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

12/30/2008

TETRA TECH NUS INC

TETRA TECH

Document Tracking Number 07JAX0082

December 30, 2008

Project Number 112G01264

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 IV Contract Number N62467-04-D-0055
Contract Task Order 0102

Subject: Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 4th Year – November 2008
North-South Apron Plume
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, 1st Semi-Annual, 4th Year – November 2008, 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) IV Contract Number N62467-04-D-0055.

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, 4th Year – November 2008 sampling event. Figure 1 shows the location of the North-South Apron Plume site.

FIELD OPERATIONS

The November 2008 field operations were performed in general accordance with FDEP and TtNUS Standard Operating Procedures (SOPs). Groundwater samples were collected on November 10, 2008, 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 the 2005 NAMPAO. Following collection, the groundwater samples were placed on ice and hand-delivered under chain of custody to Accutest Laboratories for analysis. All

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samples were analyzed for benzene, the contaminant of concern (COC), using United States Environmental Protection Agency (USEPA) Method SW-846 8260B.

Prior to obtaining the November 2008 groundwater samples, synoptic water levels and total well depths were measured in the nine intermediate wells in the area (CEF-M18-02I, CEF-M18-03I, CEF-M18-04I, CEF-M18-05I, CEF-M18-06I, CEF-M18-07I, 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 66.16 to 68.24 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 November 2008. 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. The results indicate that 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. 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 increased slightly from 5.5 micrograms per liter (µg/L) in May 2008 to 8.5 µg/L in November 2008. The GCTL for benzene is 1.0 µg/L. 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 November 2008 sampling event.

CONCLUSIONS AND RECOMMENDATIONS

During the November 2008 sampling event, benzene concentrations increased slightly in CEF-M18-04I from the May 2008 sampling event. Benzene was not detected in perimeter wells CEF-M18-5I, CEF-M18-09I or deep well CEF-M18-12D.

TtNUS recommends continuing the semi-annual groundwater monitoring program in accordance with the 2005 NAMPAO. The 2nd Semi-Annual, 4th Year sampling event is scheduled for May 2009. 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, 4th 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 or Kara Wimble at (904) 730-4669 ext. 217 or email at Kara.Wimble@tetratech.com.

Sincerely,

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

Kara F. Wimble
Project Scientist

Enclosures (7)

c: A. Sanford, NAVFAC SE (1 copy)
M. Halil, CH2M Hill (electronic only)
M. Perry, TtNUS (1 copy, unbound)
D. Humbert, TtNUS (letter only)
M. Speranza, TtNUS (letter only)
M. Jonnet, TtNUS (1 copy)
J. Johnson, TtNUS (1 copy for Information Repository)
CTO 0102 Project File (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 undersigned 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, 4th Year – November 2008 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.

December 30, 2008
Robert Simcik, P.E.
License Number 61263

ROBERT FRANK SIMCIK
LICENSE No. 00061263
STATE OF FLORIDA
PROFESSIONAL ENGINEER

TABLES

Table 1
Groundwater Elevation Data

Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 4th Year - November 2008
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	6.8	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, 4th Year - November 2008
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	
			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
CEF-M18-02S	15	76.02	NM	NM	NM	NM
CEF-M18-02I	35	75.78	8.21	67.57	7.69	68.09
CEF-M18-03I	35	75.13	7.79	67.34	7.14	67.99
CEF-M18-04I	35	74.66	8.24	66.42	7.59	67.07
CEF-M18-05I	35	73.42	7.86	65.56	7.26	66.16
CEF-M18-06I	35	76.11	8.41	67.70	8.06	68.05
CEF-M18-07I	35	76.26	8.51	67.75	8.02	68.24
CEF-M18-08I	35	75.54	7.93	67.61	7.39	68.15
CEF-M18-09I	35	74.32	7.62	66.70	6.88	67.44
CEF-M18-10I	35	74.98	8.86	66.12	8.21	66.77
CEF-M18-11D	55	75.80	NM	NM	NM	NM
CEF-M18-12D	55	74.14	NM	NM	NM	NM

First quarter (May 2001) data were not included.
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, 4th Year - November 2008
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Parameter	GCTL	NADSC	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	3/1/2005	7/7/2006	11/22/2006	2/2/2007
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**	**11**	**9.64**
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	0.3 U	0.2 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	0.2 U	0.3 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	0.3 U	0.3 U

Parameter	GCTL	NADSC	CEF-M18-04I (continued)					CEF-M18-05I						
			5/2/2007	11/19/2007	05/29/08		11/10/08	11/30/00		05/02/01	08/07/01	11/06/01	02/14/02	03/01/05
					Sample	Duplicate		Sample	Duplicate					
VOCs (µg/L)														
Benzene	1	100	0.48 U	**8.6**	**5.5**	**5.6**	**8.5**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U
Toluene	40	400	0.25 U	0.28 U	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U
Ethylbenzene	30	300	0.99 U	0.34 U	NA	NA	NA	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U
Xylenes, total	20	200	0.6 U	0.38 U	NA	NA	NA	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.0 U

Parameter	GCTL	NADSC	CEF-M18-05I (continued)							CEF-M18-09I				
			7/7/2006	11/22/2006	2/2/2007	5/2/2007	11/19/2007	5/29/2008	11/10/2008	10/23/02	02/28/05	7/6/2006		11/22/2006
												Sample	Duplicate	
VOCs (µg/L)														
Benzene	1	100	0.5 U	0.2 U	0.2 U	0.48 U	0.23 U	0.23 U	0.4 U	**14.5**	**16.0**	**3.5**	**3.5**	**1.4**
Toluene	40	400	0.5 U	0.3 U	0.2 U	0.25 U	0.28 U	NA	NA	1.0 U	0.50 U	0.5 U	0.5 U	0.3 U
Ethylbenzene	30	300	0.5 U	0.2 U	0.3 U	0.99 U	0.34 U	NA	NA	1.0 U	0.50 U	0.5 U	0.5 U	0.2 U
Xylenes, total	20	200	1 U	0.3 U	0.3 U	0.6 U	0.38 U	NA	NA	3.0 U	1.0 U	1 U	1 U	0.3 U

Table 2
Summary of BTEX Detections in Groundwater

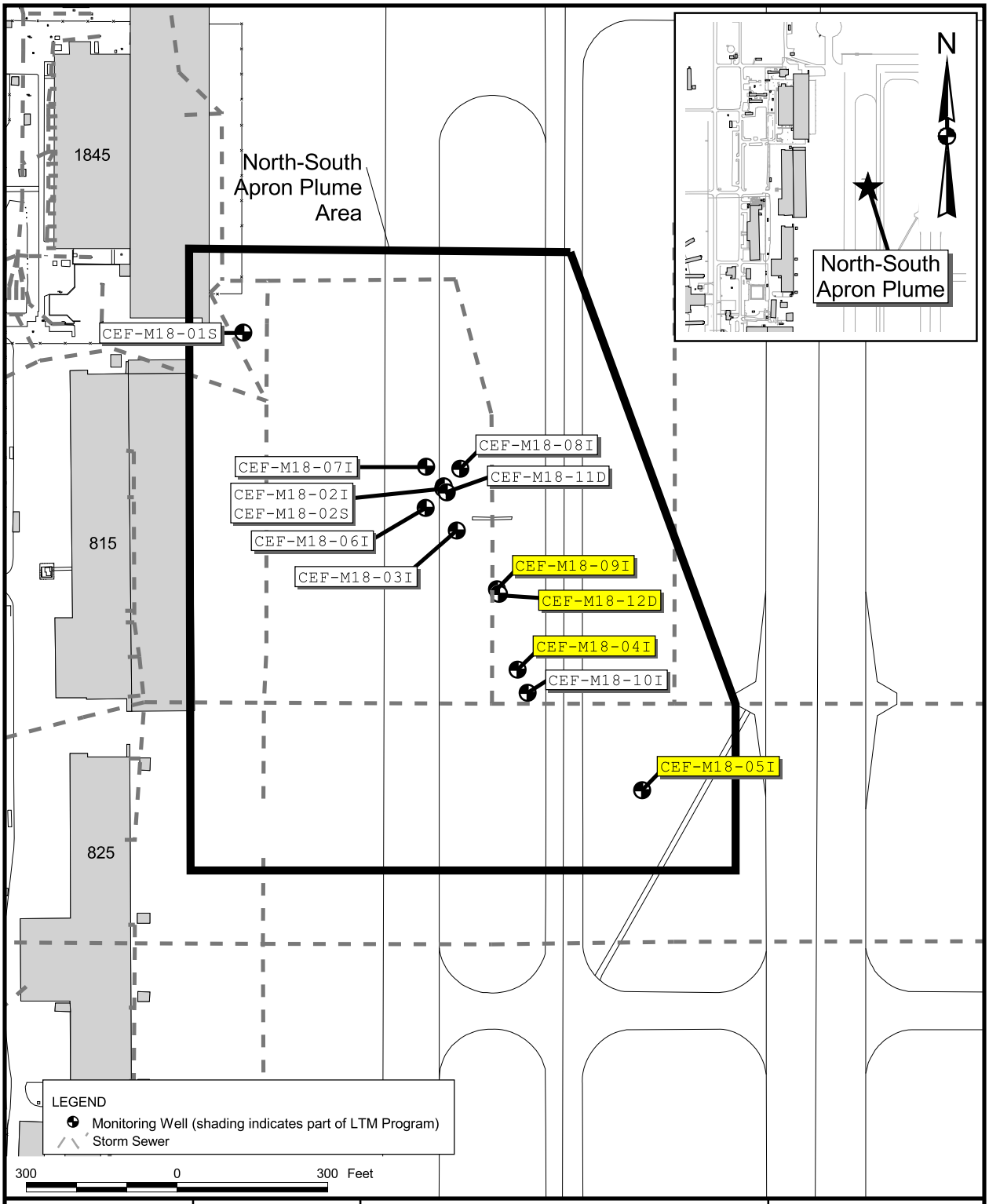
Semi-Annual Groundwater Monitoring Report, 1st Semi-Annual, 4th Year - November 2008
North-South Apron Plume
Naval Air Station Cecil Field
Jacksonville, Florida

Parameter	GCTL	NADSC	CEF-M18-09I (continued)						CEF-M18-12D				
			2/2/2007	5/2/2007	11/19/2007		5/29/2008	11/10/2008	07/11/03		02/28/05	7/6/2006	11/22/2006
					Sample	Duplicate			Sample	Duplicate			Sample
VOCs (µg/L)													
Benzene	1	100	**1.28**	**5.6**	0.31 J	0.38 J	0.23 U	0.40 U	**1.2**	**1.1**	0.55	0.5 U	0.4 I
Toluene	40	400	0.2 U	0.25 U	0.28 U	0.28 U	NA	NA	1.0 U	1.0 U	0.50 U	0.5 U	0.3 U
Ethylbenzene	30	300	0.3 U	0.99 U	0.34 U	0.34 U	NA	NA	1.0 U	1.0 U	0.50 U	0.5 U	0.2 U
Xylenes, total	20	200	0.3 U	0.6 U	0.38 U	0.38 U	NA	NA	3.0 U	3.0 U	1.0 U	1 U	0.3 U

Parameter	GCTL	NADSC	CEF-M18-12D (continued)					
			11/22/2006	2/2/2007	5/2/2007	11/19/2007	5/29/2008	11/10/2008
			Duplicate					
VOCs (µg/L)								
Benzene	1	100	0.4 I	0.33 I	0.6 J	0.23 U	0.23 U	0.40 U
Toluene	40	400	0.3 U	0.2 U	0.25 U	0.28 U	NA	NA
Ethylbenzene	30	300	0.2 U	0.3 U	0.99 U	0.34 U	NA	NA
Xylenes, total	20	200	0.3 U	0.3 U	0.6 U	0.38 U	NA	NA

GCTL = Florida Department of Environmental Protection (FDEP) Groundwater Cleanup Target Levels from Chapter 62-777, Florida Administrative Code (FAC).
NADSC = Natural Attenuation Default Source Concentrations from Chapter 62-777, FAC.
VOCs = Volatile organic compounds.
µg/L = Micrograms per liter
Shading 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 07Feb08	MONITORING WELL LOCATION MAP NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 1264
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1 / REV 0

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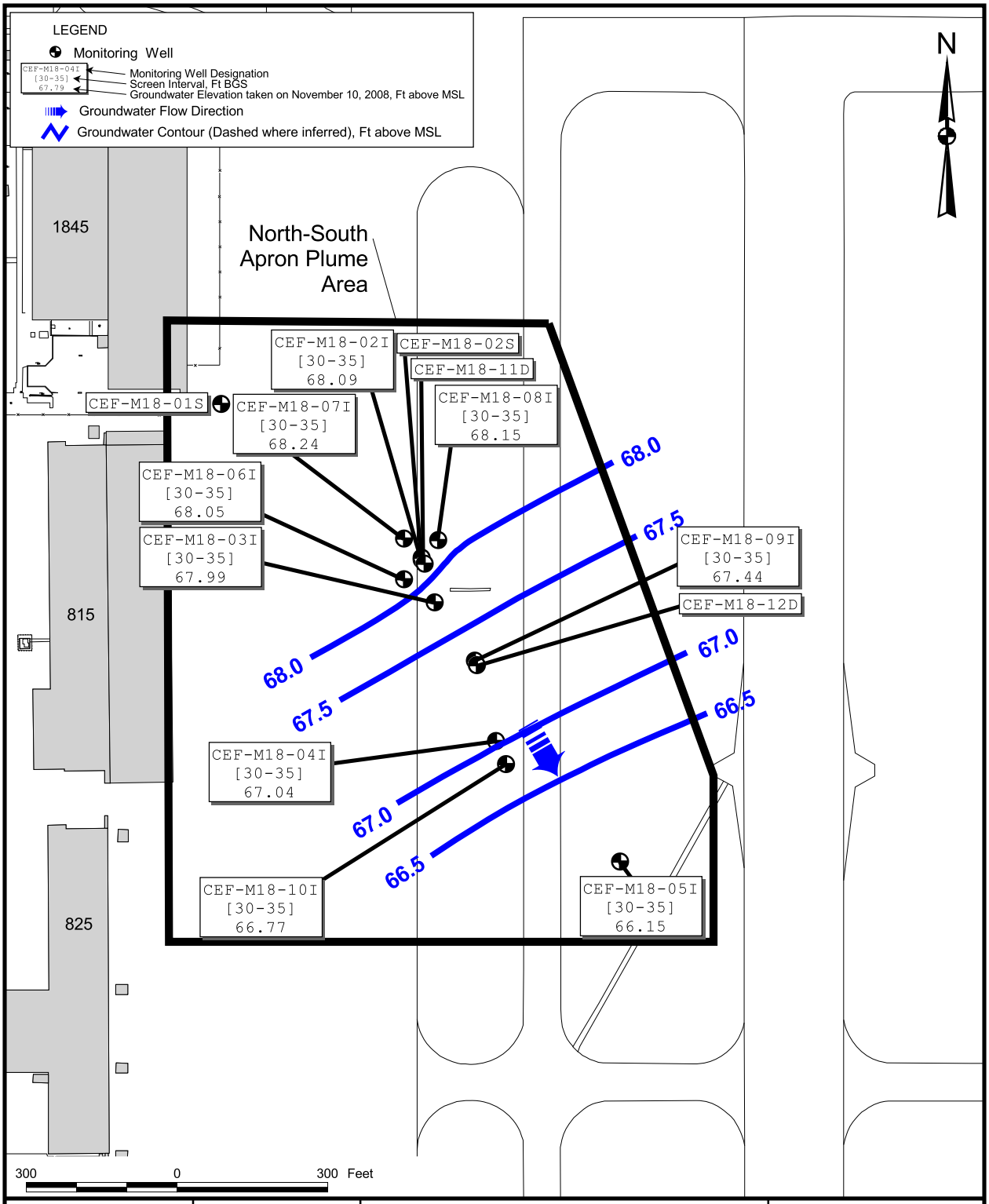

