0	<1.0	<1.0	<1.0	100/1
Chlorobenzene	<1	<1	<2.0	NA	NA	NA	1,000/100
Methyl-tert-butyl ether	<10	<10	<2.0	NA	NA	NA	500/50
Trichloroethene	<1	<1	NA	NA	NA	NA	300/3
Methylene chloride	<5	3.6J	NA	NA	NA	NA	500/5
Ethylbenzene	<1	<1	<2.0	<1.0	<1.0	<1.0	300/3

See notes at end of table.

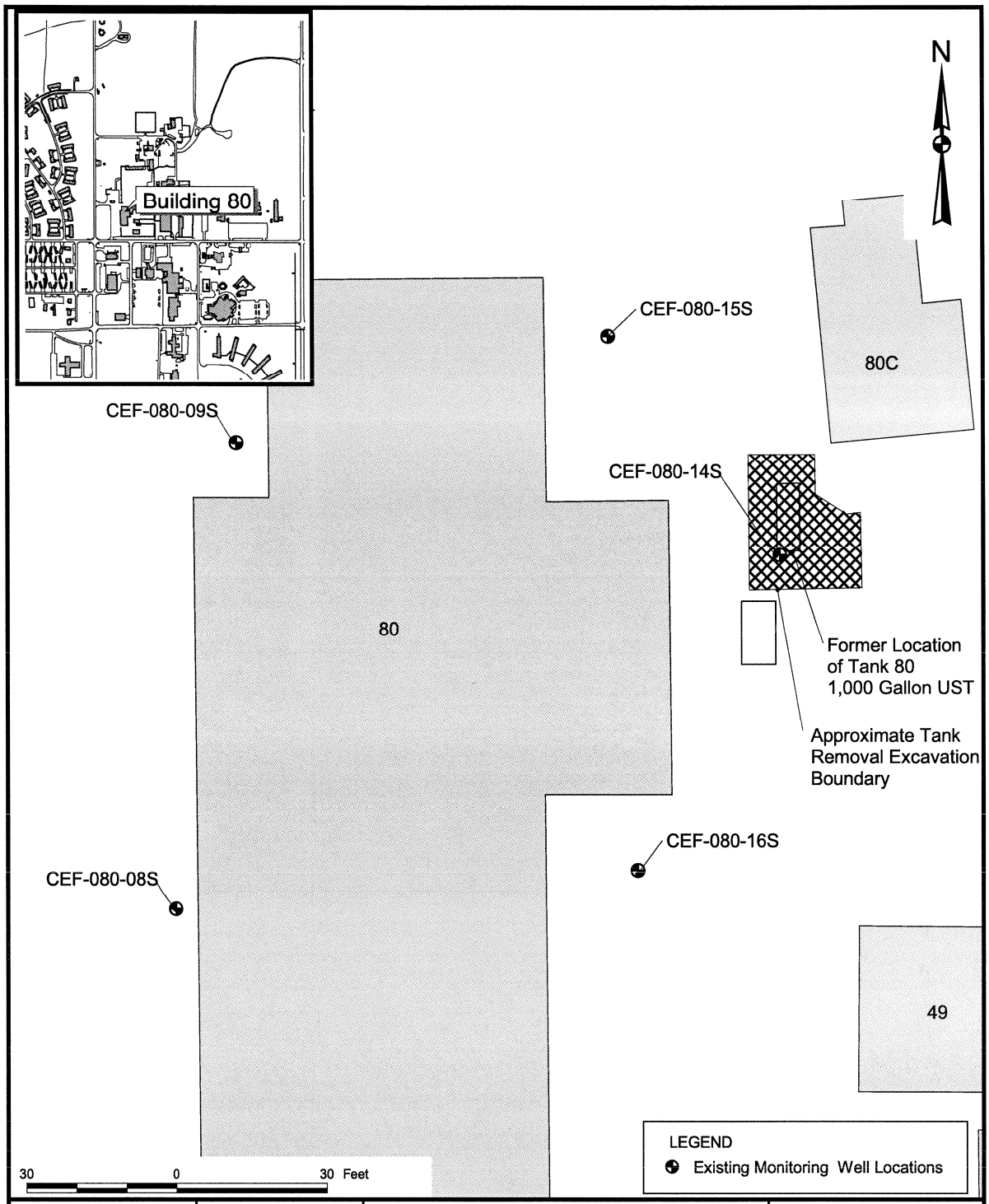
Table 2
Summary of Detections in Groundwater

Semi-Annual Groundwater Monitoring Report
Building 80, Tank 80
Naval Air Station Cecil Field
Jacksonville, Florida

Compounds Detected	Perimeter Monitoring Wells								NADSC/ GCTL[1,2]
	CEF-80-15S				CEF-80-16S				
	12/14/2001	6/18/2002	1/7/2003	7/22/2003	12/14/2001	6/18/2002	1/7/2003	7/22/2003	
PAHs (USEPA Method 8270C or 8310) (µg/L)									
Acenaphthene	<4.4	NA	NA	<4.2	<4.4	NA	NA	<4.2	200/20
Fluorene	<2.2	NA	NA	<2.1	<2.2	NA	NA	<2.1	2800/280
Benzo(a)pyrene	<0.22	<0.22	<0.21	<0.21	<0.22	<0.20	<0.21	<0.21	20/0.2
1-Methylnaphthalene	<2.2	<2.2	<2.1	<2.1	<2.2	<2.0	<2.1	<2.1	200/20
2-Methylnaphthalene	<2.2	<2.2	<2.1	<2.1	<2.2	<2.0	<2.1	<2.1	200/20
Naphthalene	<2.2	<2.2	<2.1	<2.1	<2.2	<2.0	<2.1	<2.1	200/20
Phenanthrene	<2.2	NA	NA	<2.1	<2.2	NA	NA	<2.1	2100/210
Volatile Organic Compounds (USEPA Method 8260B) (µg/L)									
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	700/70
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	100/1
Chlorobenzene	<2.0	NA	NA	NA	<2.0	NA	NA	NA	1,000/100
Methyl-tert-butyl ether	<2.0	NA	NA	NA	<2.0	NA	NA	NA	500/50
Trichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	300/3
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA	500/5
Ethylbenzene	<2.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	300/3

Notes:
[1]NADSC as promulgated in Chapter 62-770.690, FAC.
[2]GCTLs based on Chapter 62-770, FAC.
Bold indicates values exceeding NADSC or GCTL milestones.
µg/L = micrograms per liter
J = estimated
< = less than
NA = not analyzed

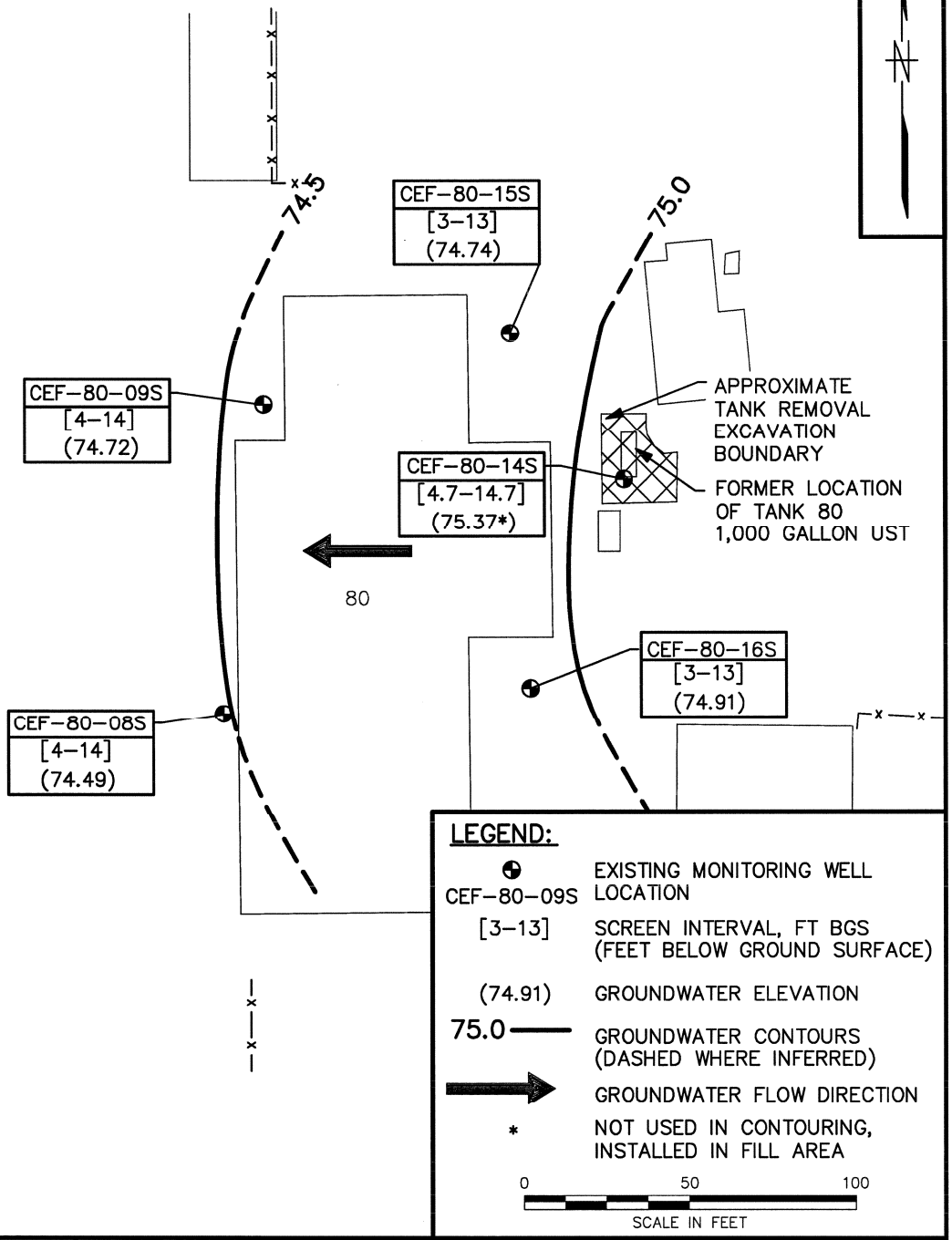
FIGURES



DRAWN BY MJJ	DATE 09/24/02	MONITORING WELL LOCATION MAP BUILDING 80 - TANK 80 GROUNDWATER MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4093
CHECKED BY	DATE		APPROVED BY — DATE —
COST/SCHEDULE-AREA			APPROVED BY — DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 1 / REV 0

