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SITE ASSESSMENT REPORT ADDENDUM FOR JET FUEL PIPELINE NAS CECIL FIELD FL
7/21/2004
TETRA TECH NUS INC

Rev. 0
7/21/04

Site Assessment Report Addendum
for
Jet Fuel Pipeline

Naval Air Station Cecil Field
Jacksonville, Florida

Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0072

July 2004

Rev. 0
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SITE ASSESSMENT REPORT ADDENDUM FOR JET FUEL PIPELINE

NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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PROFESSIONAL CERTIFICATION

Site Assessment Report Addendum
103rd Street Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

This Site Assessment Report was prepared under the direct supervision of the undersigned geologist using geologic and hydrogeologic principles standard to the profession at the time the report was prepared. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of additional information on the assessment described in this report. This report was developed specifically for the referenced site and should not be construed to apply to any other site.

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ACRONYMS

bls	Below Land Surface
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
COCs	Contaminants of Concern
COJ	City of Jacksonville
CompQAP	Comprehensive Quality Assurance Plan
CTO	Contract Task Order
DPT	Direct-Push Technology
ENCO	Environmental Conservation Laboratories, Inc.
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FDOT	Florida Department of Transportation
FL-PRO	Florida Petroleum Range Organics
ft	Feet or Foot
GAG	Gasoline Analytical Group
GCTLs	Groundwater Cleanup Target Levels
KAG	Kerosene Analytical Group
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
MTBE	Methyl-Tert-Butyl Ether
NAS	Naval Air Station
NAVFAC EFD SOUTH	Southern Division, Naval Facilities Engineering Command
Navy	United States Navy
NFA	No Further Action
OVA	Organic Vapor Analyzer
PAH	Polynuclear Aromatic Hydrocarbons
ppm	Parts per Million
PVC	Polyvinyl Chloride
RAC	Remedial Action Contractor
ROW	Right-of-Way
SA	Site Assessment
SAR	Site Assessment Report
SARA	Site Assessment Report Addendum

ACRONYMS (Continued)

SCTLs	Soil Cleanup Target Levels
TPH	Total Petroleum Hydrocarbons
TRPH	Total Recoverable Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed a supplemental Site Assessment (SA) at various sites associated with the Jet Fuel Pipeline from Naval Air Station (NAS) Cecil Field to NAS Jacksonville in Jacksonville, Florida. The supplemental site assessment activities were conducted in response to comments issued by the Florida Department of Environmental Protection (FDEP), after reviewing the Site Assessment Report (SAR). The FDEP comment letter requested that additional assessment be conducted at sites CF-AN05, CF-AN16, CF-TH03, and CF-VA02. In addition, the FDEP letter requested clarification of data reported in the SAR for Site AN14.

Sites CF-AN05 and CF-AN16:

The FDEP comment letter indicated that additional assessment was required at pipeline anomalies CF-AN05 and CF-AN16 To accomplish this, the following tasks were performed:

- Obtained a Florida Department of Transportation (FDOT) right-of-way (ROW) permit to conduct the work in the roadway at the anomalies.
- Advanced four soil borings at AN05 and five soil borings at AN16 using stainless hand augers and a direct-push testing (DPT) rig; and screened the soils above the water table with an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID).
- Based on the OVA-FID results, one soil sample was collected from each soil boring for on-site mobile laboratory analysis. Each soil sample was collected from the interval (above the water table) that displayed the highest net OVA-FID reading. A groundwater sample was also collected at each soil boring location for on-site mobile laboratory analysis.
- Based on the OVA-FID results, one soil sample was collected from each site for fixed-base laboratory analysis at an off-site laboratory for constituents of the Gasoline Analytical Group (GAG)/Kerosene Analytical Group (KAG).
- One temporary micro well was installed at each site using a DPT rig and a groundwater sample was collected for fixed-base laboratory analysis for constituents of the GAG/KAG.

Excessively contaminated soil, as defined by Rule 62-770.200(12), of the Florida Administrative Code (FAC), was not identified during field screening procedures. The fixed-base laboratory analytical results indicated that two COCs were detected at each anomaly. The concentrations were below their respective Soil Cleanup Target Levels (SCTLs).

The fixed-base laboratory analytical results for the groundwater samples collected from each site indicated that several COCs were detected at concentrations below the respective Groundwater Cleanup Target Levels (GCTLs). Free product was not encountered in any of the soil borings installed during the supplemental assessment.