DRAWN BY MJJ	DATE 07Feb08	GROUNDWATER FLOW MAP NOVEMBER 2008 NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 1264
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV 0

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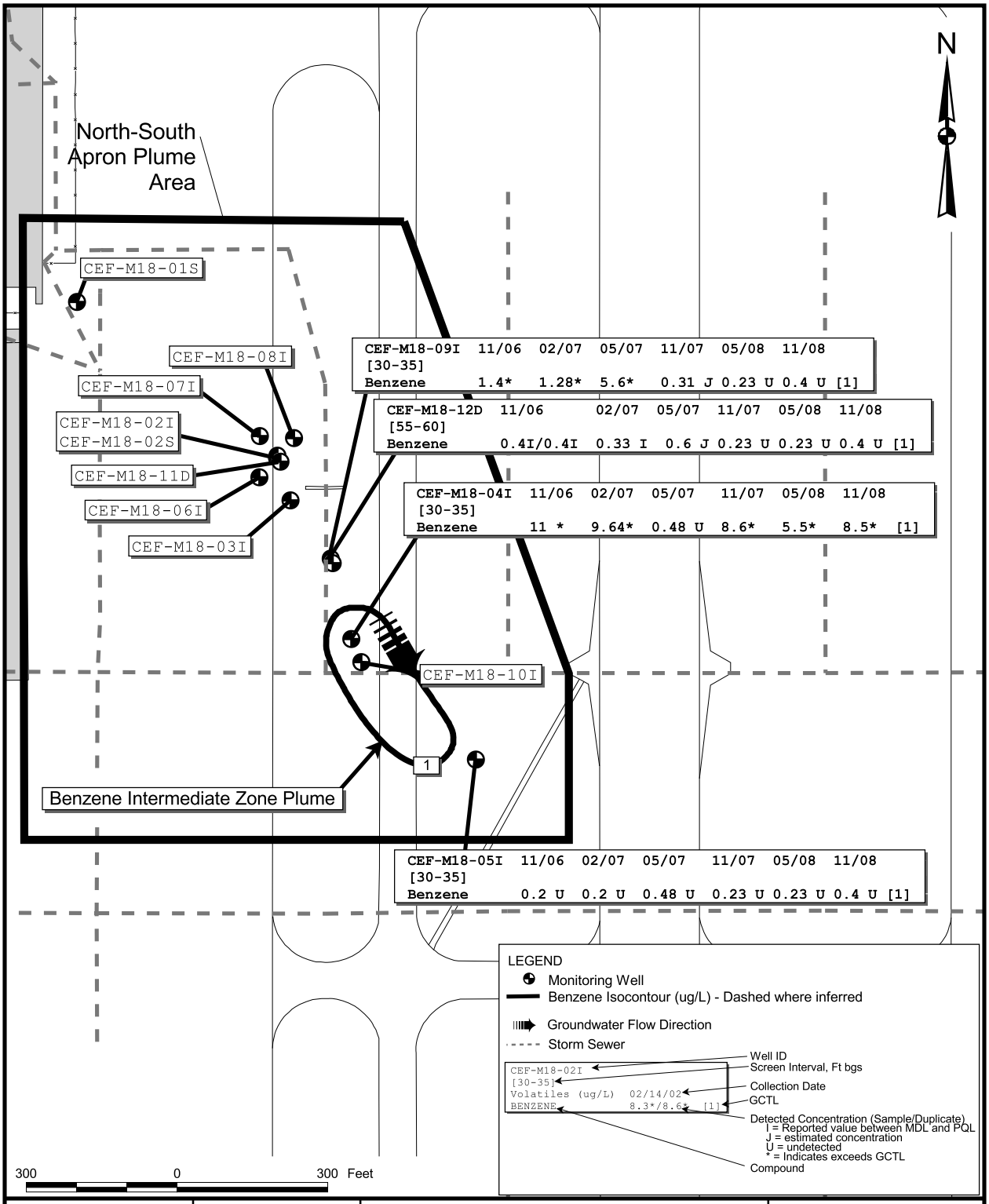

DRAWN BY MJJ	DATE 22Nov08	GROUNDWATER RESULTS NORTH-SOUTH APRON PLUME SEMI-ANNUAL MONITORING REPORT NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 1264
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3 / REV 0

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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

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

12/30/08

Technical Report for

Tetra Tech NUS

Cecil Field - N/S Apron

112G01264

Accutest Job Number: F61436

Sampling Date: 11/10/08

Report to:

Tetra Tech, NUS

kara.wimble@tetratech.com

ATTN: Kara Wimble

Total number of pages in report: **47**

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

Client Service contact: Heather Wandrey 407-425-6700

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

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

Test results relate only to samples analyzed.

ACCUTEST LABORATORIES 50 YEARS 1956-2006

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Accutest Laboratories

Sample Summary

Tetra Tech NUS

Job No: F61436

Cecil Field - N/S Apron
Project No: 112G01264

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F61436-1	11/10/08	13:30	JK	11/11/08	AQ	Ground Water	CEF-M18-09I-20081110
F61436-2	11/10/08	14:15	JK	11/11/08	AQ	Ground Water	CEF-M18-12D-20081110
F61436-3	11/10/08	00:00	JK	11/11/08	AQ	Ground Water	CEF-M18-DUP-20081110
F61436-4	11/10/08	15:00	JK	11/11/08	AQ	Ground Water	CEF-M18-04I-20081110
F61436-5	11/10/08	15:45	JK	11/11/08	AQ	Ground Water	CEF-M18-05I-20081110
F61436-6	11/10/08	00:00	JK	11/11/08	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech NUS **Job No:** F61436

Site: Cecil Field - N/S Apron **Report Date:** 11/25/2008 11:57:39

5 Samples and 1 Trip Blank were collected on 11/10/2008 and were received at Accutest SE on 11/11/2008 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of F61436. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS by Method SW846 8260B

Matrix: AQ **Batch ID:** VB2380

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F61444-40MS, F61444-40MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VC2404

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F61404-2MS, F61404-2MSD were used as the QC samples indicated.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: November 25, 2008

Ellen Pampel, Inorganic QA (signature on file)

Tuesday, November 25, 2008

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CEF-M18-09I-20081110		
Lab Sample ID:	F61436-1	**Date Sampled:**	11/10/08
Matrix:	AQ - Ground Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C059266.D	1	11/18/08	LD	n/a	n/a	VC2404
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40 U	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		87-116%
17060-07-0	1,2-Dichloroethane-D4	115%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-M18-12D-20081110		
Lab Sample ID:	F61436-2	**Date Sampled:**	11/10/08
Matrix:	AQ - Ground Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C059267.D	1	11/18/08	LD	n/a	n/a	VC2404
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40 U	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		87-116%
17060-07-0	1,2-Dichloroethane-D4	116%		76-127%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-M18-DUP-20081110		
Lab Sample ID:	F61436-3	**Date Sampled:**	11/10/08
Matrix:	AQ - Ground Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C059268.D	1	11/18/08	LD	n/a	n/a	VC2404
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40 U	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		87-116%
17060-07-0	1,2-Dichloroethane-D4	112%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-M18-04I-20081110		
Lab Sample ID:	F61436-4	**Date Sampled:**	11/10/08
Matrix:	AQ - Ground Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C059269.D	1	11/18/08	LD	n/a	n/a	VC2404
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8.5	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		87-116%
17060-07-0	1,2-Dichloroethane-D4	117%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	102%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CEF-M18-05I-20081110		
Lab Sample ID:	F61436-5	**Date Sampled:**	11/10/08
Matrix:	AQ - Ground Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C059270.D	1	11/18/08	LD	n/a	n/a	VC2404
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40 U	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		87-116%
17060-07-0	1,2-Dichloroethane-D4	114%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	102%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F61436-6	**Date Sampled:**	11/10/08
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/11/08
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Cecil Field - N/S Apron		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B056850.D	1	11/18/08	LD	n/a	n/a	VB2380
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.40 U	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		87-116%
17060-07-0	1,2-Dichloroethane-D4	122%		76-127%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit = PQL
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER 2336 F61436 PAGE 1 OF 1

PROJECT NO: 112G0 1264	FACILITY: Cecil North-South Apron	PROJECT MANAGER Tara Wimble	PHONE NUMBER 904 636-6125	LABORATORY NAME AND CONTACT: Accutest
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER J. Kronc	PHONE NUMBER 904 699-7473	ADDRESS 4405 Vineland Road
		CARRIER/WAYBILL NUMBER FEDEX 8427 1834 9605		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
PRESERVATIVE USED: HCL

	DATE YEAR 2008	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: VOC's (benzene only)	COMMENTS
1	11/10	1330	CEF-MW-09I-20081110				GW	G	3	3	cool to 4° C
2	11/10	1415	CEF-MW-12D-20081110				GW	G	3	3	
3	11/10	0000	CEF-MW-DUP-20081110				GW	G	3	3	
4	11/10	1500	CEF-MW-04I-20081110				GW	G	3	3	
5	11/10	1545	CEF-MW-05I-20081110				GW	G	3	3	
6			Trip Blank						2		

1. RELINQUISHED BY	DATE 11/10/08	TIME 1600	1. RECEIVED BY	DATE 11/10/08	TIME 1600
2. RELINQUISHED BY	DATE 11/10/08	TIME 1815	2. RECEIVED BY	DATE 11-11-08	TIME 08:00
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 1.8

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

4/02R
FORM NO. TtNUS-001

F61436: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F61436 CLIENT: TETRA TECH PROJECT: 112601264

DATE/TIME RECEIVED: 11-11-08 08:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 1.8

METHOD OF DELIVERY: FEDEX UPS (ACCUTEST COURIER) GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS:

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ?

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE JC 11-11-08 TECHNICIAN SIGNATURE/DATE 11-11-08 ASBD 12/17/07

4.1

4

F61436: Chain of Custody

Page 2 of 2

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

Method Blank Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2404-MB	C059248.D	1	11/18/08	LD	n/a	n/a	VC2404

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

F61436-1, F61436-2, F61436-3, F61436-4, F61436-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	108%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	76-127%
2037-26-5	Toluene-D8	104%	86-112%
460-00-4	4-Bromofluorobenzene	101%	84-120%

Method Blank Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2380-MB	B056828.D	1	11/18/08	LD	n/a	n/a	VB2380

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

F61436-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.40	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	107%	87-116%
17060-07-0	1,2-Dichloroethane-D4	116%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	105%	84-120%

Blank Spike Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2380-BS	B056827.D	1	11/18/08	LD	n/a	n/a	VB2380

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

F61436-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.6	110	83-124

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	87-116%
17060-07-0	1,2-Dichloroethane-D4	116%	76-127%
2037-26-5	Toluene-D8	99%	86-112%
460-00-4	4-Bromofluorobenzene	100%	84-120%

Blank Spike Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2404-BS	C059247.D	1	11/18/08	LD	n/a	n/a	VC2404

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

F61436-1, F61436-2, F61436-3, F61436-4, F61436-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.9	100	83-124

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	87-116%
17060-07-0	1,2-Dichloroethane-D4	106%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	96%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F61404-2MS	C059259.D	10	11/18/08	LD	n/a	n/a	VC2404
F61404-2MSD	C059260.D	10	11/18/08	LD	n/a	n/a	VC2404
F61404-2	C059256.D	10	11/18/08	LD	n/a	n/a	VC2404

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

F61436-1, F61436-2, F61436-3, F61436-4, F61436-5

CAS No.	Compound	F61404-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	10	U	250	246	98	250	100	2	83-124/11

CAS No.	Surrogate Recoveries	MS	MSD	F61404-2	Limits
1868-53-7	Dibromofluoromethane	112%	110%	114%	87-116%
17060-07-0	1,2-Dichloroethane-D4	116%	114%	110%	76-127%
2037-26-5	Toluene-D8	98%	99%	104%	86-112%
460-00-4	4-Bromofluorobenzene	92%	91%	102%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F61444-40MS	B056839.D	1	11/18/08	LD	n/a	n/a	VB2380
F61444-40MSD	B056840.D	1	11/18/08	LD	n/a	n/a	VB2380
F61444-40	B056837.D	1	11/18/08	LD	n/a	n/a	VB2380

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

F61436-6

CAS No.	Compound	F61444-40 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	26.4	106	26.4	106	0	83-124/11

CAS No.	Surrogate Recoveries	MS	MSD	F61444-40	Limits
1868-53-7	Dibromofluoromethane	106%	104%	108%	87-116%
17060-07-0	1,2-Dichloroethane-D4	120%	111%	118%	76-127%
2037-26-5	Toluene-D8	100%	100%	99%	86-112%
460-00-4	4-Bromofluorobenzene	101%	99%	107%	84-120%