P:\GIS\NAS_CecilField\Bldg080-01.apr 08Dec03 MJJ Site Plan Layout

ACAD: 0486GT03.dwg 12/09/03 DM PIT

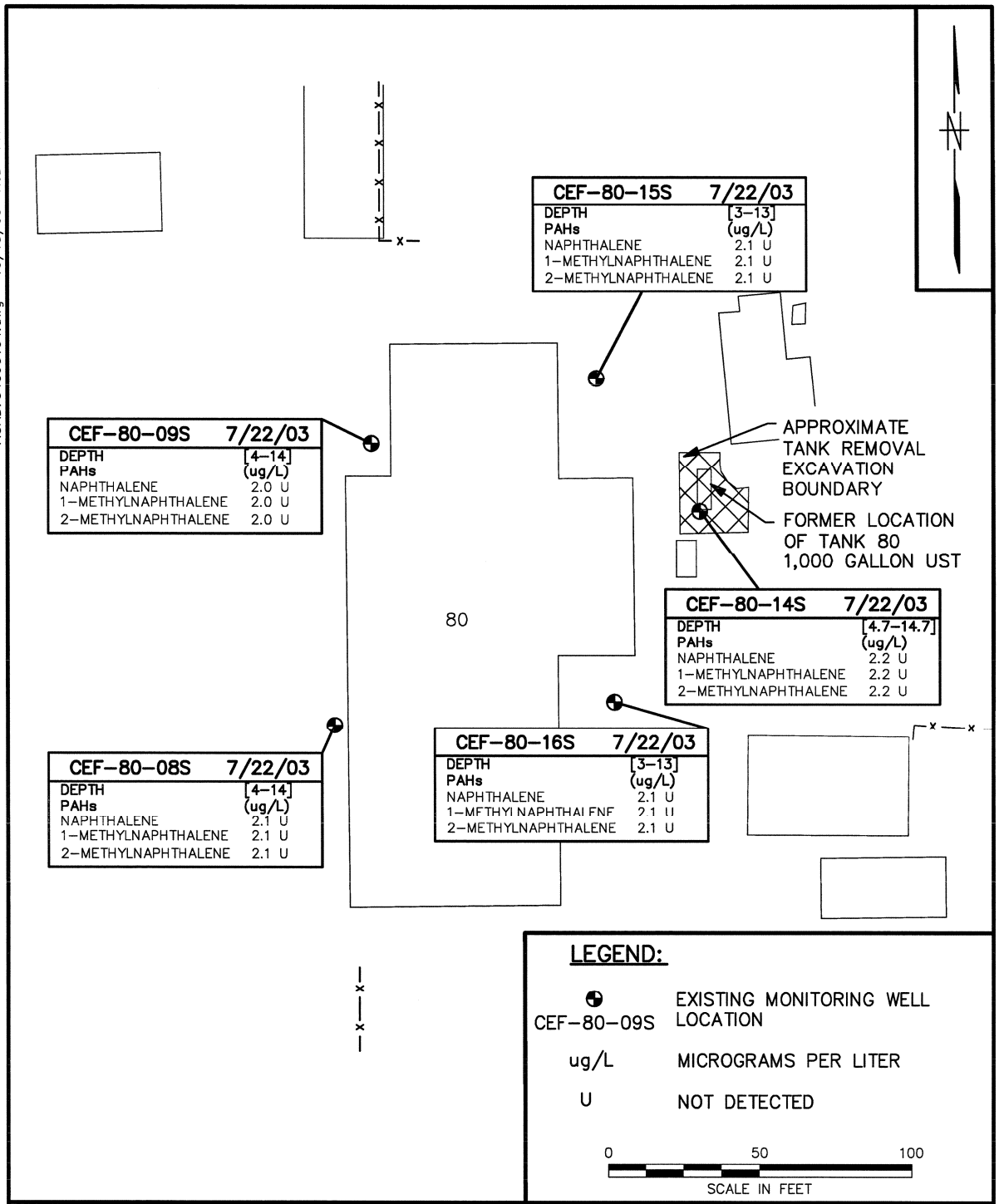


DRAWN BY HJB DATE 10/9/03			CONTRACT NO. 4093
CHECKED BY DATE			APPROVED BY DATE
COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV. 0

GROUNDWATER FLOW MAP
BUILDING 80-TANK 80
GROUNDWATER MONITORING REPORT
NAVAL AIR STAION CECIL FIELD
JACKSONVILLE, FLORIDA

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

ACAD:0486GT04.dwg 10/13/03 HJB PIT



DRAWN BY HJB DATE 10/13/03	GROUNDWATER CONCENTRATION MAP BUILDING 80-TANK 80 GROUNDWATER MONITORING REPORT NAVAL AIR STAION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093	
CHECKED BY DATE		APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 3	REV. 0

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

ATTACHMENT A

FDEP MONA APPROVAL ORDER

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

September 30, 1999

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commanding Officer
Mr. Bryan Kizer, Code 1842
SOUTHNAVFACENGCOM
Post Office Box 190010
North Charleston, South Carolina 29419-0068

Subject: Natural Attenuation Monitoring Plan Approval Order
Facility 80, Tank 80
Naval Air Station Cecil Field, Florida

Dear Mr. Kizer:

The Bureau of Waste Cleanup has completed the review of the Site Assessment Report Addendum and Natural Attenuation Monitoring Plan dated June 1999 (received July 6, 1999), submitted for this site. Pursuant to Rule 62-770.690, Florida Administrative Code (F.A.C.), the Department of Environmental Protection 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.

Monitoring Wells	Contaminants of Concern	Frequency	Duration
MW-80-8S, MW-80-9S, and MW-80-14S	Ethylbenzene, Naphthalene, 1-Methylnapthalene, 2-Methylnapthalene, and Benzo(a)pyrene	Semi-annual	One Year

If concentrations of chemicals 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, as described in Rule 62-770.690(7)(f), F.A.C.

Contaminated wells:
MW-80-14S: 300 µg/l Ethylbenzene; 200 µg/l 1- Methylnapthalene, 200 µg/l 2-Methylnapthalene, 200 µg/l Naphthalene, and 20 µg/l Benzo(a)pyrene.

Perimeter wells :
MW-80-14S and MW-80-14S: 30 µg/l Ethylbenzene; 20 µg/l 1- Methylnapthalene, 20 µg/l 2-Methylnapthalene, 20 µg/l Naphthalene, and .2 µg/l Benzo(a)pyrene.

The approved Remedial Action by Natural Attenuation monitoring period is 5 years. "Milestone" objectives should be established if monitoring is projected to take greater than one year. 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:

Ethylbenzene	MW-80-14S
End of year 1	35 µg/l
End of year 2	30 µg/l
End of year 3	20 µg/l
End of year 3	<20 µg/l
End of year 3	<20 µg/l

Naphthalene	MW-80-14S
End of year 1	60 µg/l
End of year 2	50 µg/l
End of year 3	40 µg/l
End of year 4	30 µg/l
End of year 5	<20 µg/l

1-Methyl Naphthalene	MW-80-14S
End of year 1	100 µg/l
End of year 2	80 µg/l
End of year 3	60 µg/l
End of year 4	40 µg/l
End of year 5	<20 µg/l

2-Methyl Naphthalene	MW-80-14S
End of year 1	70 µg/l
End of year 2	55 µg/l
End of year 3	35 µg/l
End of year 4	25 µg/l
End of year 5	<20 µg/l

Benzo(a)pyrene	MW-80-14S
End of year 1	0.25 µg/l
End of year 2	0.21 µg/l
End of year 3	<0.20µg/l
End of year 4	<0.20µg/l
End of year 5	<0.20 µg/l

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 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.

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, Florida Statutes (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, Naval Air Station Cecil Field, shall mail a copy of the request to Commanding Officer, Naval Air Station Cecil Field 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, Naval Air Station Cecil Field, shall mail a copy of the petition to Commanding Officer, Naval Air

Station Cecil Field 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).

Questions

Any questions regarding the Department's review of your Site Assessment Report Addendum and Natural Attenuation Monitoring Plan should be directed to Michael J. Deliz, P.G. at (850) 921-9991. 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/mjd

cc: Brian Cheary, FDEP Northeast District Office
Norm Hatch, CH2MHILL
Debbie Vaughn-Wright, USEPA – Atlanta
John Flowe, City of Jacksonville
Scott Glass, SOUTHNAVFACENGCOM

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 Date

Printed on recycled paper.

ATTACHMENT B

FDEP E-MAIL APPROVING WELL INSTALLATION

October 26, 2001
OFFICIAL CORRESPONDENCE

Commanding Officer
attn: Mr. Nick Ugolini, Code ES242
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, SC 29419-9010

Dear Mr. Ugolini,

I have reviewed the Groundwater Monitoring Report, 2nd Semi-Annual, 1st Year, Building 80, Tank 80, Naval Air Station Cecil Field, dated September 20, 2001 (received September 21, 2001). I concur with Tetra Tech NUS's recommendation to install wells northwest and southwest of source well CEF-80-14S and continue monitoring for the parameters specified in the September 30, 1999 Natural Attenuation Monitoring Plan Approval Order.

This electronic message is being sent in lieu of regular mail. If you have any questions concerning this review, please contact me at (850)921-9991.