Based on the results of the supplemental assessment and the data presented in the original SAR, No Further Action (NFA) is recommended for sites CF-AN05 and CF-AN16.

Site CF-AN14:

The FDEP comment letter requested clarification of the sampling dates and analytical results for the groundwater samples collected at pipeline anomaly CF-AN14. Review of the SAR revealed some discrepancies in the information reported in the SAR. Clarification of these discrepancies is provided in Section 3.2.2.2 of this SARA. As previously reported in the SAR, the concentrations of COCs in the soil and groundwater samples collected at CF-AN14 were below their respective SCTLs and GCTLs. Based on these results, NFA is recommended for Site CF-AN14.

Site CF-TH03:

The FDEP comment letter concurred that excavation (as part of planned road widening activities being conducted by the City of Jacksonville) was an acceptable means of remediating contaminated soil at Site CF-TH03. However, since the extent of contaminated soil did not appear to be completely delineated, the FDEP indicated that confirmatory soil sampling will be required after the soil is excavated to demonstrate that contaminated soil does not remain after the roadwork is complete. In effort to better define the extent of contaminated soil prior to excavation, TtNUS mobilized to the site to perform additional soil assessment. The following tasks were completed as part of the additional assessment:

- Obtained a new FDOT ROW permit to conduct the work in the roadway.
- Advanced nine soil borings using DPT and screened the soils above the water table with an OVA-FID.
- Based on the OVA-FID data, one soil sample was collected from each soil boring for analysis using an on-site mobile laboratory. Each soil sample was collected from the interval (above the water table) that displayed the highest net OVA-FID reading.

- Based on the OVA-FID results, soil samples were collected from eight of the nine soil borings for off-site laboratory analysis for constituents of the GAG/ KAG

The results from the supplemental assessment indicate that the extent of contaminated soil in the area impacted by the planned road widening project has been delineated. However, petroleum impacted soil was discovered on the west side of the site and to the northeast of the site that does not appear to be associated with the pipeline. These areas are located just outside the limits of the planned road widening project and are within the FDOT ROW. Therefore, it is recommended that these areas be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW.

Site CF-VA02:

The FDEP comment letter requested that monitoring well CEF-VA02-MW1 at site CF-VA02 be re-sampled. The well was resampled and the results indicate that naphthalene was the only COC detected. The laboratory analytical report indicates that the concentration of naphthalene was below the GCTL. As a result, NFA is recommended for Site CF-VA02.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Tetra Tech NUS, Inc. (TtNUS) has completed a supplemental Site Assessment (SA) at various sites associated with the Jet Fuel Pipeline that runs from Naval Air Station (NAS) Cecil Field to NAS Jacksonville in Jacksonville, Florida. The supplemental site assessment activities were conducted in response to comments issued by the Florida Department of Environmental Protection (FDEP) after reviewing the Site Assessment Report (SAR) submitted in April 2002 (TtNUS, 2002). The FDEP comment letter, issued on September 30, 2002, requested that additional assessment be conducted at sites CF-AN05, CF-AN16, CF-TH03, and CF-VA02. In addition, the FDEP letter requested clarification of data reported in the SAR for Site AN14. A copy of the FDEP comment letter is provided in Appendix A.

2.0 INVESTIGATIVE METHODOLOGY

2.1 QUALITY ASSURANCE

The field procedures described in this SARA were performed in general accordance with the FDEP Standard Operating Procedures described in the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038, Revision 1. Soil and groundwater samples collected during TtNUS' additional investigation for analyses by a fixed-base laboratory were shipped on ice and under chain-of-custody to either Accutest Laboratories, Inc. in Orlando, Florida or Environmental Conservation Laboratories, Inc. (ENCO) in Jacksonville, Florida. The samples were analyzed for constituents of the GAG/KAG specified in Chapter 62-770, FAC.

2.2 SOIL ASSESSMENT

Supplemental soil investigations were conducted at sites CF-AN05, CF-AN16, and CF-TH03. Prior to initiation of field activities, TtNUS applied for and obtained an FDOT ROW Special Use Permit (Number 03K2940064). The permit specified the proper traffic control patterns to safely conduct the public through each of the work areas. In addition, the permit specified that the work would be conducted between the hours of 8:00 P.M. and 5:00 A.M. Prior to beginning work each night, a traffic control maintenance subcontractor set up the appropriate traffic control devices as specified in the permit. Once the altered flow of traffic was established, the field activities began. Prior to any ground penetrations, utility clearances were conducted and any possible utility line interference(s) resolved.