Instrument Performance Check (BFB)

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2365-BFB
Lab File ID: B056420.D
Instrument ID: GCMSB
Injection Date: 10/28/08
Injection Time: 10:25

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11020	18.3		Pass
75	30.0 - 60.0% of mass 95	31903	53.1		Pass
95	Base peak, 100% relative abundance	60090	100.0		Pass
96	5.0 - 9.0% of mass 95	4073	6.8		Pass
173	Less than 2.0% of mass 174	0	0.0	(0.0) [a]	Pass
174	50.0 - 100.0% of mass 95	44960	74.8		Pass
175	5.0 - 9.0% of mass 174	3553	5.9	(7.9) [a]	Pass
176	95.0 - 101.0% of mass 174	44968	74.8	(100.0) [a]	Pass
177	5.0 - 9.0% of mass 176	2856	4.8	(6.4) [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
VB2365-IC2365	B056421.D	10/28/08	11:05	00:40	Initial cal 1
VB2365-IC2365	B056422.D	10/28/08	11:31	01:06	Initial cal 2
VB2365-IC2365	B056423.D	10/28/08	11:58	01:33	Initial cal 3
VB2365-ICC2365	B056424.D	10/28/08	12:24	01:59	Initial cal 4
VB2365-IC2365	B056425.D	10/28/08	12:51	02:26	Initial cal 5
VB2365-IC2365	B056426.D	10/28/08	13:18	02:53	Initial cal 6
VB2365-ICV2365	B056428.D	10/28/08	14:58	04:33	Initial cal verification 4
VB2365-BS	B056429.D	10/28/08	15:32	05:07	Blank Spike
VB2365-MB	B056430.D	10/28/08	15:59	05:34	Method Blank
F61098-3	B056431.D	10/28/08	16:26	06:01	(used for QC only; not part of job F61436)
ZZZZZZ	B056432.D	10/28/08	16:52	06:27	(unrelated sample)
ZZZZZZ	B056433.D	10/28/08	17:19	06:54	(unrelated sample)
F61098-3MS	B056434.D	10/28/08	17:45	07:20	Matrix Spike
F61098-3MSD	B056435.D	10/28/08	18:12	07:47	Matrix Spike Duplicate
ZZZZZZ	B056437.D	10/28/08	19:05	08:40	(unrelated sample)
ZZZZZZ	B056438.D	10/28/08	19:31	09:06	(unrelated sample)
ZZZZZZ	B056439.D	10/28/08	19:58	09:33	(unrelated sample)
ZZZZZZ	B056440.D	10/28/08	20:24	09:59	(unrelated sample)
ZZZZZZ	B056441.D	10/28/08	20:51	10:26	(unrelated sample)
ZZZZZZ	B056442.D	10/28/08	21:18	10:53	(unrelated sample)
ZZZZZZ	B056443.D	10/28/08	21:45	11:20	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2380-BFB
Lab File ID: B056825.D
Instrument ID: GCMSB
Injection Date: 11/18/08
Injection Time: 09:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	17143	19.2		Pass
75	30.0 - 60.0% of mass 95	48069	53.8		Pass
95	Base peak, 100% relative abundance	89314	100.0		Pass
96	5.0 - 9.0% of mass 95	6312	7.1		Pass
173	Less than 2.0% of mass 174	149	0.17	(0.23) [a]	Pass
174	50.0 - 100.0% of mass 95	63704	71.3		Pass
175	5.0 - 9.0% of mass 174	4817	5.4	(7.6) [a]	Pass
176	95.0 - 101.0% of mass 174	64304	72.0	(100.9) [a]	Pass
177	5.0 - 9.0% of mass 176	4401	4.9	(6.8) [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
VB2380-CC2365	B056826.D	11/18/08	09:35	00:30	Continuing cal 4
VB2380-BS	B056827.D	11/18/08	10:10	01:05	Blank Spike
VB2380-MB	B056828.D	11/18/08	10:37	01:32	Method Blank
ZZZZZZ	B056829.D	11/18/08	11:04	01:59	(unrelated sample)
ZZZZZZ	B056830.D	11/18/08	11:31	02:26	(unrelated sample)
ZZZZZZ	B056831.D	11/18/08	11:57	02:52	(unrelated sample)
ZZZZZZ	B056832.D	11/18/08	12:25	03:20	(unrelated sample)
ZZZZZZ	B056833.D	11/18/08	12:51	03:46	(unrelated sample)
ZZZZZZ	B056834.D	11/18/08	13:18	04:13	(unrelated sample)
ZZZZZZ	B056835.D	11/18/08	13:44	04:39	(unrelated sample)
ZZZZZZ	B056836.D	11/18/08	14:13	05:08	(unrelated sample)
F61444-40	B056837.D	11/18/08	14:40	05:35	(used for QC only; not part of job F61436)
ZZZZZZ	B056838.D	11/18/08	15:06	06:01	(unrelated sample)
F61444-40MS	B056839.D	11/18/08	15:33	06:28	Matrix Spike
F61444-40MSD	B056840.D	11/18/08	16:00	06:55	Matrix Spike Duplicate
ZZZZZZ	B056841.D	11/18/08	16:26	07:21	(unrelated sample)
ZZZZZZ	B056842.D	11/18/08	16:53	07:48	(unrelated sample)
ZZZZZZ	B056843.D	11/18/08	17:20	08:15	(unrelated sample)
ZZZZZZ	B056844.D	11/18/08	17:46	08:41	(unrelated sample)
ZZZZZZ	B056845.D	11/18/08	18:13	09:08	(unrelated sample)
ZZZZZZ	B056846.D	11/18/08	18:40	09:35	(unrelated sample)
ZZZZZZ	B056847.D	11/18/08	19:06	10:01	(unrelated sample)
ZZZZZZ	B056848.D	11/18/08	19:33	10:28	(unrelated sample)
ZZZZZZ	B056849.D	11/18/08	19:59	10:54	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2380-BFB
Lab File ID: B056825.D
Instrument ID: GCMSB
Injection Date: 11/18/08
Injection Time: 09:05

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
F61436-6	B056850.D	11/18/08	20:26	11:21	TRIP BLANK

Instrument Performance Check (BFB)

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-BFB
Lab File ID: C058281.D
Instrument ID: GCMSC
Injection Date: 10/02/08
Injection Time: 10:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	27933	21.5		Pass
75	30.0 - 60.0% of mass 95	65138	50.1		Pass
95	Base peak, 100% relative abundance	130090	100.0		Pass
96	5.0 - 9.0% of mass 95	9031	6.9		Pass
173	Less than 2.0% of mass 174	677	0.52	(0.69) [a]	Pass
174	50.0 - 100.0% of mass 95	98589	75.8		Pass
175	5.0 - 9.0% of mass 174	7162	5.5	(7.3) [a]	Pass
176	95.0 - 101.0% of mass 174	97093	74.6	(98.5) [a]	Pass
177	5.0 - 9.0% of mass 176	6478	5.0	(6.7) [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
VC2363-IC2363	C058282.D	10/02/08	11:22	00:24	Initial cal 1
VC2363-IC2363	C058283.D	10/02/08	11:47	00:49	Initial cal 2
VC2363-IC2363	C058284.D	10/02/08	12:12	01:14	Initial cal 3
VC2363-ICC2363	C058285.D	10/02/08	12:37	01:39	Initial cal 4
VC2363-IC2363	C058286.D	10/02/08	13:02	02:04	Initial cal 5
VC2363-IC2363	C058287.D	10/02/08	13:27	02:29	Initial cal 6
VC2363-ICV2363	C058288.D	10/02/08	13:52	02:54	Initial cal verification 4
VC2363-BS	C058289.D	10/02/08	14:21	03:23	Blank Spike
VC2363-MB	C058290.D	10/02/08	14:46	03:48	Method Blank
F60351-1	C058291.D	10/02/08	15:11	04:13	(used for QC only; not part of job F61436)
ZZZZZZ	C058292.D	10/02/08	15:36	04:38	(unrelated sample)
ZZZZZZ	C058293.D	10/02/08	16:01	05:03	(unrelated sample)
ZZZZZZ	C058294.D	10/02/08	16:26	05:28	(unrelated sample)
ZZZZZZ	C058295.D	10/02/08	16:57	05:59	(unrelated sample)
F60351-1MS	C058296.D	10/02/08	17:22	06:24	Matrix Spike
F60351-1MSD	C058297.D	10/02/08	17:47	06:49	Matrix Spike Duplicate
ZZZZZZ	C058298.D	10/02/08	18:13	07:15	(unrelated sample)
ZZZZZZ	C058299.D	10/02/08	18:38	07:40	(unrelated sample)
ZZZZZZ	C058300.D	10/02/08	19:03	08:05	(unrelated sample)
ZZZZZZ	C058301.D	10/02/08	19:28	08:30	(unrelated sample)
ZZZZZZ	C058302.D	10/02/08	19:53	08:55	(unrelated sample)
ZZZZZZ	C058303.D	10/02/08	20:18	09:20	(unrelated sample)
ZZZZZZ	C058304.D	10/02/08	20:43	09:45	(unrelated sample)
ZZZZZZ	C058305.D	10/02/08	21:08	10:10	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2404-BFB
Lab File ID: C059245.D
Instrument ID: GCMSC
Injection Date: 11/18/08
Injection Time: 09:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	30026	24.7		Pass
75	30.0 - 60.0% of mass 95	64840	53.3		Pass
95	Base peak, 100% relative abundance	121541	100.0		Pass
96	5.0 - 9.0% of mass 95	7449	6.1		Pass
173	Less than 2.0% of mass 174	346	0.28	(0.36) [a]	Pass
174	50.0 - 100.0% of mass 95	95040	78.2		Pass
175	5.0 - 9.0% of mass 174	7304	6.0	(7.7) [a]	Pass
176	95.0 - 101.0% of mass 174	92224	75.9	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	5736	4.7	(6.2) [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
VC2404-CC2363	C059246.D	11/18/08	09:35	00:30	Continuing cal 4
VC2404-BS	C059247.D	11/18/08	10:10	01:05	Blank Spike
VC2404-MB	C059248.D	11/18/08	10:34	01:29	Method Blank
ZZZZZZ	C059249.D	11/18/08	10:59	01:54	(unrelated sample)
ZZZZZZ	C059250.D	11/18/08	11:23	02:18	(unrelated sample)
ZZZZZZ	C059251.D	11/18/08	11:46	02:41	(unrelated sample)
ZZZZZZ	C059252.D	11/18/08	12:10	03:05	(unrelated sample)
ZZZZZZ	C059253.D	11/18/08	12:34	03:29	(unrelated sample)
ZZZZZZ	C059254.D	11/18/08	12:57	03:52	(unrelated sample)
ZZZZZZ	C059255.D	11/18/08	13:21	04:16	(unrelated sample)
F61404-2	C059256.D	11/18/08	13:45	04:40	(used for QC only; not part of job F61436)
ZZZZZZ	C059257.D	11/18/08	14:09	05:04	(unrelated sample)
ZZZZZZ	C059258.D	11/18/08	14:32	05:27	(unrelated sample)
F61404-2MS	C059259.D	11/18/08	14:56	05:51	Matrix Spike
F61404-2MSD	C059260.D	11/18/08	15:20	06:15	Matrix Spike Duplicate
ZZZZZZ	C059261.D	11/18/08	15:45	06:40	(unrelated sample)
ZZZZZZ	C059265.D	11/18/08	17:25	08:20	(unrelated sample)
F61436-1	C059266.D	11/18/08	17:49	08:44	CEF-M18-09I-20081110
F61436-2	C059267.D	11/18/08	18:14	09:09	CEF-M18-12D-20081110
F61436-3	C059268.D	11/18/08	18:40	09:35	CEF-M18-DUP-20081110
F61436-4	C059269.D	11/18/08	19:05	10:00	CEF-M18-04I-20081110
F61436-5	C059270.D	11/18/08	19:30	10:25	CEF-M18-05I-20081110

Volatile Internal Standard Area Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Check Std:	VB2380-CC2365	**Injection Date:**	11/18/08
Lab File ID:	B056826.D	**Injection Time:**	09:35
Instrument ID:	GCMSB	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1396052	9.32	1181450	12.53	615487	15.07	137647	6.65
Upper Limit [a]	2792104	9.82	2362900	13.03	1230974	15.57	275294	7.15
Lower Limit [b]	698026	8.82	590725	12.03	307744	14.57	68824	6.15

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VB2380-BS	1375919	9.32	1161316	12.53	598490	15.07	109649	6.65
VB2380-MB	1319555	9.32	1138536	12.53	533777	15.08	102213	6.67
ZZZZZZ	1292311	9.32	1096348	12.53	527715	15.08	121585	6.68
ZZZZZZ	1253099	9.32	1095581	12.53	571605	15.08	127192	6.67
ZZZZZZ	1399586	9.32	1168885	12.53	562403	15.08	131898	6.67
ZZZZZZ	1214519	9.32	1033081	12.54	492527	15.08	107358	6.67
ZZZZZZ	1236623	9.32	1048501	12.53	492467	15.08	103752	6.68
ZZZZZZ	1226522	9.32	1030287	12.53	498863	15.08	116458	6.66
ZZZZZZ	1186805	9.32	997623	12.53	487352	15.08	115196	6.68
ZZZZZZ	1154425	9.32	954662	12.53	485636	15.08	86901	6.66
F61444-40	1135524	9.32	946057	12.54	437822	15.08	89266	6.67
ZZZZZZ	873971	9.33	732045	12.54	345159	15.08	74919	6.68
F61444-40MS	1241844	9.32	1053624	12.53	551612	15.08	106199	6.66
F61444-40MSD	1296440	9.32	1101320	12.53	576693	15.08	109475	6.66
ZZZZZZ	1296973	9.32	1103313	12.53	561675	15.08	117886	6.67
ZZZZZZ	1215358	9.32	1049234	12.53	505543	15.08	127292	6.68
ZZZZZZ	1206745	9.32	1010364	12.54	475315	15.08	105496	6.68
ZZZZZZ	1198710	9.32	999146	12.54	464169	15.08	110122	6.68
ZZZZZZ	1160471	9.32	982663	12.53	443839	15.08	93332	6.68
ZZZZZZ	1137042	9.32	949831	12.53	434442	15.08	88173	6.67
ZZZZZZ	1117419	9.32	922634	12.53	425137	15.08	99865	6.67
ZZZZZZ	1028649	9.32	855132	12.54	392607	15.08	86919	6.68
ZZZZZZ	1027559	9.32	861071	12.53	393872	15.08	86324	6.68
F61436-6	1060112	9.32	870003	12.53	398549	15.08	78652	6.68