Sincerely,

David P. Grabka
Remedial Project Manager
MS4535
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Office: 850.488.3935
Direct: 850.921.9991
FAX: 850.922.4939
david.grabka@dep.state.fl.us

ATTACHMENT C

GROUNDWATER ANALYTICAL REPORT

Southeast ACCUTEST Laboratories

08/11/03

Technical Report for

Tetra Tech, NUS

NAS Cecil Field-CTO-121

N0486-WR356

Accutest Job Number: F18693

Report to:

Total number of pages in report: 45

ACCREDITED IN ACCORDANCE WITH nelac

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.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

Tetra Tech, NUS

Job No: F18693

NAS Cecil Field-CTO-121
Project No: N0486-WR356

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F18693-1	07/22/03	08:15	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-9S-04
F18693-2	07/22/03	09:30	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-8S-04
F18693-3	07/22/03	10:00	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-16S-04
F18693-4	07/22/03	10:45	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-15S-04
F18693-5	07/22/03	12:15	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-14S-04
F18693-6	07/22/03	00:00	SMG	07/22/03	AQ	Ground Water	CEF-80-GW-DU01-04

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-9S-04		
Lab Sample ID:	F18693-1	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017472.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		86-115%
17060-07-0	1,2-Dichloroethane-D4	97%		78-125%
2037-26-5	Toluene-D8	109%		87-113%
460-00-4	4-Bromofluorobenzene	100%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-9S-04		
Lab Sample ID:	F18693-1	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016921.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		32-142%
92-94-4	p-Terphenyl	63%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-8S-04		
Lab Sample ID:	F18693-2	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017475.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		86-115%
17060-07-0	1,2-Dichloroethane-D4	97%		78-125%
2037-26-5	Toluene-D8	109%		87-113%
460-00-4	4-Bromofluorobenzene	100%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-8S-04		
Lab Sample ID:	F18693-2	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016924.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		32-142%
92-94-4	p-Terphenyl	90%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-16S-04		
Lab Sample ID:	F18693-3	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017476.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		86-115%
17060-07-0	1,2-Dichloroethane-D4	97%		78-125%
2037-26-5	Toluene-D8	108%		87-113%
460-00-4	4-Bromofluorobenzene	101%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-16S-04		
Lab Sample ID:	F18693-3	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016925.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		32-142%
92-94-4	p-Terphenyl	77%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-15S-04		
Lab Sample ID:	F18693-4	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017477.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		86-115%
17060-07-0	1,2-Dichloroethane-D4	97%		78-125%
2037-26-5	Toluene-D8	109%		87-113%
460-00-4	4-Bromofluorobenzene	100%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-15S-04		
Lab Sample ID:	F18693-4	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016926.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.0	ug/l	
120-12-7	Anthracene	ND	2.1	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.10	ug/l	
218-01-9	Chrysene	ND	2.1	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.52	ug/l	
86-73-7	Fluorene	ND	2.1	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.10	ug/l	
91-20-3	Naphthalene	ND	2.1	0.52	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.52	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.52	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.0	ug/l	
129-00-0	Pyrene	ND	2.1	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		32-142%
92-94-4	p-Terphenyl	72%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-14S-04		
Lab Sample ID:	F18693-5	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017478.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		78-125%
2037-26-5	Toluene-D8	109%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-14S-04		
Lab Sample ID:	F18693-5	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016927.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.55	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.55	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.55	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		32-142%
92-94-4	p-Terphenyl	90%		30-128%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-DU01-04		
Lab Sample ID:	F18693-6	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0017479.D	1	08/04/03	KW	n/a	n/a	VC771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		86-115%
17060-07-0	1,2 Dichloroethane-D4	99%		78-125%
2037-26-5	Toluene-D8	109%		87-113%
460-00-4	4-Bromofluorobenzene	97%		84-117%

ND = Not detected MDL - Method Detection Limit
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

Accutest Laboratories

Report of Analysis

Client Sample ID:	CEF-80-GW-DU01-04		
Lab Sample ID:	F18693-6	Date Sampled:	07/22/03
Matrix:	AQ - Ground Water	Date Received:	07/22/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NAS Cecil Field-CTO-121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE016928.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		32-142%
92-94-4	p-Terphenyl	69%		30-128%

ND = Not detected MDL - Method Detection Limit
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

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC771-BS	C0017468.D	1	08/04/03	KW	n/a	n/a	VC771

The QC reported here applies to the following samples: Method: SW846 8260B

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.1	108	76-123
100-41-4	Ethylbenzene	25	26.8	107	76-117
108-88-3	Toluene	25	26.9	108	76-118
1330-20-7	Xylene (total)	75	80.9	108	78-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	93%	86-115%
17060-07-0	1,2-Dichloroethane-D4	96%	78-125%
2037-26-5	Toluene-D8	106%	87-113%
460-00-4	4-Bromofluorobenzene	98%	84-117%

Method Blank Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC771-MB	C0017469.D	1	08/04/03	KW	n/a	n/a	VC771

The QC reported here applies to the following samples: Method: SW846 8260B

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	86-115%
17060-07-0	1,2-Dichloroethane-D4	93%	78-125%
2037-26-5	Toluene-D8	106%	87-113%
460-00-4	4-Bromofluorobenzene	102%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F18693-1MS	C0017473.D	1	08/04/03	KW	n/a	n/a	VC771
F18693-1MSD	C0017474.D	1	08/04/03	KW	n/a	n/a	VC771
F18693-1	C0017472.D	1	08/04/03	KW	n/a	n/a	VC771

The QC reported here applies to the following samples: Method: SW846 8260B

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	F18693-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	27.3	109	26.5	106	3	71-127/8
100-41-4	Ethylbenzene	ND		25	26.1	104	25.3	101	3	72-119/7
108-88-3	Toluene	ND		25	25.9	104	25.0	100	4	73-119/10
1330-20-7	Xylene (total)	ND		75	79.2	106	77.2	103	3	73-123/8

CAS No.	Surrogate Recoveries	MS	MSD	F18693-1	Limits
1868-53-7	Dibromofluoromethane	93%	92%	92%	86-115%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	97%	78-125%
2037-26-5	Toluene-D8	106%	108%	109%	87-113%
460-00-4	4-Bromofluorobenzene	96%	97%	100%	84-117%

Instrument Performance Check (BFB)

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample:	VC771-BFB	Injection Date:	08/04/03
Lab File ID:	C0017465.D	Injection Time:	09:12
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	22946	25.2		Pass
75	30.0 - 60.0% of mass 95	40341	44.3		Pass
95	Base peak, 100% relative abundance	91128	100.0		Pass
96	5.0 - 9.0% of mass 95	6140	6.7		Pass
173	Less than 2.0% of mass 174	349	0.38	(0.44) [a]	Pass
174	50.0 - 100.0% of mass 95	79490	87.2		Pass
175	5.0 - 9.0% of mass 174	5844	6.4	(7.4) [a]	Pass
176	95.0 - 101.0% of mass 174	76653	84.1	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5320	5.8	(6.9) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC771-CC766	C0017467.D	08/04/03	09:59	00:47	Continuing cal 40
VC771-BS	C0017468.D	08/04/03	10:28	01:16	Blank Spike
VC771-MB	C0017469.D	08/04/03	10:57	01:45	Method Blank
ZZZZZZ	C0017470.D	08/04/03	11:26	02:14	(unrelated sample)
ZZZZZZ	C0017471.D	08/04/03	11:55	02:43	(unrelated sample)
F18693-1	C0017472.D	08/04/03	12:25	03:13	CEF-80-GW-9S-04
F18693-1MS	C0017473.D	08/04/03	12:54	03:42	Matrix Spike
F18693-1MSD	C0017474.D	08/04/03	13:23	04:11	Matrix Spike Duplicate
F18693-2	C0017475.D	08/04/03	13:52	04:40	CEF-80-GW-8S-04
F18693-3	C0017476.D	08/04/03	14:21	05:09	CEF-80-GW-16S-04
F18693-4	C0017477.D	08/04/03	14:49	05:37	CEF-80-GW-15S-04
F18693-5	C0017478.D	08/04/03	15:18	06:06	CEF-80-GW-14S-04
F18693-6	C0017479.D	08/04/03	15:48	06:36	CEF-80-GW-DU01-04
ZZZZZZ	C0017480.D	08/04/03	16:17	07:05	(unrelated sample)
ZZZZZZ	C0017481.D	08/04/03	16:46	07:34	(unrelated sample)
ZZZZZZ	C0017482.D	08/04/03	17:15	08:03	(unrelated sample)
ZZZZZZ	C0017483.D	08/04/03	17:44	08:32	(unrelated sample)
ZZZZZZ	C0017484.D	08/04/03	18:13	09:01	(unrelated sample)
ZZZZZZ	C0017485.D	08/04/03	18:43	09:31	(unrelated sample)
ZZZZZZ	C0017486.D	08/04/03	19:15	10:03	(unrelated sample)
ZZZZZZ	C0017487.D	08/04/03	19:47	10:35	(unrelated sample)
ZZZZZZ	C0017488.D	08/04/03	20:18	11:06	(unrelated sample)
ZZZZZZ	C0017489.D	08/04/03	20:50	11:38	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample:	VC766-BFB	Injection Date:	07/28/03
Lab File ID:	C0017329.D	Injection Time:	13:26
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	26309	23.8		Pass
75	30.0 - 60.0% of mass 95	48096	43.6		Pass
95	Base peak, 100% relative abundance	110349	100.0		Pass
96	5.0 - 9.0% of mass 95	6444	5.8		Pass
173	Less than 2.0% of mass 174	432	0.39	(0.43) [a]	Pass
174	50.0 - 100.0% of mass 95	99330	90.0		Pass
175	5.0 - 9.0% of mass 174	7595	6.9	(7.6) [a]	Pass
176	95.0 - 101.0% of mass 174	96546	87.5	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	6944	6.3	(7.2) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC766-IC766	C0017330.D	07/28/03	13:59	00:33	Initial cal 1
VC766-IC766	C0017331.D	07/28/03	14:28	01:02	Initial cal 5
VC766-IC766	C0017332.D	07/28/03	14:58	01:32	Initial cal 20
VC766-ICC766	C0017333.D	07/28/03	15:27	02:01	Initial cal 40
VC766-IC766	C0017334.D	07/28/03	15:56	02:30	Initial cal 70
VC766-IC766	C0017335.D	07/28/03	16:25	02:59	Initial cal 100
VC766-BS	C0017337.D	07/28/03	17:23	03:57	Blank Spike
VC766-MB	C0017338.D	07/28/03	17:52	04:26	Method Blank
ZZZZZZ	C0017339.D	07/28/03	18:21	04:55	(unrelated sample)
ZZZZZZ	C0017340.D	07/28/03	18:51	05:25	(unrelated sample)
F18600-2	C0017341.D	07/28/03	19:20	05:54	(used for QC only; not part of job F18693)
F18600-2MS	C0017342.D	07/28/03	19:49	06:23	Matrix Spike
F18600-2MSD	C0017343.D	07/28/03	20:18	06:52	Matrix Spike Duplicate
ZZZZZZ	C0017344.D	07/28/03	20:47	07:21	(unrelated sample)
ZZZZZZ	C0017345.D	07/28/03	21:16	07:50	(unrelated sample)
ZZZZZZ	C0017346.D	07/28/03	21:45	08:19	(unrelated sample)
ZZZZZZ	C0017347.D	07/28/03	22:14	08:48	(unrelated sample)
ZZZZZZ	C0017348.D	07/28/03	22:43	09:17	(unrelated sample)
ZZZZZZ	C0017349.D	07/28/03	23:12	09:46	(unrelated sample)
ZZZZZZ	C0017350.D	07/28/03	23:41	10:15	(unrelated sample)
ZZZZZZ	C0017351.D	07/29/03	00:09	10:43	(unrelated sample)
ZZZZZZ	C0017352.D	07/29/03	00:38	11:12	(unrelated sample)
ZZZZZZ	C0017353.D	07/29/03	01:07	11:41	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Check Std:	VC771-CC766	Injection Date:	08/04/03
Lab File ID:	C0017467.D	Injection Time:	09:59
Instrument ID:	GCMSC	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1858936	10.26	1381138	13.50	796763	16.04	239236	7.49
Upper Limit [a]	3717872	10.76	2762276	14.00	1593526	16.54	478472	7.99
Lower Limit [b]	929468	9.76	690569	13.00	398382	15.54	119618	6.99