Soil boring advancement equipment was decontaminated prior to and following each installation as specified in TtNUS' CompQAP. Rinse water generated during the decontamination of equipment was containerized in a 55-gallon drum and removed for later disposal. In addition to liquid investigative derived waste, soil cuttings were also generated. Those cuttings were placed in a 55-gallon drum and removed for later disposal.

2.2.1 DPT Soil Borings and Soil Organic Vapor Analysis

In accordance with Chapter 62-770, FAC, soil samples were inspected for petroleum staining, and headspace analysis was performed using a PhotoVac Micro-FID Organic Vapor Analyzer. The headspace analysis was performed in accordance with the procedures specified in Rule 62-770.200(12). The soil boring logs for each site and each location are provided Appendix B. The DPT Sample Log Sheets with the unfiltered, filtered, and total (or net) OVA-FID results are provided in Appendix C. The following paragraphs contain site-specific information with regard to this activity.

2.2.1.1 CF-AN05

On October 7 and 8, 2003, four soil borings were installed at CF-AN05. The borings were installed approximately 10 to 20 feet (ft) from the anomaly. When conducting utility clearances for CF-AN05, a primary sewer main was identified very close to the anomaly. As a result, a soil boring could not be installed adjacent to the anomaly. During the soil-boring operations, TtNUS ascertained that the depth to water at the site was approximately 4.5 to 5.5 ft below land surface (bls). Based on the depth-to-water, soil samples were collected from each boring at 1.5 ft and 2.5 ft bls. Due to the shallow depth of these intervals, the samples were collected using a stainless steel hand auger. The boring location numbers were labeled as follows: CF-AN05-SB05, CF-AN05-SB06, CF-AN05-SB07, and CF-AN05-SB08.

2.2.1.2 CF-AN16

On the October 9 and 10, 2003, five soil borings were installed at CF-AN16. Four of the soil borings were installed approximately 10 to 15 ft from the anomaly. The fifth soil boring was installed adjacent to the anomaly. During the soil boring operations, TtNUS ascertained that the depth to water at the site was approximately 7.5 to 8 ft bls. Based on the depth to water, soil samples were collected from each boring at 2 ft intervals starting at 1 ft bls and extending to 1 ft above the water table. The first two intervals were collected using a stainless steel hand auger and the remaining intervals were collected using DPT stainless steel tooling with 4-ft long acetate sleeves. The boring location numbers were labeled as follows: CF-AN16-SB05, CF-AN16-SB06, CF-AN16-SB07, CF-AN16-SB08, and CF-AN16-SB09.

2.2.1.3 CF-TH03

On October 8 and 9, 2003, nine soil borings were installed at CF-TH03. The soil borings were installed in areas that required additional soil delineation as indicated in the original SAR. One location from the previous investigation (CF-TH03-SB-26) was re-sampled. Seven new soil borings were installed on the east side of the site. One new soil boring was installed on the west side of the site. During the soil boring operations, TtNUS ascertained that the depth to water on the east side of the site was approximately 4.5 to 5.5 ft bls, and the depth to water on the west side of the site was approximately 3 ft bls. Based on the depth to water, the soil samples that were collected from borings installed on the east side of the site were collected at 1 to 2 ft bls, 2 to 3 ft bls and 4 to 4.5 ft bls. The soil samples that were collected from borings installed on the west side of the site were collected from 1 to 2 ft bls. The samples were collected using a stainless steel hand auger. The boring location numbers were labeled as follows: CF-TH03-SB26, CF-TH03-SB28, CF-TH03-SB29, CF-TH03-SB30, CF-TH03-SB31, CF-TH03-SB32, CF-TH03-SB33, CF-TH03-SB34, and CF-TH03-SB35.

2.2.2 Mobile and Fixed-Base Laboratory Analysis of Soil

Soil samples were collected from selected soil boring locations for on-site screening in a mobile laboratory, and/or fixed-base laboratory analysis at an off-site laboratory. The samples were collected using a stainless steel hand auger (for samples collected from depths less than 4 ft bls), or a stainless steel Macro Core® Soil Sampler (for samples collected from depths greater than 4 feet bls.) with 4-ft long acetate sleeves. The soil samples were collected from the interval above the water table that produced the highest OVA response. If there was no OVA-FID response from any sample at a given location, the sample was collected from approximately 1 ft above the water table.