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 Internal Standard Area Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Check Std:	VC2404-CC2363	**Injection Date:**	11/18/08
Lab File ID:	C059246.D	**Injection Time:**	09:35
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1552339	7.49	1288120	10.56	760496	12.92	179921	5.13
Upper Limit [a]	3104678	7.99	2576240	11.06	1520992	13.42	359842	5.63
Lower Limit [b]	776170	6.99	644060	10.06	380248	12.42	89961	4.63

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC2404-BS	1779861	7.49	1442972	10.56	808483	12.92	199252	5.13
VC2404-MB	1746169	7.49	1341032	10.56	672430	12.92	186664	5.13
ZZZZZZ	1546026	7.49	1185266	10.56	589416	12.92	181063	5.13
ZZZZZZ	1506429	7.49	1211500	10.56	604376	12.92	186582	5.15
ZZZZZZ	1470058	7.49	1191826	10.56	593394	12.92	174948	5.13
ZZZZZZ	1606692	7.49	1236847	10.56	595305	12.92	179849	5.14
ZZZZZZ	1486703	7.49	1151705	10.56	558978	12.92	172189	5.15
ZZZZZZ	1382939	7.49	1091636	10.56	535281	12.92	160678	5.13
ZZZZZZ	1338763	7.49	1026647	10.56	524702	12.92	158854	5.13
F61404-2	1241371	7.49	964507	10.56	471560	12.92	139866	5.12
ZZZZZZ	1224859	7.49	941237	10.56	481890	12.92	119198	5.13
ZZZZZZ	1167904	7.49	906746	10.56	447214	12.92	121270	5.14
F61404-2MS	1239294	7.49	1031005	10.56	613239	12.92	137648	5.14
F61404-2MSD	1391956	7.49	1152579	10.56	678465	12.92	155110	5.13
ZZZZZZ	1452243	7.49	1096331	10.56	547969	12.92	178435	5.13
ZZZZZZ	1135039	7.49	859606	10.56	422823	12.92	120783	5.13
F61436-1	1074639	7.49	830228	10.56	447083	12.92	126762	5.15
F61436-2	1092209	7.48	846160	10.56	420377	12.92	119780	5.13
F61436-3	1075021	7.49	809974	10.56	419238	12.92	117974	5.13
F61436-4	1053766	7.49	796816	10.56	396320	12.92	122006	5.13
F61436-5	1047420	7.49	790793	10.56	395442	12.92	121593	5.13

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: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

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
F61436-1	C059266.D	110.0	115.0	101.0	95.0
F61436-2	C059267.D	111.0	116.0	100.0	101.0
F61436-3	C059268.D	108.0	112.0	104.0	98.0
F61436-4	C059269.D	109.0	117.0	105.0	102.0
F61436-5	C059270.D	110.0	114.0	105.0	102.0
F61436-6	B056850.D	110.0	122.0	100.0	105.0
F61404-2MS	C059259.D	112.0	116.0	98.0	92.0
F61404-2MSD	C059260.D	110.0	114.0	99.0	91.0
F61444-40MS	B056839.D	106.0	120.0	100.0	101.0
F61444-40MSD	B056840.D	104.0	111.0	100.0	99.0
VB2380-BS	B056827.D	105.0	116.0	99.0	100.0
VB2380-MB	B056828.D	107.0	116.0	96.0	105.0
VC2404-BS	C059247.D	106.0	106.0	100.0	96.0
VC2404-MB	C059248.D	108.0	104.0	104.0	101.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	87-116%
S2 = 1,2-Dichloroethane-D4	76-127%
S3 = Toluene-D8	86-112%
S4 = 4-Bromofluorobenzene	84-120%

Initial Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2365-ICC2365
Lab FileID: B056424.D

Response Factor Report MSVOA4

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Method       : C:\MSDCHEM\1\METHODS\8260B.M (RTE Integrator)
Title        : EPA 624 & SWA 5030B/8260B
Last Update  : Tue Oct 28 15:14:24 2008
Response via : Initial Calibration

Calibration Files
1   =B056421.D   2   =B056422.D   3   =B056423.D   4   =B056424.D
5      =B056425.D    6      =B056426.D

      Compound              1     2     3     4     5     6     Avg    %RSD
-------------------------------------------------------------------------------

1) I   Fluorobenzene         ----------------ISTD---------------------
2)     Dichlorodifluoromet 0.255 0.210 0.279 0.307 0.250 0.281 0.264  12.55
3) P   Chloromethane       0.255 0.249 0.300 0.327 0.274 0.290 0.282  10.45
4) C   Vinyl Chloride      0.197 0.223 0.310 0.332 0.272 0.296 0.272  19.19
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9926
             Response Ratio = 0.00000 + 0.29266 *A

5)     Bromomethane        0.175 0.153 0.189 0.198 0.164 0.176 0.176   9.35
6)     Chloroethane        0.117 0.130 0.158 0.163 0.133 0.139 0.140  12.62
7)     Trichlorofluorometh 0.299 0.291 0.385 0.402 0.324 0.347 0.341  13.30
8)     Ethyl Ether         0.172 0.176 0.191 0.203 0.175 0.172 0.182   7.00
9)     1,2-Dichlorotrifluo 0.275 0.275 0.350 0.359 0.304 0.307 0.312  11.55
10)    Freon 113           0.213 0.197 0.263 0.273 0.268 0.288 0.250  14.54
11) C  1,1-Dichloroethene  0.364 0.311 0.409 0.474 0.443 0.463 0.411  15.41
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
             Response Ratio = 0.00000 + 0.43369 *A + 0.01388 *A^2

12)    Acetone             0.152 0.079 0.080 0.098 0.091       0.100  30.45
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9951
             Response Ratio = 0.00000 + 0.09176 *A

13)    Iodomethane         0.436 0.456 0.557 0.619 0.543 0.573 0.531  13.29
14)    Carbon Disulfide    0.833 0.792 1.079 1.151 0.984 1.007 0.974  14.29
15)    Methyl acetate      0.178 0.181 0.193 0.216 0.184 0.179 0.188   7.78
16)    Methylene Chloride  0.696 0.425 0.402 0.432 0.362 0.374 0.449  27.72
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9959
             Response Ratio = 0.00000 + 0.41804 *A + -0.02452 *A^2

17)    Methyl Tert Butyl E 0.761 0.784 0.880 0.903 0.901 0.939 0.861   8.32
18)    trans-1,2-Dichloroe 0.344 0.349 0.435 0.478 0.407 0.425 0.407  12.76
19)    Acrylonitrile       0.082 0.084 0.090 0.106 0.092 0.091 0.091   9.09
20)    Hexane              0.274 0.225 0.328 0.342 0.286 0.304 0.293  14.34
21)    Di-isopropyl ether  0.886 0.833 0.970 1.062 0.919 0.940 0.935   8.34
22)    Vinyl acetate       0.284 0.310 0.348 0.400 0.338 0.349 0.338  11.63
23) P  1,1-Dichloroethane  0.447 0.421 0.537 0.581 0.503 0.519 0.501  11.77
24)    ETBE                0.878 0.877 0.966 1.027 0.965 1.012 0.954   6.75
25)    2-Butanone          0.155 0.118 0.122 0.143 0.123 0.118 0.130  11.87
26)    2,2-Dichloropropane 0.278 0.240 0.305 0.321 0.272 0.283 0.283   9.92
27)    cis-1,2-Dichloroeth 0.264 0.265 0.323 0.370 0.316 0.332 0.312  13.20
28)    Bromochloromethane  0.149 0.147 0.170 0.193 0.166 0.177 0.167  10.47
29)    Tetrahydrofuran     0.088 0.066 0.072 0.082 0.068 0.066 0.073  12.67
30) C  Chloroform          0.517 0.499 0.593 0.656 0.566 0.592 0.571  10.01
31) S  Dibromofluoromethan 0.280 0.275 0.273 0.273 0.267 0.273 0.274   1.48
32)    1,1,1-Trichloroetha 0.380 0.388 0.492 0.533 0.468 0.497 0.460  13.49
33)    Cyclohexane         0.328 0.301 0.441 0.469 0.399 0.418 0.393  16.68
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9957
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Initial Calibration Summary

Job Number: F61436 **Sample:** VB2365-ICC2365
Account: TETRPAPT Tetra Tech NUS **Lab FileID:** B056424.D
Project: Cecil Field - N/S Apron

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                Response Ratio = 0.00000 + 0.44359 *A + -0.01539 *A^2

34)      Carbon Tetrachlorid 0.350 0.336 0.436 0.473 0.415 0.438 0.408  13.18
35)      1,1-Dichloropropene 0.358 0.323 0.436 0.474 0.405 0.425 0.404  13.58
36)  S   1,2-Dichloroethane- 0.380 0.364 0.359 0.335 0.322 0.317 0.346   7.23
37)      TAME                0.783 0.800 0.885 0.991 0.891 0.940 0.882   9.05
38)      Benzene             1.152 0.992 1.212 1.333 1.132 1.178 1.167   9.51
39)      1,2-Dichloroethane  0.484 0.426 0.489 0.513 0.439 0.456 0.468   7.07
40)      Trichloroethene     0.285 0.260 0.329 0.369 0.320 0.336 0.316  12.24
41)      Methylcyclohexane   0.317 0.305 0.459 0.499 0.432 0.456 0.411  19.60
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9962
                Response Ratio = 0.00000 + 0.46475 *A + -0.00716 *A^2

42)  C   1,2-Dichloropropane 0.272 0.265 0.316 0.354 0.305 0.319 0.305  10.81
43)      Dibromomethane      0.203 0.177 0.199 0.227 0.198 0.210 0.202   7.98
44)      Bromodichloromethan 0.441 0.424 0.488 0.554 0.483 0.509 0.483   9.72
45)      2-Chloroethyl vinyl 0.125 0.140 0.158 0.179 0.152 0.152 0.151  12.00
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9969
                Response Ratio = 0.00000 + 0.17520 *A + -0.00247 *A^2

46)      2-Nitropropane      0.078 0.075 0.083 0.096 0.082 0.080 0.082   8.67
47)      cis-1,3-Dichloropro 0.455 0.453 0.547 0.623 0.550 0.571 0.533  12.57
48)      4-Methyl-2-pentanon 0.264 0.249 0.274 0.310 0.261 0.252 0.268   8.25

49)  I   Chlorobenzene-d5      ----------------ISTD---------------------
50)  S   Toluene-d8          1.275 1.247 1.280 1.302 1.293 1.290 1.281   1.50
51)  C   Toluene             1.445 1.307 1.622 1.834 1.585 1.632 1.571  11.42
52)      trans-1,3-Dichlorop 0.473 0.503 0.608 0.703 0.626 0.641 0.592  14.74
53)      1,1,2-Trichloroetha 0.281 0.270 0.306 0.353 0.306 0.312 0.305   9.48
54)      Tetrachloroethene   0.288 0.281 0.377 0.422 0.364 0.385 0.353  15.98
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9961
                Response Ratio = 0.00000 + 0.38957 *A + -0.00430 *A^2

55)      2-hexanone          0.205 0.178 0.233 0.271 0.230 0.221 0.223  13.87
56)      1,3-Dichloropropane 0.631 0.579 0.643 0.728 0.635 0.646 0.644   7.47
57)      Dibromochloromethan 0.354 0.339 0.412 0.479 0.430 0.449 0.410  13.32
58)      1,2-Dibromoethane   0.319 0.316 0.362 0.425 0.383 0.393 0.367  11.69
59)      1-Chlorohexane      0.337 0.336 0.517 0.576 0.502 0.530 0.466  22.26
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9964
                Response Ratio = 0.00000 + 0.53235 *A + -0.00410 *A^2

60)  P   Chlorobenzene       0.856 0.821 1.006 1.116 0.978 1.015 0.965  11.36
61)  C   Ethylbenzene        1.610 1.426 1.856 2.051 1.777 1.822 1.757  12.27
62)      1,1,1,2-Tetrachloro 0.335 0.315 0.381 0.423 0.377 0.393 0.371  10.61
63)      m,p-Xylene          1.235 1.153 1.471 1.611 1.381 1.394 1.374  11.93
64)      o-Xylene            1.259 1.204 1.538 1.686 1.480 1.515 1.447  12.56
65)      Styrene             0.845 0.890 1.113 1.272 1.113 1.149 1.064  15.38
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9971
                Response Ratio = 0.00000 + 1.19622 *A + -0.02815 *A^2

66)  P   Bromoform           0.231 0.211 0.251 0.304 0.281 0.292 0.262  14.01

67)  I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
68)      Isopropylbenzene    2.502 2.389 3.160 3.404 3.001 3.073 2.921  13.50
69)      Cyclohexanone       0.068 0.022 0.019 0.023 0.020 0.017 0.028  70.06
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9958
                Response Ratio = 0.00000 + 0.02429 *A + -0.00068 *A^2