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC771-BS	1979359	10.26	1457973	13.50	821594	16.04	252096	7.49
VC771-MB	1954059	10.26	1416677	13.50	743953	16.04	249289	7.50
ZZZZZZ	1856638	10.26	1313966	13.50	674518	16.04	236041	7.50
ZZZZZZ	1760232	10.26	1246284	13.50	644064	16.04	218239	7.50
F18693-1	1703380	10.26	1198761	13.50	622793	16.04	212326	7.50
F18693-1MS	1693605	10.26	1245773	13.50	727748	16.04	219815	7.49
F18693-1MSD	1779746	10.26	1286325	13.50	757315	16.04	239955	7.49
F18693-2	1767786	10.26	1246956	13.50	654354	16.04	227436	7.50
F18693-3	1694351	10.26	1196630	13.50	616418	16.05	222936	7.51
F18693-4	1616100	10.26	1146414	13.50	597735	16.05	215025	7.50
F18693-5	1579706	10.26	1111928	13.50	580143	16.04	208186	7.50
F18693-6	1547477	10.26	1090312	13.50	568924	16.05	192397	7.50
ZZZZZZ	1474491	10.26	1057974	13.50	558328	16.04	196574	7.50
ZZZZZZ	1438533	10.26	1033295	13.50	546074	16.04	187661	7.50
ZZZZZZ	1428918	10.26	1011638	13.50	533442	16.04	185568	7.50
ZZZZZZ	1397362	10.26	997055	13.50	523169	16.04	174134	7.50
ZZZZZZ	1361534	10.26	977354	13.50	509032	16.04	167026	7.51
ZZZZZZ	1332090	10.26	956595	13.50	501713	16.04	166583	7.50
ZZZZZZ	1316889	10.26	938578	13.50	496358	16.05	155051	7.50
ZZZZZZ	1287621	10.26	931160	13.50	488219	16.05	156693	7.50
ZZZZZZ	1275930	10.26	912824	13.50	483198	16.04	151001	7.50
ZZZZZZ	1250835	10.26	902755	13.50	479298	16.04	155342	7.50

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4 Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F18693-1	C0017472.D	92.0	97.0	109.0	100.0
F18693-2	C0017475.D	92.0	97.0	109.0	100.0
F18693-3	C0017476.D	92.0	97.0	108.0	101.0
F18693-4	C0017477.D	93.0	97.0	109.0	100.0
F18693-5	C0017478.D	93.0	99.0	109.0	99.0
F18693-6	C0017479.D	92.0	99.0	109.0	97.0
F18693-1MS	C0017473.D	93.0	100.0	106.0	96.0
F18693-1MSD	C0017474.D	92.0	99.0	108.0	97.0
VC771-BS	C0017468.D	93.0	96.0	106.0	98.0
VC771-MB	C0017469.D	94.0	93.0	106.0	102.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	86-115%
S2 = 1,2-Dichloroethane-D4	78-125%
S3 = Toluene-D8	87-113%
S4 = 4-Bromofluorobenzene	84-117%

Initial Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: VC766-ICC766
Lab FileID: C0017333.D

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\82600728.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Jul 29 08:13:11 2003
Response via : Initial Calibration

Calibration Files
1 =C0017330.D 2 =C0017331.D 3 =C0017332.D
4 =C0017333.D 5 =C0017334.D 6 =C0017335.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	0.317	0.313	0.275	0.287	0.282	0.272	0.291	6.68
3)	P	Chloromethane	0.492	0.461	0.430	0.437	0.415	0.399	0.439	7.60
4)	C	Vinyl Chloride	0.327	0.325	0.296	0.306	0.295	0.283	0.306	5.80
5)		Bromomethane		0.130	0.117	0.114	0.105	0.102	0.114	9.78
6)		Chloroethane	0.141	0.130	0.125	0.124	0.119	0.112	0.125	7.90
7)		Trichlorofluorometh	0.219	0.231	0.225	0.239	0.258	0.264	0.239	7.47
8)		1,2-Dichlorotrifluo	0.305	0.289	0.311	0.296	0.288	0.276	0.294	4.27
9)		Ethyl ether	0.242	0.234	0.274	0.268	0.261	0.253	0.256	6.05
10)		Acrolein	0.025	0.028	0.029	0.031	0.031	0.031	0.029	7.19
11)		Freon 113		0.249	0.250	0.242	0.239	0.230	0.242	3.49
12)		Acetone		0.108	0.103	0.102	0.101	0.101	0.103	2.90
13)	C	1,1-Dichloroethene	0.512	0.473	0.498	0.487	0.490	0.484	0.491	2.68
14)		Iodomethane	0.380	0.352	0.366	0.365	0.372	0.373	0.368	2.61
15)		Methyl Acetate	0.220	0.216	0.231	0.228	0.230	0.229	0.226	2.65
16)		Carbon Disulfide	0.910	0.783	0.828	0.790	0.778	0.737	0.804	7.39
17)		Methylene Chloride		0.554	0.491	0.474	0.475	0.472	0.493	7.05
18)		Acrylonitrile	0.112	0.125	0.127	0.129	0.130	0.131	0.126	5.60
19)		Methyl Tert Butyl E	0.592	0.627	0.641	0.648	0.624	0.612	0.624	3.23
20)		trans-1,2-Dichloroe	0.477	0.435	0.452	0.439	0.438	0.433	0.446	3.78
21)		Hexane		0.393	0.414	0.401	0.400	0.385	0.399	2.63
22)		Vinyl acetate	0.734	0.714	0.786	0.644	0.594	0.624	0.683	10.78
23)		Di-isopropyl ether	1.123	1.069	1.114	1.083	1.064	1.031	1.081	3.14
24)	P	1,1-Dichloroethane	0.526	0.507	0.532	0.516	0.515	0.501	0.516	2.21
25)		ETBE	0.852	0.859	0.912	0.905	0.909	0.905	0.890	3.08
26)		2-Butanone	0.151	0.147	0.147	0.153	0.153	0.152	0.150	1.97
27)		cis-1,2-Dichloroeth	0.280	0.269	0.278	0.267	0.262	0.252	0.268	3.83
28)		2,2-Dichloropropane	0.296	0.261	0.266	0.260	0.257	0.245	0.264	6.52
29)		Bromochloromethane	0.129	0.116	0.124	0.121	0.120	0.119	0.122	3.75
30)	C	Chloroform	0.449	0.441	0.469	0.452	0.455	0.446	0.452	2.16
31)		Tetrahydrofuran		0.116	0.098	0.099	0.095	0.096	0.101	8.55
32)	S	Dibromofluoromethan	0.245	0.247	0.244	0.246	0.244	0.248	0.246	0.62
33)		1,1,1-Trichloroetha	0.385	0.353	0.357	0.349	0.352	0.357	0.359	3.66
34)		Cyclohexane	0.611	0.527	0.550	0.532	0.539	0.527	0.548	5.88
35)		1,1-Dichloropropene	0.349	0.317	0.329	0.316	0.321	0.311	0.324	4.26
36)		Carbon Tetrachlorid	0.300	0.269	0.287	0.287	0.299	0.305	0.291	4.57
37)	S	1,2-Dichloroethane-	0.342	0.338	0.342	0.331	0.331	0.337	0.337	1.40
38)		1,2-Dichloroethane	0.444	0.409	0.417	0.413	0.419	0.420	0.420	2.91
39)		Benzene		1.041	1.025	0.976	0.924	0.845	0.962	8.31
40)		TAME	0.628	0.645	0.697	0.681	0.669	0.645	0.661	3.96
41)		Trichloroethene	0.273	0.257	0.264	0.268	0.270	0.258	0.265	2.46
42)	C	1,2-Dichloropropane	0.301	0.306	0.309	0.296	0.288	0.272	0.295	4.61
43)		Methylcyclohexane	0.499	0.405	0.412	0.395	0.386	0.361	0.410	11.48
44)		Dibromomethane	0.165	0.149	0.163	0.160	0.158	0.157	0.159	3.59
45)		Bromodichloromethan	0.333	0.323	0.351	0.346	0.352	0.354	0.343	3.62
46)		2-Nitropropane	0.076	0.077	0.084	0.084	0.083	0.083	0.081	4.56

Initial Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: VC766-ICC766
Lab FileID: C0017333.D