The samples that were submitted to the mobile laboratory were analyzed for methyl-tert-butyl ether (MTBE); benzene, toluene, ethylbenzene, and total xylenes (BTEX); naphthalene; 1-methylnaphthalene; and 2-methylnaphthalene. The mobile laboratory samples were analyzed by KB Laboratories of Gainesville, Florida using United States Environmental Protection Agency (USEPA) Method SW846 5030/8260. The fixed-base laboratory samples were analyzed for constituents of the GAG/KAG as defined by Rule 62-770.600(4)(a), FAC. DPT Sample Log Sheets are provided in Appendix C..

2.2.2.1 CF-AN05

Soil samples were collected from four soil borings at CF-AN05 for mobile laboratory analysis. Since there were no OVA-FID responses at any soil boring location, the mobile laboratory samples were all collected from approximately 1 ft above the water table (2.5 to 3.5 ft bls). Since there were no OVA-FID responses or mobile laboratory detections at any soil boring location, only one confirmatory soil sample was collected at Site CF-AN05 for confirmatory off-site laboratory analysis. The confirmatory sample was collected form soil boring CF-AN05-SB05 at a depth of 2.5 to 3 ft bls.

2.2.2.2 CF-AN16

Soil samples were collected from five soil borings at CF-AN16 for mobile laboratory analysis. Since there were no OVA-FID responses at any soil boring location, the mobile laboratory samples were all collected from approximately 1 ft above the water table (5 to 6 ft bls). Since there were no OVA-FID responses or mobile laboratory detections at any soil boring location, only one confirmatory soil sample was collected at Site CF-AN16 for confirmatory off-site laboratory analysis. The confirmatory sample was collected form the source area soil boring, CF-AN16-SB05 at a depth of 5 to 6 ft bls.

2.2.2.3 CF-TH03

Soil samples were collected from eight soil borings at CF-TH3 for mobile laboratory analysis. Elevated OVA-FID responses were observed at all eight locations. Therefore, the mobile laboratory samples were collected from the interval above the water table that exhibited the highest net OVA-FID response. Confirmatory soil samples were collected from eight soil borings for off-site laboratory analysis. The confirmatory soil samples were also collected from the interval above the water table that exhibited the highest net OVA-FID response. A utility line was encountered near the surface while installing soil boring CF-TH3-SB29. Therefore, the boring was discontinued and no laboratory samples were collected from this location.

2.3 GROUNDWATER ASSESSMENT

Supplemental groundwater investigations were conducted at sites CF-AN05 and CF-AN16. The groundwater investigations were performed using a DPT rig to collect groundwater samples for on-site screening in a mobile laboratory, and/or fixed-base laboratory analysis at an off-site laboratory.

2.3.1 Mobile Laboratory Analyses of Groundwater

Groundwater samples were collected from each soil boring installed at sites CF-AN05 and CF-AN16 for mobile laboratory analysis. The samples were collected using a Geoprobe™ type stainless steel screen-point sampling tool, peristaltic pump, and polyethylene tubing. Prior to collecting the samples, the screen point sampler was purged until the discharge was clear. The samples were submitted to an on-site mobile laboratory for analysis for MTBE, BTEX, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. The mobile laboratory samples were analyzed using EPA Method SW846 5030/8260.

2.3.1.1 CF-AN05

Groundwater samples were collected from four soil borings at site CF-AN05 for mobile laboratory analysis. The groundwater samples, CF-AN05-TMW05, CF-AN05-TMW06, CF-AN05-TMW07, and CF-AN05-TMW08, were collected from soil borings SB-05, SB-06, SB-07 and SB-08 respectively.

2.3.1.2 CF-AN16

Groundwater samples were collected from five soil borings at site CF-AN16 for mobile laboratory analysis. The groundwater samples, CF-AN16-TMW05, CF-AN16-TMW06, CF-AN16-TMW07, CF-AN16-

TMW08, and CF-TMW09, were collected from soil borings SB-05, SB-06, SB-07, SB-08, and SB-09 respectively.