70)  S   4-Bromofluorobenzen 1.089 1.059 1.085 1.078 1.081 1.077 1.078   0.96
71)  P   1,1,2,2-Tetrachloro 0.834 0.797 0.888 1.006 0.882 0.886 0.882   8.02
```

Initial Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2365-ICC2365
Lab FileID: B056424.D

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72)     trans-1,4-Dichloro- 0.248 0.209 0.261 0.299 0.261 0.251 0.255  11.47
73)     n-Propylbenzene     3.544 3.368 4.374 4.690 4.010 4.006 3.999  12.37
74)     Bromobenzene        0.773 0.772 0.871 0.950 0.836 0.840 0.840   7.91
75)     1,2,3-Trichloroprop 0.233 0.232 0.264 0.297 0.258 0.253 0.256   9.28
76)     1,3,5-Trimethylbenz 2.259 2.258 2.873 3.089 2.721 2.760 2.660  12.64
77)     2-Chlorotoluene     2.613 2.434 2.972 3.175 2.776 2.814 2.797   9.32
78)     4-Chlorotoluene     2.252 2.170 2.727 2.997 2.640 2.677 2.577  12.08
79)     tert-Butylbenzene   1.452 1.495 1.756 1.922 1.691 1.733 1.675  10.45
80)     1,2,4-Trimethylbenz 2.531 2.814 2.974 3.278 2.877 2.925 2.900   8.34
81)     sec-Butylbenzene    2.966 2.871 3.613 3.866 3.390 3.460 3.361  11.33
82)     4-Isopropyltoluene  2.043 2.117 2.725 2.918 2.569 2.644 2.502  13.91
83)     1,3-Dichlorobenzene 1.370 1.265 1.490 1.661 1.467 1.528 1.464   9.27
84)     1,4-Dichlorobenzene 1.419 1.338 1.548 1.706 1.496 1.544 1.508   8.34
85)     Benzyl Chloride     1.813 1.747 1.974 2.295 2.029 2.032 1.981   9.75
86)     n-Butylbenzene      2.332 2.226 2.947 3.187 2.772 2.815 2.713  13.55
87)     1,2-Dichlorobenzene 1.344 1.268 1.465 1.627 1.436 1.470 1.435   8.53
88)     1,2-Dibromo-3-Chlor 0.414 0.151 0.173 0.192 0.178 0.176 0.214  46.15
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 0.18888 *A + -0.00648 *A^2

89)     1,2,4-Trichlorobenz 0.811 0.718 0.918 1.071 1.000 1.039 0.926  14.98
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
              Response Ratio = 0.00000 + 0.98678 *A + 0.02452 *A^2

90)     Hexachlorobutadiene 0.394 0.353 0.449 0.490 0.445 0.457 0.431  11.41
91)     Naphthalene         1.775 1.502 1.849 2.256 2.110 2.173 1.944  14.75
92)     1,2,3-Trichlorobenz 0.636 0.474 0.544 0.679 0.666 0.737 0.622  15.51
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
              Response Ratio = 0.00000 + 0.56409 *A + 0.08480 *A^2


93) I   Tert Butyl alcohol-d1 ----------------ISTD---------------------
94)     Acrolein            0.701 0.583 0.586 0.496 0.673 0.858 0.650  19.30
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9975
              Response Ratio = 0.00000 + 0.31636 *A + 0.26724 *A^2

95)     Tert-Butyl Alcohol  1.090 1.078 1.119 1.239 1.127 1.176 1.138   5.29
96)     Tert amyl alcohol   0.762 0.729 0.801 0.927 0.875 0.933 0.838  10.29
97)     1,4-Dioxane         0.072 0.112 0.115 0.143 0.130 0.125 0.116  21.07
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9977
              Response Ratio = 0.00000 + 0.14024 *A + -0.00183 *A^2

--------------------------------------------------------------------------
(#) = Out of Range

          8260B.M           Wed Oct 29 12:03:48 2008
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Initial Calibration Verification

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2365-ICV2365
Lab FileID: B056428.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\102808\B056428.D Vial: 8
Acq On : 28 Oct 2008 2:58 pm Operator: LoganD
Sample : icv2365-4 Inst : MSVOA4
Misc : ms10762,vb2365,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260B.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Oct 28 15:14:24 2008
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	123	0.00	9.31
2		Dichlorodifluoromethane	0.264	0.280	-6.1	112	0.01	3.99
3	P	Chloromethane	0.282	0.279	1.1	104	0.00	4.30
		----------	Amount	Calc.	%Drift		----------	
4	C	Vinyl Chloride	40.000	35.210	12.0	95	0.00	4.49
		----------	AvgRF	CCRF	%Dev		----------	
5		Bromomethane	0.176	0.162	8.0	100	0.00	5.03
6		Chloroethane	0.140	0.138	1.4	104	0.00	5.17
7		Trichlorofluoromethane	0.341	0.334	2.1	102	0.00	5.48
8		Ethyl Ether	0.182	0.168	7.7	102	0.00	5.78
9		1,2-Dichlorotrifluoroetha	0.312	0.286	8.3	97	0.00	5.84
10		Freon 113	0.250	0.224	10.4	100	0.00	6.08
		----------	Amount	Calc.	%Drift		----------	
11	C	1,1-Dichloroethene	40.000	33.580	16.1	96	0.00	6.16
12		Acetone	200.000	125.178	37.4#	72	0.00	6.20
		----------	AvgRF	CCRF	%Dev		----------	
13		Iodomethane	0.531	0.437	17.7	87	0.00	6.42
14		Carbon Disulfide	0.974	0.845	13.2	90	0.00	6.51
15		Methyl acetate	0.188	0.175	6.9	99	0.00	6.54
		----------	Amount	Calc.	%Drift		----------	
16		Methylene Chloride	40.000	36.882	7.8	104	0.00	6.77
		----------	AvgRF	CCRF	%Dev		----------	
17		Methyl Tert Butyl Ether	0.861	0.824	4.3	112	0.00	6.94
18		trans-1,2-Dichloroethene	0.407	0.429	-5.4	110	0.00	7.01
19		Acrylonitrile	0.091	0.092	-1.1	107	-0.01	7.04
20		Hexane	0.293	0.347	-18.4	124	0.00	7.21
21		Di-isopropyl ether	0.935	0.895	4.3	103	0.00	7.41
22		Vinyl acetate	0.338	0.273	19.2	84	0.00	7.46
23	P	1,1-Dichloroethane	0.501	0.533	-6.4	112	0.00	7.50
24		ETBE	0.954	0.860	9.9	103	0.00	7.81
25		2-Butanone	0.130	0.102	21.5#	87	0.00	8.10
26		2,2-Dichloropropane	0.283	0.274	3.2	105	0.00	8.12
27		cis-1,2-Dichloroethene	0.312	0.314	-0.6	104	0.00	8.14
28		Bromochloromethane	0.167	0.150	10.2	95	0.00	8.41
29		Tetrahydrofuran	0.073	0.067	8.2	100	0.00	8.42
30	C	Chloroform	0.571	0.586	-2.6	109	0.00	8.43

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Sample: VB2365-ICV2365
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31	S	Dibromofluoromethane	0.274	0.275	-0.4	123	0.00	8.61
32		1,1,1-Trichloroethane	0.460	0.468	-1.7	108	0.00	8.65
		----------	Amount	Calc.	%Drift		----------	
33		Cyclohexane	40.000	39.542	1.1	111	0.00	8.68
		----------	AvgRF	CCRF	%Dev		----------	
34		Carbon Tetrachloride	0.408	0.433	-6.1	112	0.00	8.81
35		1,1-Dichloropropene	0.404	0.424	-5.0	109	0.00	8.81
36	S	1,2-Dichloroethane-d4	0.346	0.321	7.2	117	0.00	9.01
37		TAME	0.882	0.825	6.5	102	0.00	9.03
38		Benzene	1.167	1.208	-3.5	111	0.00	9.04
39		1,2-Dichloroethane	0.468	0.437	6.6	104	0.00	9.09
40		Trichloroethene	0.316	0.322	-1.9	107	0.00	9.69
		----------	Amount	Calc.	%Drift		----------	
41		Methylcyclohexane	40.000	41.125	-2.8	116	0.00	9.85
		----------	AvgRF	CCRF	%Dev		----------	
42	C	1,2-Dichloropropane	0.305	0.309	-1.3	107	0.00	9.96
43		Dibromomethane	0.202	0.198	2.0	107	0.00	10.11
44		Bromodichloromethane	0.483	0.458	5.2	101	0.00	10.22
		----------	Amount	Calc.	%Drift		----------	
45		2-Chloroethyl vinyl ether	200.000	242.467	-21.2#	135	0.00	10.45
		----------	AvgRF	CCRF	%Dev		----------	
46		2-Nitropropane	0.082	0.077	6.1	98	0.00	10.47
47		cis-1,3-Dichloropropene	0.533	0.564	-5.8	111	0.00	10.67
48		4-Methyl-2-pentanone	0.268	0.225	16.0	89	0.00	10.75
49	I	Chlorobenzene-d5	1.000	1.000	0.0	124	0.00	12.53
50	S	Toluene-d8	1.281	1.291	-0.8	123	0.00	10.93
51	C	Toluene	1.571	1.635	-4.1	111	0.00	11.01
52		trans-1,3-Dichloropropene	0.592	0.660	-11.5	116	0.00	11.26
53		1,1,2-Trichloroethane	0.305	0.293	3.9	103	0.00	11.46
		----------	Amount	Calc.	%Drift		----------	
54		Tetrachloroethene	40.000	40.102	-0.3	114	0.00	11.60
		----------	AvgRF	CCRF	%Dev		----------	
55		2-hexanone	0.223	0.190	14.8	87	0.00	11.63
56		1,3-Dichloropropane	0.644	0.612	5.0	104	0.00	11.66
57		Dibromochloromethane	0.410	0.413	-0.7	107	0.00	11.91
58		1,2-Dibromoethane	0.367	0.360	1.9	105	0.00	12.08
		----------	Amount	Calc.	%Drift		----------	
59		1-Chlorohexane	40.000	39.879	0.3	113	0.00	12.41
		----------	AvgRF	CCRF	%Dev		----------	
60	P	Chlorobenzene	0.965	1.013	-5.0	112	0.00	12.56
61	C	Ethylbenzene	1.757	1.844	-5.0	111	0.00	12.60
62		1,1,1,2-Tetrachloroethane	0.371	0.375	-1.1	110	0.00	12.62
63		m,p-Xylene	1.374	1.441	-4.9	111	0.00	12.71
64		o-Xylene	1.447	1.513	-4.6	111	0.00	13.17
		----------	Amount	Calc.	%Drift		----------	
65		Styrene	40.000	39.453	1.4	113	0.00	13.19
		----------	AvgRF	CCRF	%Dev		----------	

Initial Calibration Verification

Job Number: F61436
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Project: Cecil Field - N/S Apron

Sample: VB2365-ICV2365
Lab FileID: B056428.D

66	P	Bromoform	0.262	0.264	-0.8	108	0.00	13.48
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	15.07
68		Isopropylbenzene	2.921	3.147	-7.7	115	0.00	13.53
		----------	Amount	Calc.	%Drift		----------	
69		Cyclohexanone	200.000	159.733	20.1#	97	0.00	13.78
		----------	AvgRF	CCRF	%Dev		----------	
70	S	4-Bromofluorobenzene	1.078	1.046	3.0	121	0.00	13.79
71	P	1,1,2,2-Tetrachloroethane	0.882	0.841	4.6	104	0.00	13.90
72		trans-1,4-Dichloro-2-Bute	0.255	0.249	2.4	103	0.00	13.97
73		n-Propylbenzene	3.999	4.193	-4.9	111	0.00	13.98
74		Bromobenzene	0.840	0.855	-1.8	112	0.00	13.99
75		1,2,3-Trichloropropane	0.256	0.224	12.5	94	0.00	13.99
76		1,3,5-Trimethylbenzene	2.660	2.829	-6.4	114	0.00	14.15
77		2-Chlorotoluene	2.797	2.837	-1.4	111	0.00	14.16
78		4-Chlorotoluene	2.577	2.669	-3.6	111	0.00	14.27
79		tert-Butylbenzene	1.675	1.720	-2.7	111	0.00	14.52
80		1,2,4-Trimethylbenzene	2.900	2.941	-1.4	112	0.00	14.58
81		sec-Butylbenzene	3.361	3.589	-6.8	116	0.00	14.76
82		4-Isopropyltoluene	2.502	2.733	-9.2	117	0.00	14.89
83		1,3-Dichlorobenzene	1.464	1.509	-3.1	113	0.00	15.00
84		1,4-Dichlorobenzene	1.508	1.527	-1.3	112	0.00	15.10
85		Benzyl Chloride	1.981	1.831	7.6	99	0.00	15.23
86		n-Butylbenzene	2.713	2.874	-5.9	112	0.00	15.35
87		1,2-Dichlorobenzene	1.435	1.438	-0.2	110	0.00	15.53
		----------	Amount	Calc.	%Drift		----------	
88		1,2-Dibromo-3-Chloropropa	40.000	34.295	14.3	102	0.00	16.39
89		1,2,4-Trichlorobenzene	40.000	40.324	-0.8	118	0.00	17.27
		----------	AvgRF	CCRF	%Dev		----------	
90		Hexachlorobutadiene	0.431	0.482	-11.8	123	0.00	17.35
91		Naphthalene	1.944	2.079	-6.9	115	0.00	17.59
		----------	Amount	Calc.	%Drift		----------	
92		1,2,3-Trichlorobenzene	40.000	43.986	-10.0	129	0.00	17.87
		----------	AvgRF	CCRF	%Dev		----------	
93	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	106	0.00	6.65
		----------	Amount	Calc.	%Drift		----------	
94		Acrolein	200.000	311.582	-55.8#	215	0.00	6.05
		----------	AvgRF	CCRF	%Dev		----------	
95		Tert-Butyl Alcohol	1.138	1.069	6.1	91	0.00	6.74
96		Tert amyl alcohol	0.838	0.816	2.6	93	0.00	8.90
		----------	Amount	Calc.	%Drift		----------	
97		1,4-Dioxane	800.000	681.463	14.8	85	0.00	10.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
B056424.D 8260B.M Wed Oct 29 12:03:36 2008

Continuing Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2380-CC2365
Lab FileID: B056826.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\111808\B056826.D          Vial: 1
Acq On    : 18 Nov 2008   9:35 am                   Operator: LoganD
Sample    : cc2365-4                                Inst    : MSVOA4
Misc      : ms10762,vb2380,,,,,                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\8260B.M (RTE Integrator)
Title        : EPA 624 & SWA 5030B/8260B
Last Update  : Tue Oct 28 15:14:24 2008
Response via : Multiple Level Calibration

Min. RRF     :   0.000  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)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	124	0.00	9.32
2		Dichlorodifluoromethane	0.264	0.312	-18.2	125	0.00	3.98
3	P	Chloromethane	0.282	0.302	-7.1	114	0.02	4.32
		----------	Amount	Calc.	%Drift	----------		
4	C	Vinyl Chloride	40.000	38.905	2.7	106	0.02	4.52
		----------	AvgRF	CCRF	%Dev	----------		
5		Bromomethane	0.176	0.212	-20.5#	132	0.00	5.03
6		Chloroethane	0.140	0.171	-22.1#	130	0.01	5.18
7		Trichlorofluoromethane	0.341	0.432	-26.7#	133	0.00	5.48
8		Ethyl Ether	0.182	0.204	-12.1	124	0.00	5.78
9		1,2-Dichlorotrifluoroetha	0.312	0.407	-30.4#	140	0.02	5.85
10		Freon 113	0.250	0.300	-20.0	136	0.01	6.09
		----------	Amount	Calc.	%Drift	----------		
11	C	1,1-Dichloroethene	40.000	44.035	-10.1	128	0.00	6.17
12		Acetone	200.000	168.445	15.8	97	0.00	6.21
		----------	AvgRF	CCRF	%Dev	----------		
13		Iodomethane	0.531	0.583	-9.8	116	0.01	6.43
14		Carbon Disulfide	0.974	1.139	-16.9	122	0.00	6.51
15		Methyl acetate	0.188	0.213	-13.3	122	0.00	6.54
		----------	Amount	Calc.	%Drift	----------		
16		Methylene Chloride	40.000	49.819	-24.5#	140	0.02	6.79
		----------	AvgRF	CCRF	%Dev	----------		
17		Methyl Tert Butyl Ether	0.861	0.702	18.5	96	0.00	6.94
18		trans-1,2-Dichloroethene	0.407	0.484	-18.9	125	0.00	7.01
19		Acrylonitrile	0.091	0.104	-14.3	122	0.00	7.05
20		Hexane	0.293	0.347	-18.4	125	0.00	7.21
21		Di-isopropyl ether	0.935	0.967	-3.4	113	0.00	7.41