47)		2-Chloroethyl vinyl	0.161	0.182	0.191	0.183	0.170	0.157	0.174	7.71
48)		cis-1,3-Dichloropro	0.453	0.407	0.431	0.426	0.429	0.419	0.427	3.56
49)		4-Methyl-2-pentanon	0.310	0.315	0.330	0.325	0.320	0.314	0.319	2.27
50)	I	Chlorobenzene-d5	----------ISTD----------							
51)	S	Toluene-d8	1.190	1.209	1.196	1.215	1.221	1.206	1.206	0.97
52)	C	Toluene	1.512	1.310	1.370	1.337	1.319	1.240	1.348	6.76
53)		trans-1,3-Dichlorop	0.478	0.456	0.509	0.504	0.513	0.503	0.493	4.50
54)		1,1,2-Trichloroetha	0.255	0.264	0.262	0.266	0.262	0.249	0.260	2.51
55)		2-hexanone	0.251	0.278	0.298	0.302	0.299	0.285	0.285	6.67
56)		1,3-Dichloropropane	0.513	0.529	0.523	0.516	0.499	0.459	0.507	5.05
57)		Tetrachloroethene	0.418	0.374	0.361	0.361	0.361	0.342	0.370	6.95
58)		Dibromochloromethan	0.300	0.279	0.307	0.322	0.329	0.327	0.311	6.19
59)		1,2-Dibromoethane	0.305	0.296	0.332	0.327	0.330	0.320	0.318	4.59
60)		1-Chlorohexane	0.480	0.429	0.451	0.451	0.447	0.421	0.447	4.62
61)	P	Chlorobenzene	0.971	0.859	0.886	0.881	0.871	0.825	0.882	5.52
62)		1,1,1,2-Tetrachloro	0.333	0.301	0.299	0.304	0.294	0.280	0.302	5.71
63)	C	Ethylbenzene	1.694	1.511	1.547	1.529	1.461	1.334	1.513	7.77
64)		m,p-Xylene	1.337	1.170	1.199	1.169	1.129	1.042	1.174	8.24
65)		o-Xylene	1.304	1.228	1.270	1.214	1.159	1.052	1.205	7.44
66)		Styrene	0.960	0.934	1.012	0.988	0.925	0.828	0.941	6.83
67)	P	Bromoform		0.224	0.252	0.269	0.278	0.279	0.260	8.87
68)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
69)		Isopropylbenzene	2.612	2.443	2.594	2.576	2.574	2.447	2.541	2.97
70)		Cyclohexanone	0.025	0.032	0.025	0.027	0.029	0.030	0.028	10.58
71)	S	4-Bromofluorobenzen	0.997	1.006	0.981	0.987	1.015	1.029	1.003	1.80
72)	P	1,1,2,2-Tetrachloro	0.746	0.732	0.761	0.726	0.722	0.709	0.733	2.52
73)		trans-1,4-Dichloro-	0.235	0.200	0.229	0.249	0.265	0.274	0.242	11.09
74)		1,2,3-Trichloroprop	0.215	0.211	0.214	0.213	0.216	0.216	0.214	0.89
75)		Bromobenzene	0.883	0.749	0.751	0.726	0.713	0.651	0.745	10.31
76)		n-Propylbenzene	3.763	3.309	3.348	3.234	3.142	2.869	3.277	8.93
77)		1,3,5-Trimethylbenz	2.443	2.173	2.248	2.147	2.092	1.932	2.172	7.81
78)		2-Chlorotoluene	2.436	2.242	2.243	2.140	2.087	1.940	2.181	7.71
79)		4-Chlorotoluene	2.374	2.045	2.095	2.085	2.124	2.012	2.123	6.10
80)		tert-Butylbenzene	1.658	1.484	1.545	1.538	1.543	1.494	1.544	4.02
81)		1,2,4-Trimethylbenz	2.660	2.282	2.399	2.366	2.344	2.218	2.378	6.40
82)		sec-Butylbenzene	3.320	2.787	2.918	2.869	2.835	2.662	2.898	7.73
83)		4-Isopropyltoluene	2.483	2.124	2.228	2.175	2.160	2.059	2.205	6.69
84)		1,3-Dichlorobenzene	1.594	1.360	1.403	1.363	1.371	1.306	1.400	7.17
85)		1,4-Dichlorobenzene	1.698	1.433	1.432	1.397	1.388	1.330	1.446	8.90
86)		Benzyl chloride	1.426	1.278	1.410	1.428	1.460	1.429	1.405	4.59
87)		n-Butylbenzene	2.793	2.220	2.366	2.307	2.272	2.160	2.353	9.64
88)		1,2-Dichlorobenzene	1.511	1.312	1.345	1.348	1.363	1.289	1.361	5.74
89)		1,2-Dibromo-3-Chlor		0.122	0.133	0.130	0.136	0.138	0.132	4.61
90)		1,2,4-Trichlorobenz	1.234	0.934	0.969	0.971	0.997	0.994	1.017	10.73
91)		Hexachlorobutadiene		0.496	0.487	0.471	0.493	0.491	0.487	2.02
92)		Naphthalene		1.816	1.938	1.984	2.062	2.070	1.974	5.26
93)		1,2,3-Trichlorobenz		0.826	0.828	0.842	0.881	0.874	0.850	3.03
94)	I	Tert Butyl alcohol-d1	----------ISTD----------							
95)		Tert-Butyl alcohol	1.211	1.095	1.111	1.116	1.123	1.108	1.127	3.75
96)		1,4-Dioxane	0.084	0.095	0.107	0.105	0.111	0.106	0.101	10.00

(#) = Out of Range

82600728.M Tue Jul 29 09:08:31 2003 RPT1

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: VC771-CC766
Lab FileID: C0017467.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\080403\C0017467.D
Acq On : 4 Aug 2003 9:59 am
Sample : CC766-40
Misc : ms2447,vc771,,,,,
MS Integration Params: Rteint.p

Vial: 1
Operator: KarenW
Inst : MSVOA5
Multiplr: 1.00

Method : C:\MSDCHEM\2\METHODS\82600728.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Jul 29 08:13:11 2003
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	109	0.00
2		Dichlorodifluoromethane	0.291	0.265	8.9	101	-0.01
3	P	Chloromethane	0.439	0.394	10.3	98	0.00
4	C	Vinyl Chloride	0.306	0.265	13.4	94	0.01
5		Bromomethane	0.114	0.116	-1.8	111	0.00
6		Chloroethane	0.125	0.120	4.0	106	0.00
7		Trichlorofluoromethane	0.239	0.282	-18.0	129	0.00
8		1,2-Dichlorotrifluoroethane	0.294	0.300	-2.0	111	0.00
9		Ethyl ether	0.256	0.260	-1.6	106	0.00
10		Acrolein	0.029	0.021	27.6#	75	0.00
11		Freon 113	0.242	0.222	8.3	100	0.00
12		Acetone	0.103	0.091	11.7	98	0.00
13	C	1,1-Dichloroethene	0.491	0.447	9.0	100	0.00
14		Iodomethane	0.368	0.308	16.3	92	0.00
15		Methyl Acetate	0.226	0.246	-8.8	118	0.00
16		Carbon Disulfide	0.804	0.781	2.9	108	0.00
17		Methylene Chloride	0.493	0.467	5.3	107	0.00
18		Acrylonitrile	0.126	0.087	31.0#	73	0.00
19		Methyl Tert Butyl Ether	0.624	0.645	-3.4	109	0.00
20		trans-1,2-Dichloroethene	0.446	0.420	5.8	104	0.00
21		Hexane	0.399	0.395	1.0	107	0.00
22		Vinyl acetate	0.683	0.835	-22.3#	141	0.00
23		Di-isopropyl ether	1.081	1.108	-2.5	112	0.00
24	P	1,1-Dichloroethane	0.516	0.518	-0.4	110	0.00
25		ETBE	0.890	0.891	-0.1	107	0.00
26		2-Butanone	0.150	0.148	1.3	105	0.00
27		cis-1,2-Dichloroethene	0.268	0.252	6.0	103	0.00
28		2,2-Dichloropropane	0.264	0.249	5.7	105	0.00
29		Bromochloromethane	0.122	0.112	8.2	101	0.00
30	C	Chloroform	0.452	0.416	8.0	100	0.00
31		Tetrahydrofuran	0.101	0.092	8.9	102	0.00
32	S	Dibromofluoromethane	0.246	0.229	6.9	102	0.00
33		1,1,1-Trichloroethane	0.359	0.310	13.6	97	0.00
34		Cyclohexane	0.548	0.512	6.6	105	0.00
35		1,1-Dichloropropene	0.324	0.303	6.5	104	0.00
36		Carbon Tetrachloride	0.291	0.259	11.0	99	0.00
37	S	1,2-Dichloroethane-d4	0.337	0.317	5.9	104	0.00
38		1,2-Dichloroethane	0.420	0.382	9.0	101	0.00
39		Benzene	0.962	0.988	-2.7	110	0.00
40		TAME	0.661	0.678	-2.6	109	0.00
41		Trichloroethene	0.265	0.231	12.8	94	0.00
42	C	1,2-Dichloropropane	0.295	0.302	-2.4	111	0.00

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: VC771-CC766
Lab FileID: C0017467.D