2.3.2 Fixed-Base Laboratory Analysis of Groundwater

Groundwater samples were collected from select soil boring locations at CF-AN05 and CF-AN16 for off-site fixed-base laboratory analysis. The FDOT special use ROW permit specified that permanent monitoring wells could not be installed within the roadway. Therefore, temporary micro wells were installed for collection of fixed-base laboratory samples. The samples were shipped under chain of custody protocol to Accutest Laboratories for analysis for constituents of the GAG/KAG as defined by Rule 62-770.600(4)(a), FAC.

2.3.2.1 CF-AN05

Based on the mobile laboratory analytical results, one temporary micro well was installed and sampled at Site CF-AN05. The temporary micro well (designated CF-AN05-TMW07), was installed at soil boring location SB07. A groundwater sample was collected from CF-AN05-TMW07 on October 8, 2003. A sample log sheet is provided in Appendix C

2.3.2.2 CF-AN16

Based on the mobile laboratory analytical results, one temporary micro well was installed and sampled at Site CF-AN16. The temporary micro well (designated CF-AN16-TMW05), was installed at soil boring location SB05. A groundwater sample was collected from CF-AN05-TMW05 on October 10, 2003. A sample log sheet is provided in Appendix C.

2.3.2.3 CF-VA02

Pursuant to the FDEP SAR review letter, a groundwater sample was collected from monitoring well CEF-VA02-1S. The sample was collected on November 21, 2003 and submitted to Environmental Conservation Laboratories (ENCO) of Jacksonville, FL. The sample was analyzed for volatile organic compounds (VOCs) in accordance with USEPA Method SW846 8260B and polynuclear aromatic hydrocarbons (PAHs) in accordance with USEPA Method SW846 8270C. The sample was delivered to ENCO by courier.

3.0 RESULTS OF INVESTIGATION

3.1 SOIL ASSESSMENT

3.1.1 Soil Organic Vapor Analysis Results

3.1.1.1 CF-AN05

Since no evidence of visible petroleum staining was encountered, the OVA-FID headspace analysis was used to assess if any petroleum impacted soil was present on site. No positive OVA-FID responses were observed on any of the soil samples screened during this supplemental soil investigation. OVA-FID headspace measurements for site CF-AN05 are summarized in Table 3-1.

3.1.1.2 CF-AN16

Since no evidence of visible petroleum staining was encountered, the OVA-FID headspace analysis was used to assess if any petroleum impacted soil was present on site. No positive OVA-FID responses were observed on any of the soil samples screened during this supplemental soil investigation. OVA-FID headspace measurements for site CF-AN16 are summarized in Table 3-2.

3.1.1.3 CF-TH03

Some gray to black shiny staining was observed in one soil boring (SB-26) installed at CF-TH03. No soil staining was observed in any of the other borings installed during this supplemental soil investigation. The OVA-FID headspace analysis was used to assess the extent of petroleum impacted soil at the site. "Excessively contaminated soil", (OVA-FID response > 50 ppm as defined by Rule 62-770.200(12), FAC), was identified in each boring except SB-29. OVA-FID headspace measurements for site CF-TH03 are summarized in Table 3-3. The net OVA-FID headspace results for each soil boring location at CF-TH03 are depicted on Figure 3-1.

3.1.2 Mobile Laboratory Analytical Results for Soil

3.1.2.1 CF-AN05

Mobile laboratory analytical results were below method detection limits for all soil samples collected at site CF-AN05. The mobile laboratory analytical results for site CF-AN05 are summarized in Table 3-4. The laboratory analytical report is provided in Appendix E.

Table 3-1
Soil Vapor Screening Results for CF-AN05

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Soil Boring Number	Date of Measurement	Sample Interval (ft bls)	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-05	10/7/2003	1.5 - 2	0.0	NA	0.0
		2.5 - 3	0.0	NA	0.0
SB-06	10/7/2003	1.5 - 2	0.0	NA	0.0
		3 - 3.5	0.0	NA	0.0
SB-07	10/7/2003	1.5 - 2	0.0	NA	0.0
		2.5 - 3	0.0	NA	0.0
SB-08	10/8/2003	1.5 - 2	0.0	NA	0.0
		3 - 3.5	0.0	NA	0.0

Notes:
NA = not analyzed

Table 3-2
Soil Vapor Screening Results for CF-AN16

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Soil Boring Number	Date of Measurement	Sample Interval (ft bls)	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-05	10/9/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-06	10/9/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-07	10/10/2003	2 - 2.5	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0
SB-08	10/10/2003	1 - 2	0.0	NA	0.0
		3 - 4	0.0	NA	0.0
		5 - 6	0.0	NA	0.0
		7 - 8	0.0	NA	0.0
		9 - 10	0.0	NA	0.0