22		Vinyl acetate	0.338	0.403	-19.2	125	0.00	7.46
23	P	1,1-Dichloroethane	0.501	0.565	-12.8	120	0.00	7.51
24		ETBE	0.954	0.839	12.1	101	0.00	7.80
25		2-Butanone	0.130	0.133	-2.3	115	0.00	8.11
26		2,2-Dichloropropane	0.283	0.262	7.4	101	0.00	8.12
27		cis-1,2-Dichloroethene	0.312	0.332	-6.4	111	0.00	8.14
28		Bromochloromethane	0.167	0.179	-7.2	115	0.00	8.41
29		Tetrahydrofuran	0.073	0.074	-1.4	111	0.00	8.43
30	C	Chloroform	0.571	0.623	-9.1	117	0.00	8.43

Continuing Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2380-CC2365
Lab FileID: B056826.D

31	S	Dibromofluoromethane	0.274	0.294	-7.3	133	0.00	8.62
32		1,1,1-Trichloroethane	0.460	0.501	-8.9	116	0.00	8.65
		----------	Amount	Calc.	%Drift		----------	
33		Cyclohexane	40.000	43.525	-8.8	123	0.00	8.68
		----------	AvgRF	CCRF	%Dev		----------	
34		Carbon Tetrachloride	0.408	0.464	-13.7	121	0.00	8.81
35		1,1-Dichloropropene	0.404	0.443	-9.7	116	0.00	8.82
36	S	1,2-Dichloroethane-d4	0.346	0.380	-9.8	140	0.00	9.01
37		TAME	0.882	0.779	11.7	97	0.00	9.03
38		Benzene	1.167	1.245	-6.7	115	0.00	9.04
39		1,2-Dichloroethane	0.468	0.529	-13.0	128	0.00	9.10
40		Trichloroethene	0.316	0.326	-3.2	109	0.00	9.69
		----------	Amount	Calc.	%Drift		----------	
41		Methylcyclohexane	40.000	40.521	-1.3	115	0.00	9.86
		----------	AvgRF	CCRF	%Dev		----------	
42	C	1,2-Dichloropropane	0.305	0.336	-10.2	117	0.00	9.97
43		Dibromomethane	0.202	0.217	-7.4	119	0.00	10.12
44		Bromodichloromethane	0.483	0.523	-8.3	117	0.00	10.22
		----------	Amount	Calc.	%Drift		----------	
45		2-Chloroethyl vinyl ether	200.000	175.659	12.2	101	0.00	10.45
		----------	AvgRF	CCRF	%Dev		----------	
46		2-Nitropropane	0.082	0.102	-24.4#	131	0.00	10.48
47		cis-1,3-Dichloropropene	0.533	0.583	-9.4	116	0.00	10.68
48		4-Methyl-2-pentanone	0.268	0.305	-13.8	122	0.00	10.75
49	I	Chlorobenzene-d5	1.000	1.000	0.0	132	0.00	12.53
50	S	Toluene-d8	1.281	1.272	0.7	129	0.00	10.93
51	C	Toluene	1.571	1.559	0.8	112	0.00	11.01
52		trans-1,3-Dichloropropene	0.592	0.615	-3.9	116	0.00	11.26
53		1,1,2-Trichloroethane	0.305	0.308	-1.0	115	0.00	11.47
		----------	Amount	Calc.	%Drift		----------	
54		Tetrachloroethene	40.000	36.015	10.0	109	0.00	11.60
		----------	AvgRF	CCRF	%Dev		----------	
55		2-hexanone	0.223	0.241	-8.1	117	0.00	11.63
56		1,3-Dichloropropane	0.644	0.647	-0.5	117	0.00	11.66
57		Dibromochloromethane	0.410	0.414	-1.0	114	0.00	11.91
58		1,2-Dibromoethane	0.367	0.365	0.5	114	0.00	12.08
		----------	Amount	Calc.	%Drift		----------	
59		1-Chlorohexane	40.000	36.945	7.6	112	0.00	12.41
		----------	AvgRF	CCRF	%Dev		----------	
60	P	Chlorobenzene	0.965	0.971	-0.6	115	0.00	12.57
61	C	Ethylbenzene	1.757	1.779	-1.3	115	0.00	12.60
62		1,1,1,2-Tetrachloroethane	0.371	0.374	-0.8	117	0.00	12.62
63		m,p-Xylene	1.374	1.400	-1.9	115	0.00	12.71
64		o-Xylene	1.447	1.449	-0.1	114	0.00	13.17
		----------	Amount	Calc.	%Drift		----------	
65		Styrene	40.000	36.272	9.3	111	0.00	13.19
		----------	AvgRF	CCRF	%Dev		----------	

Continuing Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VB2380-CC2365
Lab FileID: B056826.D

66	P	Bromoform	0.262	0.247	5.7	108	0.00	13.48
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	136	0.00	15.07
68		Isopropylbenzene	2.921	2.875	1.6	115	0.00	13.53
		----------	Amount	Calc.	%Drift	----------		
69		Cyclohexanone	200.000	165.677	17.2	109	0.00	13.78
		----------	AvgRF	CCRF	%Dev	----------		
70	S	4-Bromofluorobenzene	1.078	1.076	0.2	135	0.00	13.79
71	P	1,1,2,2-Tetrachloroethane	0.882	0.877	0.6	118	0.00	13.90
72		trans-1,4-Dichloro-2-Bute	0.255	0.255	0.0	115	0.00	13.97
73		n-Propylbenzene	3.999	4.026	-0.7	116	0.00	13.98
74		Bromobenzene	0.840	0.794	5.5	113	0.00	14.00
75		1,2,3-Trichloropropane	0.256	0.257	-0.4	117	0.00	13.99
76		1,3,5-Trimethylbenzene	2.660	2.639	0.8	116	0.00	14.15
77		2-Chlorotoluene	2.797	2.786	0.4	119	0.00	14.16
78		4-Chlorotoluene	2.577	2.514	2.4	114	0.00	14.28
79		tert-Butylbenzene	1.675	1.670	0.3	118	0.00	14.52
80		1,2,4-Trimethylbenzene	2.900	2.738	5.6	113	0.00	14.59
81		sec-Butylbenzene	3.361	3.292	2.1	115	0.00	14.76
82		4-Isopropyltoluene	2.502	2.482	0.8	115	0.00	14.90
83		1,3-Dichlorobenzene	1.464	1.394	4.8	114	0.00	15.00
84		1,4-Dichlorobenzene	1.508	1.431	5.1	114	0.00	15.10
85		Benzyl Chloride	1.981	2.005	-1.2	118	0.00	15.23
86		n-Butylbenzene	2.713	2.783	-2.6	118	0.00	15.35
87		1,2-Dichlorobenzene	1.435	1.378	4.0	115	0.00	15.53
		----------	Amount	Calc.	%Drift	----------		
88		1,2-Dibromo-3-Chloropropa	40.000	35.170	12.1	114	0.00	16.39
89		1,2,4-Trichlorobenzene	40.000	32.069	19.8	102	0.00	17.27
		----------	AvgRF	CCRF	%Dev	----------		
90		Hexachlorobutadiene	0.431	0.405	6.0	112	0.00	17.35
91		Naphthalene	1.944	1.415	27.2#	85	0.00	17.60
		----------	Amount	Calc.	%Drift	----------		
92		1,2,3-Trichlorobenzene	40.000	23.815	40.5#	72	0.00	17.88
		----------	AvgRF	CCRF	%Dev	----------		
93	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	102	0.00	6.65
		----------	Amount	Calc.	%Drift	----------		
94		Acrolein	200.000	378.048	-89.0#	280	0.00	6.05
		----------	AvgRF	CCRF	%Dev	----------		
95		Tert-Butyl Alcohol	1.138	1.015	10.8	84	0.00	6.74
96		Tert amyl alcohol	0.838	0.881	-5.1	97	0.00	8.90
		----------	Amount	Calc.	%Drift	----------		
97		1,4-Dioxane	800.000	782.205	2.2	94	0.00	10.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0
B056424.D 8260B.M Wed Nov 19 11:19:47 2008

Initial Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-ICC2363
Lab FileID: C058285.D

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\8260-NEW.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Thu Oct 02 13:52:41 2008
Response via : Initial Calibration

Calibration Files
1 =C058282.D 2 =C058283.D 3 =C058284.D 4 =C058285.D
5 =C058286.D 6 =C058287.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.197	0.211	0.269	0.270	0.250	0.253	0.242	12.73
3)	P	Chloromethane	0.516	0.475	0.527	0.534	0.497	0.508	0.510	4.18
4)	C	Vinyl Chloride	0.443	0.340	0.406	0.423	0.397	0.414	0.404	8.72
5)		Bromomethane	0.321	0.216	0.237	0.245	0.250	0.244	0.252	14.22
6)		Chloroethane	0.275	0.202	0.249	0.264	0.248	0.254	0.249	10.12
7)		Trichlorofluorometh	0.380	0.332	0.446	0.447	0.443	0.460	0.418	12.11
8)		Ethyl Ether	0.394	0.351	0.356	0.365	0.360	0.393	0.370	5.09
9)		1,2-Dichlorotrifluo	0.405	0.327	0.414	0.401	0.392	0.423	0.394	8.71
10)	C	1,1-Dichloroethene	0.487	0.418	0.541	0.528	0.525	0.561	0.510	10.09
11)		Freon 113	0.229	0.188	0.268	0.266	0.270	0.293	0.252	14.91
12)		Carbon Disulfide	0.898	0.700	0.919	0.888	0.870	0.949	0.871	10.10
13)		Iodomethane	0.403	0.377	0.457	0.452	0.444	0.488	0.437	9.13
14)		Methylene Chloride	0.951	0.689	0.596	0.564	0.518	0.554	0.645	24.91
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9976								
		Response Ratio = 0.00000 + 0.54198 *A + 0.00224 *A^2								
15)		Acetone	0.052	0.050	0.054	0.050	0.049	0.052	0.051	3.14
16)		Methyl acetate	0.047	0.054	0.055	0.054	0.051	0.054	0.053	5.53
17)		trans-1,2-Dichloroe	0.474	0.425	0.509	0.497	0.468	0.506	0.480	6.62
18)		Hexane	0.362	0.285	0.343	0.317	0.306	0.319	0.322	8.43
19)		Methyl Tert Butyl E	0.832	0.856	0.941	0.940	0.881	0.948	0.900	5.55
20)		Di-isopropyl ether	1.126	1.114	1.346	1.344	1.275	1.341	1.257	8.74
21)	P	1,1-Dichloroethane	0.562	0.530	0.648	0.626	0.597	0.633	0.599	7.64
22)		Acrylonitrile	0.132	0.128	0.134	0.133	0.127	0.133	0.131	2.22
23)		ETBE	0.936	1.012	1.163	1.154	1.103	1.203	1.095	9.31
24)		Vinyl acetate	0.581	0.618	0.670	0.654	0.592	0.596	0.618	5.81
25)		cis-1,2-Dichloroeth	0.272	0.273	0.339	0.343	0.330	0.350	0.318	11.29
26)		2,2-Dichloropropane	0.380	0.368	0.466	0.449	0.423	0.447	0.422	9.48
27)		Bromochloromethane	0.175	0.170	0.190	0.191	0.183	0.198	0.184	5.73
28)		Cyclohexane	0.456	0.425	0.636	0.614	0.601	0.642	0.562	17.09
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9988								
		Response Ratio = 0.00000 + 0.57427 *A + 0.03144 *A^2								
29)	C	Chloroform	0.517	0.512	0.604	0.585	0.553	0.590	0.560	6.97
30)		Tetrahydrofuran	0.139	0.119	0.123	0.125	0.116	0.121	0.124	6.51
31)	S	Dibromofluoromethan	0.258	0.256	0.248	0.252	0.253	0.260	0.255	1.71
32)		Carbon Tetrachlorid	0.391	0.351	0.473	0.455	0.441	0.473	0.431	11.50
33)		1,1,1-Trichloroetha	0.386	0.354	0.464	0.458	0.435	0.466	0.427	10.95
34)		2-Butanone	0.205	0.221	0.246	0.244	0.232	0.238	0.231	6.75
35)		1,1-Dichloropropene	0.374	0.351	0.472	0.452	0.432	0.456	0.423	11.54
36)		Benzene	1.135	1.078	1.354	1.332	1.231	1.298	1.238	9.00
37)		TAME	0.648	0.705	0.829	0.843	0.815	0.866	0.784	11.13
38)	S	1,2-Dichloroethane-	0.320	0.326	0.336	0.343	0.356	0.373	0.343	5.76
39)		1,2-Dichloroethane	0.491	0.454	0.498	0.498	0.467	0.496	0.484	3.87
40)		Trichloroethene	0.334	0.284	0.355	0.353	0.341	0.364	0.338	8.54

Initial Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-ICC2363
Lab FileID: C058285.D

41)		Methylcyclohexane	0.398	0.321	0.473	0.461	0.455	0.486	0.432	14.41
42)		Dibromomethane	0.198	0.198	0.223	0.221	0.209	0.222	0.212	5.64
43)	C	1,2-Dichloropropane	0.376	0.348	0.425	0.423	0.399	0.422	0.399	7.87
44)		Bromodichloromethan	0.412	0.389	0.486	0.489	0.461	0.492	0.455	9.66
45)		2-Chloroethyl vinyl	0.195	0.244	0.297	0.299	0.284	0.297	0.269	15.61

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9990
Response Ratio = 0.00000 + 0.28449 *A + 0.00106 *A^2

46)		cis-1,3-Dichloropro	0.475	0.491	0.600	0.609	0.566	0.604	0.558	10.74
47)	I	Chlorobenzene-d5	----------ISTD----------							
48)	S	Toluene-d8	1.310	1.274	1.264	1.248	1.219	1.210	1.254	2.94
49)	C	Toluene	1.599	1.377	1.716	1.632	1.487	1.515	1.554	7.71
50)		2-Nitropropane	0.112	0.114	0.128	0.124	0.116	0.119	0.119	5.14
51)		4-Methyl-2-pentanon	0.417	0.497	0.549	0.529	0.476	0.456	0.487	9.87
52)		trans-1,3-Dichlorop	0.568	0.545	0.664	0.647	0.603	0.638	0.611	7.71
53)		Tetrachloroethene	0.340	0.282	0.384	0.365	0.355	0.381	0.351	10.70
54)		1,1,2-Trichloroetha	0.335	0.313	0.356	0.350	0.321	0.327	0.334	5.00
55)		Dibromochloromethan	0.334	0.363	0.418	0.424	0.404	0.423	0.394	9.44
56)		1,3-Dichloropropane	0.628	0.641	0.717	0.704	0.650	0.655	0.666	5.43
57)		1,2-Dibromoethane	0.342	0.344	0.395	0.395	0.370	0.379	0.371	6.41
58)		2-hexanone	0.285	0.373	0.429	0.417	0.380	0.364	0.374	13.59
59)		1-Chlorohexane	0.378	0.373	0.553	0.536	0.504	0.528	0.479	17.00

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9986
Response Ratio = 0.00000 + 0.51522 *A + 0.00407 *A^2

60)	C	Ethylbenzene	1.769	1.518	1.925	1.855	1.729	1.711	1.751	7.98
61)	P	Chlorobenzene	1.020	0.930	1.114	1.095	1.047	1.082	1.048	6.40
62)		1,1,1,2-Tetrachloro	0.328	0.319	0.381	0.386	0.356	0.375	0.358	7.99
63)		m,p-Xylene	1.145	1.103	1.444	1.394	1.244	1.144	1.246	11.48
64)		o-Xylene	0.944	1.069	1.456	1.447	1.321	1.337	1.262	16.60

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9987
Response Ratio = 0.00000 + 1.43469 *A + -0.05352 *A^2

65)		Styrene	0.700	0.818	1.138	1.149	1.073	1.099	0.996	19.02

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9990
Response Ratio = 0.00000 + 1.11866 *A + -0.01321 *A^2

66)	P	Bromoform	0.216	0.224	0.277	0.290	0.280	0.294	0.264	13.06
67)		Isopropylbenzene	1.025	1.037	1.527	1.511	1.394	1.389	1.314	17.23

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9991
Response Ratio = 0.00000 + 1.52087 *A + -0.06944 *A^2

68)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
69)	S	4-Bromofluorobenzen	0.975	0.963	0.938	0.917	0.910	0.914	0.936	2.93
70)		n-Propylbenzene	3.662	3.155	4.177	3.923	3.563	3.465	3.657	9.77
71)		Bromobenzene	0.687	0.723	0.855	0.836	0.798	0.859	0.793	9.12
72)	P	1,1,2,2-Tetrachloro	0.918	0.930	0.976	0.933	0.852	0.876	0.914	4.83
73)		1,3,5-Trimethylbenz	1.975	1.982	2.631	2.623	2.455	2.534	2.367	13.00
74)		2-Chlorotoluene	2.246	2.131	2.695	2.675	2.496	2.580	2.470	9.41
75)		trans-1,4-Dichloro-	0.256	0.279	0.310	0.301	0.284	0.295	0.287	6.60
76)		1,2,3-Trichloroprop	0.250	0.253	0.257	0.251	0.233	0.245	0.248	3.30
77)		Cyclohexanone	0.037	0.019	0.022	0.025	0.024	0.025	0.025	25.29

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9987
Response Ratio = 0.00000 + 0.02303 *A + 0.00016 *A^2

78)		4-Chlorotoluene	2.119	1.946	2.481	2.373	2.182	2.221	2.220	8.50
79)		tert-Butylbenzene	1.244	1.095	1.530	1.517	1.442	1.525	1.392	13.04
80)		1,2,4-Trimethylbenz	2.046	2.082	2.731	2.713	2.442	2.531	2.424	12.37

Initial Calibration Summary

Job Number: F61436 **Sample:** VC2363-ICC2363
Account: TETRPAPT Tetra Tech NUS **Lab FileID:** C058285.D
Project: Cecil Field - N/S Apron