43		Methylcyclohexane	0.410	0.389	5.1	107	0.00
44		Dibromomethane	0.159	0.149	6.3	101	0.00
45		Bromodichloromethane	0.343	0.322	6.1	101	0.00
46		2-Nitropropane	0.081	0.085	-4.9	111	0.00
47		2-Chloroethyl vinyl ether	0.174	0.191	-9.8	114	0.00
48		cis-1,3-Dichloropropene	0.427	0.415	2.8	106	0.00
49		4-Methyl-2-pentanone	0.319	0.335	-5.0	113	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00
51	S	Toluene-d8	1.206	1.280	-6.1	110	0.00
52	C	Toluene	1.348	1.361	-1.0	106	0.00
53		trans-1,3-Dichloropropene	0.493	0.508	-3.0	105	0.00
54		1,1,2-Trichloroethane	0.260	0.275	-5.8	107	0.00
55		2-hexanone	0.285	0.311	-9.1	107	0.00
56		1,3-Dichloropropane	0.507	0.536	-5.7	108	0.00
57		Tetrachloroethene	0.370	0.335	9.5	96	0.00
58		Dibromochloromethane	0.311	0.300	3.5	97	0.00
59		1,2-Dibromoethane	0.318	0.313	1.6	100	0.00
60		1-Chlorohexane	0.447	0.430	3.8	99	0.00
61	P	Chlorobenzene	0.882	0.839	4.9	99	0.00
62		1,1,1,2-Tetrachloroethane	0.302	0.288	4.6	99	0.00
63	C	Ethylbenzene	1.513	1.540	-1.8	105	0.00
64		m,p-Xylene	1.174	1.181	-0.6	105	0.00
65		o-Xylene	1.205	1.244	-3.2	107	0.00
66		Styrene	0.941	0.991	-5.3	104	0.00
67	P	Bromoform	0.260	0.251	3.5	97	0.00
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00
69		Isopropylbenzene	2.541	2.488	2.1	102	0.00
70		Cyclohexanone	0.028	0.027	3.6	104	0.00
71	S	4-Bromofluorobenzene	1.003	0.966	3.7	103	0.00
72	P	1,1,2,2-Tetrachloroethane	0.733	0.817	-11.5	118	0.00
73		trans-1,4-Dichloro-2-butene	0.242	0.213	12.0	90	0.00
74		1,2,3-Trichloropropane	0.214	0.204	4.7	101	0.00
75		Bromobenzene	0.745	0.711	4.6	103	0.00
76		n-Propylbenzene	3.277	3.302	-0.8	107	0.00
77		1,3,5-Trimethylbenzene	2.172	2.157	0.7	106	0.00
78		2-Chlorotoluene	2.181	2.156	1.1	106	0.00
79		4-Chlorotoluene	2.123	2.050	3.4	103	0.00
80		tert-Butylbenzene	1.544	1.473	4.6	101	0.00
81		1,2,4-Trimethylbenzene	2.378	2.305	3.1	102	0.00
82		sec-Butylbenzene	2.898	2.812	3.0	103	0.00
83		4-Isopropyltoluene	2.205	2.119	3.9	102	0.00
84		1,3-Dichlorobenzene	1.400	1.314	6.1	101	0.00
85		1,4-Dichlorobenzene	1.446	1.369	5.3	103	0.00
86		Benzyl chloride	1.405	1.519	-8.1	112	0.00
87		n-Butylbenzene	2.353	2.345	0.3	107	0.00
88		1,2-Dichlorobenzene	1.361	1.287	5.4	100	0.00
89		1,2-Dibromo-3-Chloropropane	0.132	0.126	4.5	102	0.00
90		1,2,4-Trichlorobenzene	1.017	0.905	11.0	98	0.00
91		Hexachlorobutadiene	0.487	0.435	10.7	97	0.00
92		Naphthalene	1.974	1.937	1.9	103	0.00
93		1,2,3-Trichlorobenzene	0.850	0.812	4.5	101	0.00
94	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	107	0.00
95		Tert-Butyl alcohol	1.127	1.125	0.2	108	0.00
96		1,4-Dioxane	0.101	0.105	-4.0	106	0.00

Average % D = 6.2

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: VC771-CC766
Lab FileID: C0017467.D

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0017333.D 82600728.M Tue Aug 05 08:41:03 2003 RPT1

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Blank Spike Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8079 BS	EE016919.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711

The QC reported here applies to the following samples: Method: EPA 8310

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	14.0	70	52-104
208-96-8	Acenaphthylene	20	13.8	69	51-103
120-12-7	Anthracene	20	14.3	72	60-112
56-55-3	Benzo(a)anthracene	10	8.1	81	64-111
50-32-8	Benzo(a)pyrene	10	8.3	83	56-118
205-99-2	Benzo(b)fluoranthene	10	8.3	83	63-117
191-24-2	Benzo(g,h,i)perylene	10	8.6	86	45-118
207-08-9	Benzo(k)fluoranthene	10	8.2	82	56-118
218-01-9	Chrysene	10	8.3	83	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.4	84	41-119
206-44-0	Fluoranthene	20	15.3	77	61-111
86-73-7	Fluorene	20	14.3	72	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.4	84	46-118
91-20-3	Naphthalene	20	12.9	65	44-105
90-12-0	1-Methylnaphthalene	20	13.3	67	47-102
91-57-6	2-Methylnaphthalene	20	13.3	67	47-101
85-01-8	Phenanthrene	20	14.7	74	55-109
129-00-0	Pyrene	20	15.3	77	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	77%	32-142%
92-94-4	p-Terphenyl	85%	30-128%

Method Blank Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8079-MB	EE016920.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711

The QC reported here applies to the following samples: Method: EPA 8310

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	85%	32-142%
92-94-4	p-Terphenyl	91%	30-128%

Method Blank Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8079-MB	EE016970.D	1	07/30/03	NJ	07/28/03	OP8079	GEE712

The QC reported here applies to the following samples: Method: EPA 8310

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	0.10	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	0.10	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.10	ug/l	
218-01-9	Chrysene	ND	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	86%	32-142%
92-94-4	p-Terphenyl	91%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8079-MS	EE016922.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
OP8079-MSD	EE016923.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711
F18693-1	EE016921.D	1	07/29/03	NJ	07/28/03	OP8079	GEE711

The QC reported here applies to the following samples: Method: EPA 8310

F18693-1, F18693-2, F18693-3, F18693-4, F18693-5, F18693-6

CAS No.	Compound	F18693-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		41.7	31.0	74	32.1	77	3	20-140/45
208-96-8	Acenaphthylene	ND		41.7	30.9	74	32.0	77	3	17-141/46
120-12-7	Anthracene	ND		41.7	32.0	77	33.1	79	3	48-123/23
56-55-3	Benzo(a)anthracene	ND		20.8	17.5	84	17.9	86	2	42-134/22
50-32-8	Benzo(a)pyrene	ND		20.8	17.8	85	18.2	87	2	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20.8	17.8	85	18.2	87	2	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20.8	18.2	87	18.6	89	2	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		20.8	17.5	84	17.9	86	2	58-120/22
218-01-9	Chrysene	ND		20.8	17.7	85	18.1	87	2	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20.8	17.8	85	18.2	87	2	57-120/23
206-44-0	Fluoranthene	ND		41.7	34.0	82	35.0	84	3	55-117/22
86-73-7	Fluorene	ND		41.7	31.8	76	32.8	79	3	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20.8	17.9	86	18.3	88	2	57-118/22
91-20-3	Naphthalene	ND		41.7	28.9	69	29.7	71	3	18-129/45
90-12-0	1-Methylnaphthalene	ND		41.7	30.0	72	30.9	74	3	18-131/46
91-57-6	2-Methylnaphthalene	ND		41.7	29.8	72	30.8	74	3	12-135/48
85-01-8	Phenanthrene	ND		41.7	33.0	79	34.1	82	3	39-129/27
129-00-0	Pyrene	ND		41.7	33.9	81	34.9	84	3	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F18693-1	Limits
84-15-1	o-Terphenyl	78%	82%	76%	32-142%
92-94-4	p-Terphenyl	79%	83%	63%	30-128%

Semivolatile Surrogate Recovery Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Method: EPA 8310 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F18693-1	EE016921.D	76.0	63.0
F18693-2	EE016924.D	85.0	90.0
F18693-3	EE016925.D	80.0	77.0
F18693-4	EE016926.D	72.0	72.0
F18693-5	EE016927.D	89.0	90.0
F18693-6	EE016928.D	78.0	69.0
OP8079-BS	EE016919.D	77.0	85.0
OP8079-MB	EE016920.D	85.0	91.0
OP8079-MB	EE016970.D	86.0	91.0
OP8079-MS	EE016922.D	78.0	79.0
OP8079-MSD	EE016923.D	82.0	83.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	32-142%
S2 = p-Terphenyl	30-128%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Check Std:	GEE711-CC699	Injection Date:	07/29/03
Lab File ID:	EE016918.D	Injection Time:	11:48
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	7.66	10.14

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8079-BS	EE016919.D	07/29/03	12:09	7.66	10.14
OP8079-MB	EE016920.D	07/29/03	12:31	7.66	10.14
F18693-1	EE016921.D	07/29/03	12:52	7.66	10.14
OP8079-MS	EE016922.D	07/29/03	13:13	7.66	10.13
OP8079-MSD	EE016923.D	07/29/03	13:34	7.66	10.13
F18693-2	EE016924.D	07/29/03	13:55	7.66	10.13
F18693-3	EE016925.D	07/29/03	14:16	7.66	10.13
F18693-4	EE016926.D	07/29/03	14:38	7.69	10.14
F18693-5	EE016927.D	07/29/03	14:59	7.66	10.12
F18693-6	EE016928.D	07/29/03	15:20	7.66	10.11

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Check Std:	GEE712-CC699	Injection Date:	07/30/03
Lab File ID:	EE016969.D	Injection Time:	09:20
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	7.65	7.65	10.17	10.17

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP8079-MB	EE016970.D	07/30/03	09:42	7.66		10.16	
ZZZZZZ	EE016971.D	07/30/03	10:03	7.66		10.16	
OP8083-MB	EE016972.D	07/30/03	10:24	7.66		10.15	
ZZZZZZ	EE016973.D	07/30/03	10:45	0.00		0.00	
F18722-2	EE016974.D	07/30/03	11:06	7.66		10.15	
GEE712-ECC699	EE016975.D	07/30/03	11:27	7.66	7.66	10.15	10.15

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE699-ICC699
Lab FileID: EE016614.D

Response Factor Report G1315A

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Mon Jul 14 14:26:39 2003
Response via : Initial Calibration

Calibration Files
L1 =EE016611.D L2 =EE016612.D L3 =EE016613.D
L4 =EE016614.D L5 =EE016615.D L6 =EE016616.D

		Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)		Naphthalene	6.821	6.763	6.861	6.759	6.489	6.582	6.713	E5	2.16
2)		Acenaphthylene	2.656	2.654	2.744	2.685	2.591	2.631	2.660	E5	1.93
3)		1-Methyl Naphthalen	5.653	5.661	5.772	5.690	5.473	5.550	5.633	E5	1.89
4)		2-Methyl Naphthalen	5.556	5.628	5.745	5.658	5.448	5.519	5.592	E5	1.90
5)		Acenaphthene	4.348	4.359	4.456	4.377	4.193	4.248	4.330	E5	2.18
6)		Fluorene	1.567	1.563	1.603	1.582	1.517	1.538	1.562	E6	1.97
7)		Phenanthrene	1.392	1.371	1.405	1.382	1.325	1.343	1.370	E6	2.23
8)	S	O-Terphenyl	5.110	5.101	5.219	5.147	4.949	5.028	5.092	E5	1.85
9)		Anthracene	1.736	1.719	1.598	1.484	1.422	1.409	1.561	E5	9.31
10)		Fluoranthene	1.142	1.153	1.162	1.151	1.108	1.122	1.140	E6	1.82
11)		Pyrene	1.814	1.818	1.817	1.776	1.690	1.694	1.768	E6	3.45
12)	S	P-Terphenyl	2.056	2.003	2.015	1.999	1.917	1.944	1.989	E6	2.54
13)		Benzo(a)Anthracene	3.121	3.014	3.022	2.996	2.866	2.905	2.987	E6	3.04
14)		Chrysene	3.793	3.761	3.756	3.698	3.516	3.532	3.676	E6	3.31
15)		Benzo(b)Fluoranthen	1.373	1.370	1.381	1.369	1.313	1.335	1.357	E6	1.97
16)		Benzo(k)Fluoranthen	7.673	7.890	8.055	7.970	7.658	7.779	7.838	E5	2.06
17)		Benzo(a) Pyrene	1.461	1.484	1.492	1.482	1.423	1.452	1.466	E6	1.76
18)		Dibenzo(a,h)anthrac	1.068	1.071	1.086	1.076	1.035	1.054	1.065	E6	1.70
19)		Benzo(g,h,i) Peryle	7.067	7.478	7.594	7.547	7.246	7.363	7.383	E5	2.70
20)		Indeno(1,2,3-cd)pyr	5.831	5.686	5.785	5.738	5.515	5.611	5.694	E5	2.05

Signal #2

1)		Naphthalene	3.938	4.040	4.079	4.026	3.857	3.922	3.977	E5	2.13
2)		Acenaphthylene	2.759	2.734	2.756	2.712	2.594	2.647	2.700	E5	2.45
3)		1-Methyl Naphthalen	2.519	2.494	2.530	2.489	2.383	2.430	2.474	E5	2.29
4)		2-Methyl Naphthalen	3.354	3.437	3.508	3.447	3.306	3.362	3.402	E5	2.19
5)		Acenaphthene	1.657	1.590	1.611	1.563	1.481	1.507	1.568	E5	4.19
6)		Fluorene	1.765	1.753	1.789	1.770	1.694	1.720	1.749	E6	2.01
7)		Phenanthrene	4.713	4.677	4.707	4.619	4.387	4.406	4.585	E6	3.27
8)	S	O-Terphenyl	8.211	8.417	8.545	8.461	8.087	8.242	8.327	E5	2.09
9)		Anthracene	1.019	0.999	0.944	0.838	0.713	0.636	0.858	E7	18.34

----- Quadratic regression ----- Coefficient = 0.9994
Response Ratio = 699303.91852 + 10161464.27280 *A + -96685.79837 *A^2

10)		Fluoranthene	1.106	1.180	1.166	1.159	1.110	1.132	1.142	E6	2.71
11)		Pyrene	1.010	1.044	1.055	1.043	0.996	1.022	1.028	E6	2.21
12)	S	P-Terphenyl	1.005	0.985	0.995	0.985	0.945	0.959	0.979	E6	2.30
13)		Benzo(a)Anthracene	2.280	2.215	2.234	2.210	2.118	2.151	2.201	E6	2.65
14)		Chrysene	3.116	3.081	3.099	3.062	2.932	2.969	3.043	E6	2.45
15)		Benzo(b)Fluoranthen	1.229	1.235	1.239	1.226	1.173	1.188	1.215	E6	2.26
16)		Benzo(k)Fluoranthen	1.838	1.794	1.813	1.795	1.723	1.748	1.785	E6	2.39
17)		Benzo(a) Pyrene	1.201	1.212	1.216	1.203	1.152	1.166	1.192	E6	2.20
18)		Dibenzo(a,h)anthrac	2.845	2.800	2.817	2.770	2.639	2.661	2.755	E6	3.10
19)		Benzo(g,h,i) Peryle	1.188	1.208	1.225	1.216	1.166	1.183	1.198	E6	1.86
20)		Indeno(1,2,3-cd)pyr	7.674	7.880	7.978	7.922	7.612	7.734	7.800	E5	1.89

(#) = Out of Range

Initial Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE699-ICC699
Lab FileID: EE016614.D

8310_32.M Tue Jul 15 13:03:49 2003

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE711-CC699
Lab FileID: EE016918.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0729PAH\EE016918.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0729PAH\EE016918.D\DAD1A.CH
Acq On : 29-Jul-2003, 11:48:51 Operator: NARESHJ
Sample : CC699-10 Inst : G1315A
Misc : op8079,gee711,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jul 29 08:58:52 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.367	-3.7	101	0.00
2		Acenaphthylene	10.000	10.287	-2.9	100	0.00
3		1-Methyl Naphthalene	10.000	10.367	-3.7	101	0.00
4		2-Methyl Naphthalene	10.000	10.333	-3.3	101	0.00
5		Acenaphthene	10.000	10.280	-2.8	100	0.00
6		Fluorene	10.000	10.295	-2.9	100	0.00
7		Phenanthrene	10.000	10.296	-3.0	100	0.00
8	S	O-Terphenyl	10.000	10.341	-3.4	101	0.00
9		Anthracene	10.000	10.033	-0.3	98	0.00
10		Fluoranthene	10.000	10.367	-3.7	102	0.00
11		Pyrene	10.000	10.406	-4.1	101	0.00
12	S	P-Terphenyl	10.000	10.384	-3.8	103	-0.02
13		Benzo(a)Anthracene	5.000	5.196	-3.9	103	-0.01
14		Chrysene	5.000	5.261	-5.2	103	-0.02
15		Benzo(b)Fluoranthene	5.000	5.224	-4.5	103	-0.02
16		Benzo(k)Fluoranthene	5.000	5.121	-2.4	100	-0.03
17		Benzo(a) Pyrene	5.000	5.287	-5.7	104	-0.03
18		Dibenzo(a,h)anthracene	5.000	5.254	-5.1	103	-0.04
19		Benzo(g,h,i) Perylene	5.000	5.323	-6.5	103	-0.04
20		Indeno(1,2,3-cd)pyrene	5.000	5.238	-4.8	103	-0.05

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.475	-4.7	102	0.00
2		Acenaphthylene	10.000	10.381	-3.8	102	0.00
3		1-Methyl Naphthalene	10.000	10.386	-3.9	102	0.00
4		2-Methyl Naphthalene	10.000	10.385	-3.8	101	0.00
5		Acenaphthene	10.000	10.202	-2.0	99	0.00
6		Fluorene	10.000	10.351	-3.5	101	0.00
7		Phenanthrene	10.000	10.371	-3.7	101	0.00
8	S	O-Terphenyl	10.000	10.309	-3.1	100	0.00
9		Anthracene	10.000	10.176	-1.8	100	0.00
10		Fluoranthene	10.000	9.990	0.1	98	0.00
11		Pyrene	10.000	10.306	-3.1	100	0.00
12	S	P-Terphenyl	10.000	10.397	-4.0	102	-0.02
13		Benzo(a)Anthracene	5.000	5.188	-3.8	102	-0.01
14		Chrysene	5.000	5.231	-4.6	103	-0.02
15		Benzo(b)Fluoranthene	5.000	5.240	-4.8	103	-0.02

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE711-CC699
Lab FileID: EE016918.D

16	Benzo(k)Fluoranthene	5.000	5.216	-4.3	103	-0.03
17	Benzo(a) Pyrene	5.000	5.296	-5.9	104	-0.03
18	Dibenzo(a,h)anthracene	5.000	5.256	-5.1	103	-0.04
19	Benzo(g,h,i) Perylene	5.000	5.297	-5.9	104	-0.04
20	Indeno(1,2,3-cd)pyrene	5.000	5.282	-5.6	103	-0.05

Average % D = 3.8

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE016613.D 8310_32.M Wed Jul 30 10:37:50 2003

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE711-CC699
Lab FileID: EE016929.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0729PAH\EE016929.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\0729PAH\EE016929.D\DAD1A.CH
Acq On : 29-Jul-2003, 15:41:40 Operator: NARESHJ
Sample : CC699-20 Inst : G1315A
Misc : op8079,gee711,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jul 29 08:58:52 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	20.090	-0.4	100	0.00
2		Acenaphthylene	20.000	19.974	0.1	99	0.00
3		1-Methyl Naphthalene	20.000	20.054	-0.3	99	0.00
4		2-Methyl Naphthalene	20.000	20.115	-0.6	99	0.00
5		Acenaphthene	20.000	19.855	0.7	98	0.00
6		Fluorene	20.000	20.003	-0.0	99	0.00
7		Phenanthrene	20.000	19.961	0.2	99	0.00
8	S	O-Terphenyl	20.000	20.044	-0.2	99	0.00
9		Anthracene	20.000	18.398	8.0	97	-0.02
10		Fluoranthene	20.000	20.047	-0.2	99	-0.02
11		Pyrene	20.000	19.892	0.5	99	-0.03
12	S	P-Terphenyl	20.000	20.136	-0.7	100	-0.05
13		Benzo(a)Anthracene	10.000	10.095	-1.0	101	-0.05
14		Chrysene	10.000	10.118	-1.2	101	-0.05
15		Benzo(b)Fluoranthene	10.000	10.162	-1.6	101	-0.05
16		Benzo(k)Fluoranthene	10.000	10.029	-0.3	99	-0.07
17		Benzo(a) Pyrene	10.000	10.297	-3.0	102	-0.08
18		Dibenzo(a,h)anthracene	10.000	10.265	-2.7	102	-0.11
19		Benzo(g,h,i) Perylene	10.000	10.394	-3.9	102	-0.11
20		Indeno(1,2,3-cd)pyrene	10.000	10.242	-2.4	102	-0.13