Notes:
NA = not analyzed

Table 3-3
Soil Vapor Screening Results for CF-TH03

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Soil Boring Number	Date of Measurement	Sample Interval	OVA-FID Concentration (ppm)		
			Unfiltered	Filtered	Petroleum Vapors
SB-26	10/8/2003	1 - 2	107.0	25.0	85.0
		2 - 3	249.0	25.0	224.0
		4 - 4.5	497.0	39.2	457.8
SB-28	10/9/2003	1 - 2	618.0	284.5	333.5
		2 - 3	502.0	439.9	62.1
		4 - 4.5	166.4	77.0	89.4
SB-29	10/8/2003	1 - 2	42.0	12.0	30.0
SB-30	10/8/2003	1 - 2	257.0	126.0	131.0
		2 - 3	127.0	123.0	4.0
		4 - 4.5	720.0	91.2	628.8
SB-31	10/9/2003	1 - 2	81.0	34.0	47.0
		2 - 3	97.0	102.0	0.0
		4 - 4.5	211.0	44.0	167.0
SB-32	10/8/2003	1 - 2	4.0	0.0	4.0
		2 - 3	1152.0	136.9	1015.1
		4 - 4.5	92.6	37.8	54.8
SB-33	10/9/2003	1 - 2	49.5	22.7	26.8
		2 - 3	828.0	163.2	664.8
		4 - 4.5	22.5	10.3	12.2
SB-34	10/9/2003	1 - 2	5.1	2.0	3.1
		2 - 3	1094.0	848.0	246.0
		4.5 - 5	150.0	73.0	77.0
SB-35	10/9/2003	1 - 2	1330.0	76.0	1254.0
		2 - 3	1882.0	582.0	1300.0

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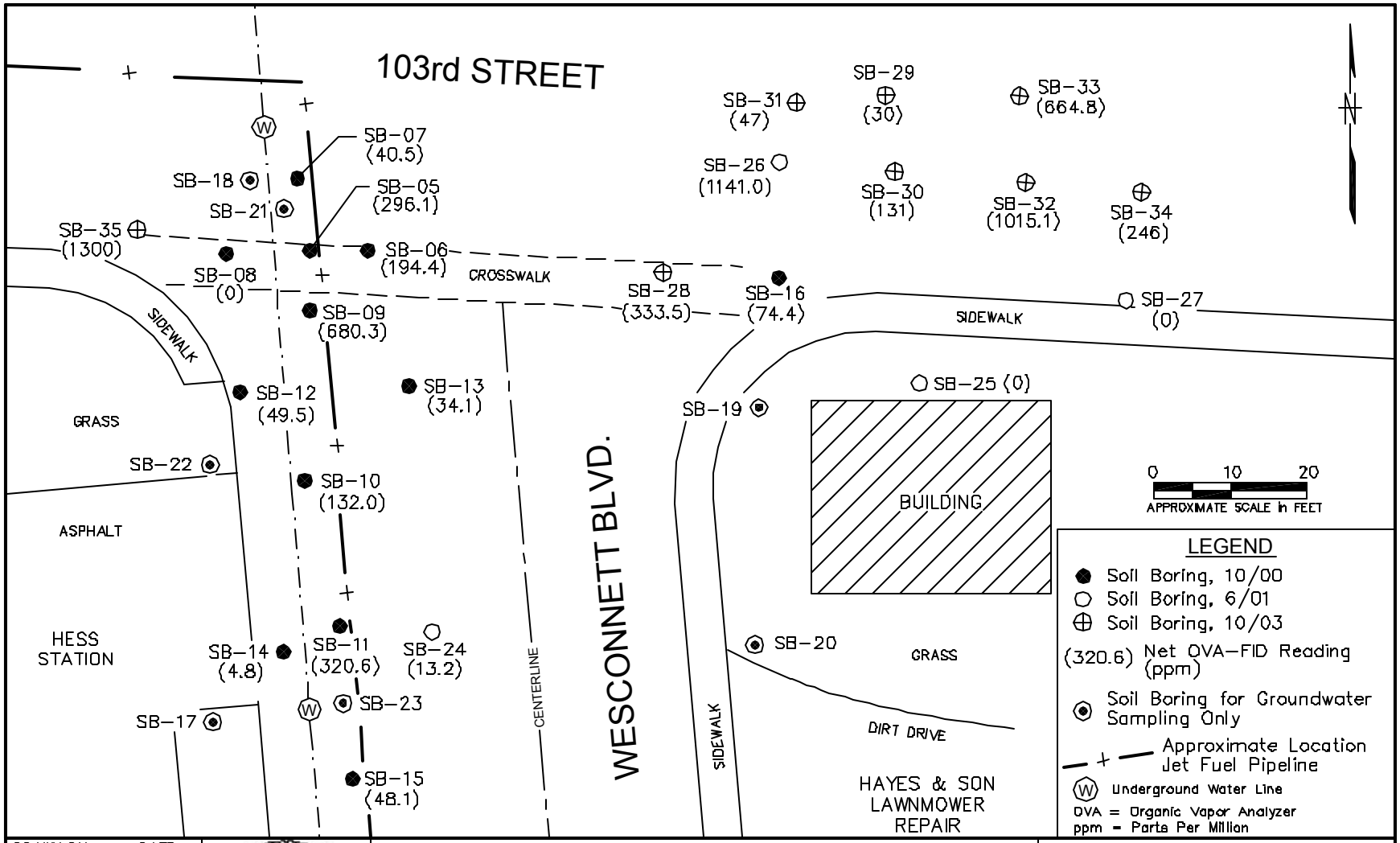