```
81)     sec-Butylbenzene    2.940 2.444 3.393 3.274 2.979 2.966 2.999  11.00
82)     4-Isopropyltoluene  1.983 1.826 2.627 2.578 2.405 2.453 2.312  14.25
83)     1,3-Dichlorobenzene 1.379 1.255 1.538 1.530 1.422 1.477 1.434   7.45
84)     1,4-Dichlorobenzene 1.580 1.432 1.615 1.599 1.483 1.528 1.539   4.66
85)     n-Butylbenzene      1.439 1.187 1.683 1.659 1.593 1.667 1.538  12.62
86)     Benzyl Chloride     0.293 0.321 0.384 0.379 0.358 0.368 0.350  10.27
87)     1,2-Dichlorobenzene 1.340 1.254 1.505 1.504 1.396 1.455 1.409   7.06
88)     1,2-Dibromo-3-Chlor 0.203 0.152 0.168 0.178 0.169 0.178 0.175   9.63
89)     Hexachlorobutadiene 0.636 0.255 0.361 0.407 0.406 0.438 0.417  29.95
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 0.35783 *A + 0.03959 *A^2

90)     1,2,4-Trichlorobenz 1.092 0.731 0.909 1.074 1.033 1.098 0.989  14.62
91)     Naphthalene         3.259 1.973 2.247 2.611 2.403 2.376 2.478  17.61
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9986
              Response Ratio = 0.00000 + 2.54342 *A + -0.08424 *A^2

92)     1,2,3-Trichlorobenz 1.110 0.641 0.774 0.978 0.943 1.007 0.909  18.79
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 0.85118 *A + 0.07687 *A^2


93) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
94)     acrolein            1.752 0.620 0.361 0.275 0.221 0.215 0.574  103.92
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9904
              Response Ratio = 0.00000 + 0.22635 *A

95)     Tert Butyl Alcohol  1.602 1.129 1.116 1.088 1.008 1.025 1.161  19.04
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 1.08700 *A + -0.01755 *A^2

96)     tert Amyl alcohol   0.034 0.063 0.075 0.071 0.073 0.070 0.064  24.22
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 0.07491 *A + -0.00109 *A^2

97)     1,4-Dioxane         0.277 0.074 0.092 0.105 0.097 0.100 0.124  60.83
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.09905 *A + 0.00004 *A^2

--------------------------------------------------------------------------
(#) = Out of Range