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	20.269	-1.3	100	0.00
2		Acenaphthylene	20.000	20.026	-0.1	100	0.00
3		1-Methyl Naphthalene	20.000	20.041	-0.2	100	0.00
4		2-Methyl Naphthalene	20.000	20.263	-1.3	100	0.00
5		Acenaphthene	20.000	19.684	1.6	99	0.00
6		Fluorene	20.000	20.135	-0.7	99	0.00
7		Phenanthrene	20.000	20.018	-0.1	99	0.00
8	S	O-Terphenyl	20.000	20.215	-1.1	99	0.00
9		Anthracene	20.000	19.486	2.6	97	-0.02
10		Fluoranthene	20.000	20.537	-2.7	101	-0.03
11		Pyrene	20.000	20.140	-0.7	99	-0.03
12	S	P-Terphenyl	20.000	20.208	-1.0	100	-0.05
13		Benzo(a)Anthracene	10.000	10.119	-1.2	101	-0.05
14		Chrysene	10.000	10.146	-1.5	101	-0.05
15		Benzo(b)Fluoranthene	10.000	10.171	-1.7	101	-0.05

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE711-CC699
Lab FileID: EE016929.D

16	Benzo(k)Fluoranthene	10.000	10.164	-1.6	101	-0.07
17	Benzo(a) Pyrene	10.000	10.260	-2.6	102	-0.08
18	Dibenzo(a,h)anthracene	10.000	10.157	-1.6	101	-0.11
19	Benzo(g,h,i) Perylene	10.000	10.324	-3.2	102	-0.11
20	Indeno(1,2,3-cd)pyrene	10.000	10.314	-3.1	102	-0.13

Average % D = 1.5

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE016614.D 8310_32.M Wed Jul 30 10:35:39 2003

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE712-CC699
Lab FileID: EE016969.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0730PAH\EE016969.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0730PAH\EE016969.D\DAD1A.CH
Acq On : 30-Jul-2003, 09:20:53 Operator: NARESHJ
Sample : CC699-10 Inst : G1315A
Misc : op8079,gee712,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jul 29 08:58:52 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.468	-4.7	102	-0.01
2		Acenaphthylene	10.000	10.431	-4.3	101	-0.01
3		1-Methyl Naphthalene	10.000	10.455	-4.6	102	0.00
4		2-Methyl Naphthalene	10.000	10.396	-4.0	101	0.00
5		Acenaphthene	10.000	10.368	-3.7	101	0.00
6		Fluorene	10.000	10.369	-3.7	101	0.00
7		Phenanthrene	10.000	10.339	-3.4	101	0.00
8	S	O-Terphenyl	10.000	10.408	-4.1	102	0.00
9		Anthracene	10.000	10.051	-0.5	98	0.00
10		Fluoranthene	10.000	10.469	-4.7	103	0.00
11		Pyrene	10.000	10.529	-5.3	102	0.00
12	S	P-Terphenyl	10.000	10.429	-4.3	103	0.00
13		Benzo(a)Anthracene	5.000	5.211	-4.2	103	0.00
14		Chrysene	5.000	5.276	-5.5	103	0.00
15		Benzo(b)Fluoranthene	5.000	5.282	-5.6	104	0.00
16		Benzo(k)Fluoranthene	5.000	5.352	-7.0	104	0.01
17		Benzo(a) Pyrene	5.000	5.306	-6.1	104	0.00
18		Dibenzo(a,h)anthracene	5.000	5.270	-5.4	103	0.01
19		Benzo(g,h,i) Perylene	5.000	5.338	-6.8	104	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.261	-5.2	104	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.598	-6.0	103	-0.01
2		Acenaphthylene	10.000	10.522	-5.2	103	-0.01
3		1-Methyl Naphthalene	10.000	10.488	-4.9	103	0.00
4		2-Methyl Naphthalene	10.000	10.451	-4.5	101	0.00
5		Acenaphthene	10.000	10.273	-2.7	100	0.00
6		Fluorene	10.000	10.433	-4.3	102	0.00
7		Phenanthrene	10.000	10.439	-4.4	102	0.00
8	S	O-Terphenyl	10.000	10.322	-3.2	101	0.00
9		Anthracene	10.000	10.336	-3.4	101	0.00
10		Fluoranthene	10.000	9.943	0.6	97	0.00
11		Pyrene	10.000	10.416	-4.2	102	0.00
12	S	P-Terphenyl	10.000	10.435	-4.4	103	0.00
13		Benzo(a)Anthracene	5.000	5.217	-4.3	103	0.00
14		Chrysene	5.000	5.246	-4.9	103	0.00
15		Benzo(b)Fluoranthene	5.000	5.344	-6.9	105	0.00

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE712-CC699
Lab FileID: EE016969.D

16	Benzo(k)Fluoranthene	5.000	5.235	-4.7	103	0.01
17	Benzo(a) Pyrene	5.000	5.313	-6.3	104	0.00
18	Dibenzo(a,h)anthracene	5.000	5.291	-5.8	104	0.01
19	Benzo(g,h,i) Perylene	5.000	5.317	-6.3	104	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.313	-6.3	104	0.00

Average % D = 4.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE016613.D 8310_32.M Wed Jul 30 13:17:14 2003

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE712-ECC699
Lab FileID: EE016975.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0730PAH\EE016975.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\0730PAH\EE016975.D\DAD1A.CH
Acq On : 30-Jul-2003, 11:27:48 Operator: NARESHJ
Sample : ECC699-20 Inst : G1315A
Misc : op8083,gee712,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jul 29 08:58:52 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	20.142	-0.7	100	0.00
2		Acenaphthylene	20.000	20.086	-0.4	100	0.00
3		1-Methyl Naphthalene	20.000	20.071	-0.4	99	0.00
4		2-Methyl Naphthalene	20.000	20.040	-0.2	99	0.00
5		Acenaphthene	20.000	19.935	0.3	99	0.00
6		Fluorene	20.000	19.980	0.1	99	0.00
7		Phenanthrene	20.000	19.913	0.4	99	0.00
8	S	O-Terphenyl	20.000	20.050	-0.3	99	0.00
9		Anthracene	20.000	18.294	8.5	96	0.00
10		Fluoranthene	20.000	20.088	-0.4	99	0.00
11		Pyrene	20.000	19.994	0.0	100	0.00
12	S	P-Terphenyl	20.000	20.088	-0.4	100	0.00
13		Benzo(a)Anthracene	10.000	10.054	-0.5	100	0.00
14		Chrysene	10.000	10.095	-1.0	100	0.00
15		Benzo(b)Fluoranthene	10.000	10.115	-1.2	100	0.00
16		Benzo(k)Fluoranthene	10.000	9.849	1.5	97	-0.01
17		Benzo(a) Pyrene	10.000	10.103	-1.0	100	-0.01
18		Dibenzo(a,h)anthracene	10.000	10.181	-1.8	101	-0.02
19		Benzo(g,h,i) Perylene	10.000	10.331	-3.3	101	-0.02
20		Indeno(1,2,3-cd)pyrene	10.000	10.186	-1.9	101	-0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	20.324	-1.6	100	0.00
2		Acenaphthylene	20.000	20.156	-0.8	100	0.00
3		1-Methyl Naphthalene	20.000	20.103	-0.5	100	0.00
4		2-Methyl Naphthalene	20.000	20.214	-1.1	100	0.00
5		Acenaphthene	20.000	19.909	0.5	100	0.00
6		Fluorene	20.000	20.157	-0.8	100	0.00
7		Phenanthrene	20.000	20.083	-0.4	100	0.00
8	S	O-Terphenyl	20.000	20.335	-1.7	100	0.00
9		Anthracene	20.000	19.891	0.5	98	0.00
10		Fluoranthene	20.000	20.459	-2.3	101	0.00
11		Pyrene	20.000	20.220	-1.1	100	0.00
12	S	P-Terphenyl	20.000	20.098	-0.5	100	0.00
13		Benzo(a)Anthracene	10.000	10.064	-0.6	100	0.00
14		Chrysene	10.000	10.091	-0.9	100	0.00
15		Benzo(b)Fluoranthene	10.000	10.124	-1.2	100	0.00

Continuing Calibration Summary

Job Number: F18693
Account: TETRPAPT Tetra Tech, NUS
Project: NAS Cecil Field-CTO-121

Sample: GEE712-ECC699
Lab FileID: EE016975.D

16	Benzo(k)Fluoranthene	10.000	10.103	-1.0	100	-0.01
17	Benzo(a) Pyrene	10.000	10.214	-2.1	101	-0.01
18	Dibenzo(a,h)anthracene	10.000	10.126	-1.3	101	-0.02
19	Benzo(g,h,i) Perylene	10.000	10.274	-2.7	101	-0.02
20	Indeno(1,2,3-cd)pyrene	10.000	10.267	-2.7	101	-0.03

Average % D = 1.2

(#) = Out of Range
EE016614.D 8310_32.M

SPCC's out = 0 CCC's out = 0
Wed Jul 30 13:17:55 2003

TETRA TECH NUS, INC. F18693 CHAIN OF CUSTODY | NUMBER 2330 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N0486, CTO 121	Bldg. 80, TANK 80, NASCF	PAUL CALLAGAN	813 806 0202	ACCUTEST Sue Bell
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Scott R. McGuire		MERV DAVE	904 636 6125	4405 Vineland Rd., C-15
		CARRIER/WAYBILL NUMBER		CITY, STATE
				ORLANDO, FL 32811

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

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G
PRESERVATIVE USED: HCL None

TYPE OF ANALYSIS: Select VOCs * SW8260B; Select PAHs ** SW8270C SIM

	DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Select VOCs *	Select PAHs **	COMMENTS
1	7/22	0815	CEF-80-GW-9S-04				GW	G	15	9	6	Cool to 4°C
2	7/22	0930	CEF-80-GW-8S-04				GW	G	5	3	2	
3	7/22	1000	CEF-80-GW-16S-04				GW	G	5	3	2	WORK release
4	7/22	1045	CEF-80-GW-15S-04				GW	G	5	3	2	N0486 —
5	7/22	1215	CEF-80-GW-14S-04	(HOT)			GW	G	5	3	2	WR356.
6	7/22	0000	CEF-80-GW-D401-04				GW	G	5	3	2	
												*BTEX ONLY.
												** Napthalene, 1- and 2-methylnapthalene and benzo(a)pyrene only.

1. RELINQUISHED BY Scott R. McGuire	DATE 7/22/03	TIME 1500	1. RECEIVED BY Accutest Courier	DATE	TIME
2. RELINQUISHED BY Accutest Courier	DATE	TIME	2. RECEIVED BY Muram Mohammed	DATE 7/22/03	TIME 20:00
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 1.8, 2.4

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

4/02R
FORM NO. TtNUS-001