DRAWN BY LLK	DATE 1/9/04	SITE PLAN, SAMPLE LOCATIONS, AND SOIL VAPOR SCREENING RESULTS CF-TH03 (103rd STREET @ WESCONNETT BLVD.) NASJAX to NASCF JET FUEL PIPELINE JACKSONVILLE, FLORIDA	CONTRACT NO. 0013
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3.1 REV. 0

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Table 3-4
Mobile Laboratory Results for CF-AN05

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Sample ID CF-AN05-	**SB05**	**TMW05**	**SB06**	**TMW06**	**SB07**	**TMW07**	**SB08**	**TMW08**
Date of Collection	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003
Depth of Sample	2.5-3 ft bls	5-9 ft bls	3-3.5 ft bls	6-10 ft bls	2.5-3 ft bls	6-10 ft bls	3-3.5 ft bls	6-10 ft bls
Collection Method*	HA	DPT	HA	DPT	HA	DPT	HA	DPT
VOCs (SW846 Method 5030/8260)								
Benzene	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0
Ethylbenzene	<0.010	<1.0	<0.010	<1.0	<0.010	1.1	<0.010	1.1
Toluene	<0.010	3.5	<0.010	2.8	<0.010	2.8	<0.010	3.4
m&p-Xylene	<0.010	2.9	<0.010	2.0	<0.010	3.4	<0.010	3.7
o-Xylene	<0.010	1.0	<0.010	<1.0	<0.010	1.1	<0.010	1.2
MTBE	<0.050	8.4	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
PAHs (SW846 Method 5030/8260)								
Naphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
1-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
2-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0

Notes:
*Collection method indicates soil sample collected with stainless steel hand auger and groundwater sample collected with stainless steel well screen.
Reporting units for waters are micrograms per liter (µg/L) and for soils are milligrams per kilograms (mg/kg).
HA = hand auger
< = less than

3.1.2.2 CF-AN16

Mobile laboratory analytical results were below method detection limits for all soil samples collected at site CF-AN16. The mobile laboratory analytical results for site CF-AN16 are summarized in Table 3-5. The laboratory analytical report is provided in Appendix E.

3.1.2.3 CF-TH03

Mobile laboratory analytical results were below method detection limits in soil samples collected from soil borings SB-26, SB-28, SB-32, SB-33, and SB-34. Xylenes were detected in the soil samples collected from soil borings SB-31 and SB-35, however, the concentrations in both samples were below the SCTL. 1-methylnaphthalene was detected in the soil sample collected from soil boring SB-30. However, the concentration was below the SCTL. The mobile laboratory analytical results for site CF-TH03 are summarized in Table 3-6. The laboratory report is provided in Appendix E.

3.1.3 Fixed-Base Laboratory Analytical Results for Soil

3.1.3.1 CF-AN05

The fixed-base laboratory analytical results for the confirmatory soil sample collected at site CF-AN05 indicate that naphthalene was detected at a concentration that was below the SCTL. The concentrations of all other COCs were below standard laboratory detection limits. The fixed-base laboratory analytical results for soil at site CF-AN05 are summarized in Table 3-7 and depicted on Figure 3-2. The laboratory analytical report is provided in Appendix F.