          8260-NEW.M        Fri Oct 03 13:49:23 2008
```

Initial Calibration Verification

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-ICV2363
Lab FileID: C058288.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\100208\C058288.D Vial: 7
Acq On : 2 Oct 2008 1:52 pm Operator: LoganD
Sample : icv2363-4 Inst : MSVOA5
Misc : ms10600,vc2363,,,,, Multiplr: 1.00
MS Integration Params: Tiny.p

Method : C:\MSDCHEM\2\METHODS\8260-NEW.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Thu Oct 02 13:52:41 2008
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)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	132	0.00	7.49
2		Dichlorodifluoromethane	0.242	0.221	8.7	108	-0.02	2.73
3	P	Chloromethane	0.510	0.504	1.2	125	-0.01	3.00
4	C	Vinyl Chloride	0.404	0.365	9.7	114	-0.02	3.10
5		Bromomethane	0.252	0.235	6.7	127	-0.01	3.50
6		Chloroethane	0.249	0.249	0.0	124	-0.01	3.60
7		Trichlorofluoromethane	0.418	0.413	1.2	122	-0.02	3.78
8		Ethyl Ether	0.370	0.353	4.6	128	0.00	4.01
9		1,2-Dichlorotrifluoroetha	0.394	0.436	-10.7	144	-0.02	4.24
10	C	1,1-Dichloroethene	0.510	0.566	-11.0	141	-0.01	4.26
11		Freon 113	0.252	0.301	-19.4	150	0.00	4.36
12		Carbon Disulfide	0.871	1.009	-15.8	150	0.00	4.33
13		Iodomethane	0.437	0.485	-11.0	141	0.00	4.45
		----------	Amount	Calc.	%Drift		----------	
14		Methylene Chloride	40.000	41.322	-3.3	131	-0.01	4.88
		----------	AvgRF	CCRF	%Dev		----------	
15		Acetone	0.051	0.033	35.3#	88	-0.01	4.92
16		Methyl acetate	0.053	0.054	-1.9	132	0.00	5.03
17		trans-1,2-Dichloroethene	0.480	0.516	-7.5	137	-0.01	5.04
18		Hexane	0.322	0.336	-4.3	140	-0.02	5.08
19		Methyl Tert Butyl Ether	0.900	0.883	1.9	124	0.00	5.15
20		Di-isopropyl ether	1.257	1.310	-4.2	129	0.00	5.51
21	P	1,1-Dichloroethane	0.599	0.648	-8.2	137	0.00	5.69
22		Acrylonitrile	0.131	0.138	-5.3	136	-0.01	5.74
23		ETBE	1.095	1.097	-0.2	125	0.00	5.89
24		Vinyl acetate	0.618	0.473	23.5#	96	0.00	5.89
25		cis-1,2-Dichloroethene	0.318	0.331	-4.1	127	0.00	6.24
26		2,2-Dichloropropane	0.422	0.486	-15.2	143	0.00	6.36
27		Bromochloromethane	0.184	0.164	10.9	113	0.00	6.44
		----------	Amount	Calc.	%Drift		----------	
28		Cyclohexane	40.000	40.337	-0.8	130	0.00	6.46
		----------	AvgRF	CCRF	%Dev		----------	
29	C	Chloroform	0.560	0.588	-5.0	133	0.00	6.49
30		Tetrahydrofuran	0.124	0.114	8.1	121	0.00	6.67
31	S	Dibromofluoromethane	0.255	0.252	1.2	132	0.00	6.69
32		Carbon Tetrachloride	0.431	0.481	-11.6	139	0.00	6.67
33		1,1,1-Trichloroethane	0.427	0.474	-11.0	137	0.00	6.74
34		2-Butanone	0.231	0.188	18.6	101	0.00	6.80

Initial Calibration Verification

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-ICV2363
Lab FileID: C058288.D

35		1,1-Dichloropropene	0.423	0.453	-7.1	132	0.00	6.84
36		Benzene	1.238	1.325	-7.0	131	0.00	7.10
37		TAME	0.784	0.916	-16.8	143	0.00	7.18
38	S	1,2-Dichloroethane-d4	0.343	0.340	0.9	131	0.00	7.23
39		1,2-Dichloroethane	0.484	0.485	-0.2	128	0.00	7.30
40		Trichloroethene	0.338	0.347	-2.7	130	0.00	7.66
41		Methylcyclohexane	0.432	0.516	-19.4	148	0.00	7.66
42		Dibromomethane	0.212	0.214	-0.9	128	0.00	8.09
43	C	1,2-Dichloropropane	0.399	0.399	0.0	125	0.00	8.18
44		Bromodichloromethane	0.455	0.448	1.5	121	0.00	8.22
		----------	Amount	Calc.	%Drift	----------		
45		2-Chloroethyl vinyl ether	200.000	200.573	-0.3	128	0.00	8.75
		----------	AvgRF	CCRF	%Dev	----------		
46		cis-1,3-Dichloropropene	0.558	0.591	-5.9	128	0.00	8.84
47	I	Chlorobenzene-d5	1.000	1.000	0.0	130	0.00	10.57
48	S	Toluene-d8	1.254	1.253	0.1	130	0.00	9.03
49	C	Toluene	1.554	1.680	-8.1	133	0.00	9.08
50		2-Nitropropane	0.119	0.124	-4.2	130	0.00	9.31
51		4-Methyl-2-pentanone	0.487	0.491	-0.8	120	0.00	9.43
52		trans-1,3-Dichloropropene	0.611	0.686	-12.3	137	0.00	9.47
53		Tetrachloroethene	0.351	0.401	-14.2	142	0.00	9.46
54		1,1,2-Trichloroethane	0.334	0.330	1.2	122	0.00	9.64
55		Dibromochloromethane	0.394	0.419	-6.3	128	0.00	9.82
56		1,3-Dichloropropane	0.666	0.667	-0.2	123	0.00	9.92
57		1,2-Dibromoethane	0.371	0.388	-4.6	127	0.00	10.08
58		2-hexanone	0.374	0.349	6.7	109	0.00	10.24
		----------	Amount	Calc.	%Drift	----------		
59		1-Chlorohexane	40.000	43.775	-9.4	137	0.00	10.52
		----------	AvgRF	CCRF	%Dev	----------		
60	C	Ethylbenzene	1.751	1.871	-6.9	131	0.00	10.59
61	P	Chlorobenzene	1.048	1.104	-5.3	131	0.00	10.59
62		1,1,1,2-Tetrachloroethane	0.358	0.370	-3.4	124	0.00	10.63
63		m,p-Xylene	1.246	1.392	-11.7	129	0.00	10.73
		----------	Amount	Calc.	%Drift	----------		
64		o-Xylene	40.000	40.581	-1.5	126	0.00	11.16
65		Styrene	40.000	40.299	-0.7	126	0.00	11.22
		----------	AvgRF	CCRF	%Dev	----------		
66	P	Bromoform	0.264	0.287	-8.7	128	0.00	11.27
		----------	Amount	Calc.	%Drift	----------		
67		Isopropylbenzene	40.000	41.257	-3.1	129	0.00	11.47
		----------	AvgRF	CCRF	%Dev	----------		
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	126	0.00	12.93
69	S	4-Bromofluorobenzene	0.936	0.937	-0.1	128	0.00	11.78
70		n-Propylbenzene	3.657	3.924	-7.3	126	0.00	11.89
71		Bromobenzene	0.793	0.846	-6.7	127	0.00	11.90
72	P	1,1,2,2-Tetrachloroethane	0.914	0.876	4.2	118	0.00	11.96
73		1,3,5-Trimethylbenzene	2.367	2.622	-10.8	126	0.00	12.08
74		2-Chlorotoluene	2.470	2.666	-7.9	125	0.00	12.08
75		trans-1,4-Dichloro-2-Bute	0.287	0.315	-9.8	132	0.00	12.14
76		1,2,3-Trichloropropane	0.248	0.218	12.1	109	0.00	12.12

Initial Calibration Verification

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2363-ICV2363
Lab FileID: C058288.D

		Amount	Calc.	%Drift			
77	Cyclohexanone	200.000	210.212	-5.1	125	0.00	12.19

		AvgRF	CCRF	%Dev			
78	4-Chlorotoluene	2.220	2.354	-6.0	125	0.00	12.24
79	tert-Butylbenzene	1.392	1.505	-8.1	125	0.00	12.42
80	1,2,4-Trimethylbenzene	2.424	2.596	-7.1	120	0.00	12.48
81	sec-Butylbenzene	2.999	3.250	-8.4	125	0.00	12.60
82	4-Isopropyltoluene	2.312	2.597	-12.3	127	0.00	12.74
83	1,3-Dichlorobenzene	1.434	1.505	-5.0	124	0.00	12.85
84	1,4-Dichlorobenzene	1.539	1.569	-1.9	123	0.00	12.95
85	n-Butylbenzene	1.538	1.640	-6.6	124	0.00	13.18
86	Benzyl Chloride	0.350	0.402	-14.9	133	0.00	13.19
87	1,2-Dichlorobenzene	1.409	1.476	-4.8	123	0.00	13.38
88	1,2-Dibromo-3-Chloropropa	0.175	0.166	5.1	117	0.00	14.14

		Amount	Calc.	%Drift			
89	Hexachlorobutadiene	40.000	43.173	-7.9	131	0.00	14.69

		AvgRF	CCRF	%Dev			
90	1,2,4-Trichlorobenzene	0.989	1.052	-6.4	123	0.00	14.73

		Amount	Calc.	%Drift			
91	Naphthalene	40.000	40.624	-1.6	121	0.00	15.02
92	1,2,3-Trichlorobenzene	40.000	40.954	-2.4	120	0.00	15.18

		AvgRF	CCRF	%Dev			
93 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	128	-0.01	5.14

		Amount	Calc.	%Drift			
94	acrolein	200.000	134.053	33.0#	71	0.01	4.67
95	Tert Butyl Alcohol	400.000	427.841	-7.0	133	0.00	5.22
96	tert Amyl alcohol	400.000	481.639	-20.4#	159	0.00	7.18
97	1,4-Dioxane	800.000	910.749	-13.8	138	0.00	8.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C058285.D 8260-NEW.M Fri Oct 03 13:49:05 2008

Continuing Calibration Summary

Job Number: F61436
Account: TETRPAPT Tetra Tech NUS
Project: Cecil Field - N/S Apron

Sample: VC2404-CC2363
Lab FileID: C059246.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\111808\C059246.D Vial: 1
Acq On : 18 Nov 2008 9:35 am Operator: LoganD
Sample : cc2363-4 Inst : MSVOA5
Misc : ms10726,vc2404,,,,, Multiplr: 1.00
MS Integration Params: Tiny.p

Method : C:\MSDCHEM\2\METHODS\8260-NEW.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Thu Oct 02 13:52:41 2008
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)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	79	0.00	7.49
2		Dichlorodifluoromethane	0.242	0.245	-1.2	72	0.00	2.74
3	P	Chloromethane	0.510	0.489	4.1	72	-0.01	3.00
4	C	Vinyl Chloride	0.404	0.352	12.9	66	-0.02	3.09
5		Bromomethane	0.252	0.212	15.9	69	-0.02	3.49
6		Chloroethane	0.249	0.214	14.1	64	0.00	3.62
7		Trichlorofluoromethane	0.418	0.446	-6.7	79	-0.02	3.78
8		Ethyl Ether	0.370	0.309	16.5	67	0.00	4.01
9		1,2-Dichlorotrifluoroetha	0.394	0.458	-16.2	90	0.00	4.26
10	C	1,1-Dichloroethene	0.510	0.551	-8.0	83	0.00	4.27
11		Freon 113	0.252	0.265	-5.2	79	0.00	4.37
12		Carbon Disulfide	0.871	0.951	-9.2	85	0.00	4.33
13		Iodomethane	0.437	0.472	-8.0	83	0.00	4.45
		----------	Amount	Calc.	%Drift		----------	
14		Methylene Chloride	40.000	46.234	-15.6	88	-0.01	4.88
		----------	AvgRF	CCRF	%Dev		----------	
15		Acetone	0.051	0.041	19.6	65	0.00	4.93
16		Methyl acetate	0.053	0.047	11.3	68	0.00	5.03
17		trans-1,2-Dichloroethene	0.480	0.515	-7.3	82	0.00	5.04
18		Hexane	0.322	0.325	-0.9	81	0.00	5.09
19		Methyl Tert Butyl Ether	0.900	0.897	0.3	75	0.00	5.15
20		Di-isopropyl ether	1.257	1.409	-12.1	83	0.00	5.51
21	P	1,1-Dichloroethane	0.599	0.637	-6.3	80	0.00	5.68
22		Acrylonitrile	0.131	0.134	-2.3	80	0.00	5.75
23		ETBE	1.095	1.189	-8.6	81	-0.01	5.89
24		Vinyl acetate	0.618	0.600	2.9	73	0.00	5.90
25		cis-1,2-Dichloroethene	0.318	0.322	-1.3	74	0.00	6.23
26		2,2-Dichloropropane	0.422	0.477	-13.0	84	0.00	6.37
27		Bromochloromethane	0.184	0.173	6.0	72	0.00	6.45
		----------	Amount	Calc.	%Drift		----------	
28		Cyclohexane	40.000	38.821	2.9	75	-0.01	6.45
		----------	AvgRF	CCRF	%Dev		----------	
29	C	Chloroform	0.560	0.602	-7.5	81	0.00	6.50
30		Tetrahydrofuran	0.124	0.105	15.3	67	0.00	6.67
31	S	Dibromofluoromethane	0.255	0.278	-9.0	87	0.00	6.68
32		Carbon Tetrachloride	0.431	0.483	-12.1	84	0.00	6.66
33		1,1,1-Trichloroethane	0.427	0.475	-11.2	82	0.00	6.73
34		2-Butanone	0.231	0.195	15.6	63	0.00	6.80

Continuing Calibration Summary

Job Number: F61436 **Sample:** VC2404-CC2363
Account: TETRPAPT Tetra Tech NUS **Lab FileID:** C059246.D
Project: Cecil Field - N/S Apron

35		1,1-Dichloropropene	0.423	0.461	-9.0	81	0.00	6.84
36		Benzene	1.238	1.265	-2.2	75	0.00	7.09
37		TAME	0.784	0.915	-16.7	86	0.00	7.17
38	S	1,2-Dichloroethane-d4	0.343	0.387	-12.8	89	0.00	7.23
39		1,2-Dichloroethane	0.484	0.526	-8.7	84	0.00	7.29
40		Trichloroethene	0.338	0.331	2.1	74	0.00	7.66
41		Methylcyclohexane	0.432	0.476	-10.2	82	0.00	7.66
42		Dibromomethane	0.212	0.212	0.0	76	0.00	8.08
43	C	1,2-Dichloropropane	0.399	0.402	-0.8	75	0.00	8.18
44		Bromodichloromethane	0.455	0.481	-5.7	78	0.00	8.22
		----------	Amount	Calc.	%Drift	----------		
45		2-Chloroethyl vinyl ether	200.000	113.641	43.2#	43	0.00	8.75
		----------	AvgRF	CCRF	%Dev	----------		
46		cis-1,3-Dichloropropene	0.558	0.579	-3.8	75	0.00	8.84
47	I	Chlorobenzene-d5	1.000	1.000	0.0	79	0.00	10.56
48	S	Toluene-d8	1.254	1.241	1.0	79	0.00	9.03
49	C	Toluene	1.554	1.559	-0.3	76	0.00	9.08
50		2-Nitropropane	0.119	0.126	-5.9	80	0.00	9.31
51		4-Methyl-2-pentanone	0.487	0.515	-5.7	77	0.00	9.42
52		trans-1,3-Dichloropropene	0.611	0.622	-1.8	76	0.00	9.47
53		Tetrachloroethene	0.351	0.350	0.3	76	0.00	9.46
54		1,1,2-Trichloroethane	0.334	0.316	5.4	72	0.00	9.64
55		Dibromochloromethane	0.394	0.408	-3.6	77	0.00	9.82
56		1,3-Dichloropropane	0.666	0.637	4.4	72	0.00	9.92
57		1,2-Dibromoethane	0.371	0.357	3.8	72	0.00	10.08
58		2-hexanone	0.374	0.353	5.6	67	0.00	10.24
		----------	Amount	Calc.	%Drift	----------		
59		1-Chlorohexane	40.000	39.353	1.6	76	0.00	10.52
		----------	AvgRF	CCRF	%Dev	----------		
60	C	Ethylbenzene	1.751	1.803	-3.0	77	0.00	10.58
61	P	Chlorobenzene	1.048	1.052	-0.4	76	0.00	10.58
62		1,1,1,2-Tetrachloroethane	0.358	0.381	-6.4	78	0.00	10.63
63		m,p-Xylene	1.246	1.370	-10.0	78	0.00	10.72
		----------	Amount	Calc.	%Drift	----------		
64		o-Xylene	40.000	40.057	-0.1	76	0.00	11.16
65		Styrene	40.000	40.326	-0.8	77	0.00	11.21
		----------	AvgRF	CCRF	%Dev	----------		
66	P	Bromoform	0.264	0.277	-4.9	76	0.00	11.26
		----------	Amount	Calc.	%Drift	----------		
67		Isopropylbenzene	40.000	40.485	-1.2	78	0.00	11.47
		----------	AvgRF	CCRF	%Dev	----------		
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	85	0.00	12.92
69	S	4-Bromofluorobenzene	0.936	0.874	6.6	81	0.00	11.77
70		n-Propylbenzene	3.657	3.744	-2.4	81	0.00	11.89
71		Bromobenzene	0.793	0.749	5.5	76	0.00	11.89
72	P	1,1,2,2-Tetrachloroethane	0.914	0.847	7.3	77	0.00	11.95
73		1,3,5-Trimethylbenzene	2.367	2.454	-3.7	79	0.00	12.08
74		2-Chlorotoluene	2.470	2.517	-1.9	80	0.00	12.07
75		trans-1,4-Dichloro-2-Bute	0.287	0.304	-5.9	86	0.00	12.14
76		1,2,3-Trichloropropane	0.248	0.217	12.5	73	0.00	12.11

Continuing Calibration Summary

Job Number: F61436
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Project: Cecil Field - N/S Apron

Sample: VC2404-CC2363
Lab FileID: C059246.D

		Amount	Calc.	%Drift			
77	Cyclohexanone	200.000	146.163	26.9#	58	0.00	12.18

		AvgRF	CCRF	%Dev			
78	4-Chlorotoluene	2.220	2.254	-1.5	81	0.00	12.23
79	tert-Butylbenzene	1.392	1.423	-2.2	80	0.00	12.41
80	1,2,4-Trimethylbenzene	2.424	2.560	-5.6	80	0.00	12.48
81	sec-Butylbenzene	2.999	3.147	-4.9	82	0.00	12.59
82	4-Isopropyltoluene	2.312	2.462	-6.5	81	0.00	12.73
83	1,3-Dichlorobenzene	1.434	1.411	1.6	78	0.00	12.85
84	1,4-Dichlorobenzene	1.539	1.495	2.9	79	0.00	12.94
85	n-Butylbenzene	1.538	1.608	-4.6	82	0.00	13.17
86	Benzyl Chloride	0.350	0.400	-14.3	90	0.00	13.18
87	1,2-Dichlorobenzene	1.409	1.380	2.1	78	0.00	13.38
88	1,2-Dibromo-3-Chloropropa	0.175	0.159	9.1	76	0.00	14.14

		Amount	Calc.	%Drift			
89	Hexachlorobutadiene	40.000	34.237	14.4	69	0.00	14.68

		AvgRF	CCRF	%Dev			
90	1,2,4-Trichlorobenzene	0.989	0.891	9.9	70	0.00	14.73

		Amount	Calc.	%Drift			
91	Naphthalene	40.000	31.687	20.8#	64	0.00	15.01
92	1,2,3-Trichlorobenzene	40.000	34.067	14.8	67	0.00	15.17

		AvgRF	CCRF	%Dev			
93 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	71	-0.02	5.13

		Amount	Calc.	%Drift			
94	acrolein	200.000	1088.280	-444.1#	318	-0.01	4.64
95	Tert Butyl Alcohol	400.000	419.139	-4.8	72	0.00	5.22
96	tert Amyl alcohol	400.000	530.689	-32.7#	97	-0.01	7.17
97	1,4-Dioxane	800.000	574.243	28.2#	48	0.00	8.42

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C058285.D 8260-NEW.M Wed Nov 19 12:41:09 2008