3.1.3.2 CF-AN16

The fixed-base laboratory analytical results for the confirmatory soil sample collected at site CF-AN16 indicate that the concentrations of all COCs were below standard laboratory detection limits. The fixed-base laboratory analytical results for soil at site CF-AN16 are summarized in Table 3-8 and depicted on Figure 3-3. The laboratory analytical report is provided in Appendix G.

Table 3-5
Mobile Laboratory Results for CF-AN16

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Sample ID CF-AN16-	**SB05**	**TMW05**	**SB06**	**TMW06**	**SB07**	**TMW07**	**SB08**	**TMW08**	**SB09**	**TMW09**
Date of Collection	10/9/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003
Depth of sample	5-6 ft bls	8-12 ft bls	5-6 ft bls	8-12 ft bls	5-6 ft bls	8-12 ft bls	5-6 ft bls	8-12 ft bls	5-6 ft bls	8-12 ft bls
Collection method*	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
VOCs (SW846 Method 5030/8260)										
Benzene	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0	<0.070	<1.0
Ethylbenzene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
Toluene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
m&p-Xylene	<0.010	<1.0	<0.010	1.0	<0.010	1.0	<0.010	<1.0	<0.010	<1.0
o-Xylene	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0	<0.010	<1.0
MTBE	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
PAHs (SW846 Method 5030/8260)										
Naphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
1-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0
2-Methylnaphthalene	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0	<0.050	<5.0

Notes:
*Collection method indicates soil sample collected with stainless steel sampler with acetate sleeve and groundwater sample collected with stainless steel well screen.
Reporting units for waters are µg/L and for soils are mg/kg.

Table 3-6
Mobile Laboratory Results for CF-TH03

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Sample ID CF-TH03-	**SB26**	**SB28**	**SB30**	**SB31**	**SB32**	**SB33**	**SB34**	**SB35**
Date of Collection	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
Depth of sample	2-3 ft bls	1-2 ft bls	2-2.5 ft bls	1-2 ft bls	2-3 ft bls	2-3 ft bls	2-3 ft bls	1-2 ft bls
Collection method*	HA	HA	HA	HA	HA	HA	HA	HA
VOCs (SW846 Method 5030/8260)								
Benzene	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
Ethylbenzene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.024
Toluene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
m&p-Xylene	<0.010	<0.010	<0.010	0.014	<0.010	<0.010	<0.010	0.10
o-Xylene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.027
MTBE	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
PAHs (SW846 Method 5030/8260)								
Naphthalene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene	<0.050	<0.050	0.060	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes:
*Collection method indicates soil sample collected with stainless steel hand auger.
Reporting units for soils are mg/kg.

Table 3-7
Fixed-Base Laboratory Soil Analytical Results for CF-AN05

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL[1]	SB-05 @ 3 ft
		10/8/2003
VOCs (USEPA Method 8260B) (µg/kg)		
MTBE	200	<7.8
Benzene	7	<7.8
Toluene	500	<7.8
Ethylbenzene	600	<7.8
Total Xylenes	200	<23
PAHs (USEPA Method 8310) (µg/kg)		
Naphthalene	1700	106 J
1-Methylnaphthalene	2200	<370
2-Methylnaphthalene	6100	<370
Acenaphthylene	27000	<740
Acenaphthene	2100	<740
Phenanthrene	250000	<370
Anthracene	2500000	<370
Fluorene	160000	<370
Fluoranthene	1200000	<370
Pyrene	880000	<370
Benzo(a)anthracene	1400	<370
Chrysene	77000	<370
Benzo(b)fluoranthene	1400	<74
Benzo(k)fluoranthene	15000	<74
Benzo(a)pyrene	100	<74
Dibenzo(a,h)anthracene	100	<74
Benzo(g,h,i)perylene	2300000	<74
Indeno(1,2,3-cd)pyrene	1500	<74
TRPHs (FDEP Method FL-PRO) (mg/kg)		
TPH	340	11.8

Notes:
[1]Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits.
< = concentration less than value indicated
J = estimated value
µg/kg = micrograms per kilogram
TRPH = total recoverable petroleum hydrocarbons
TPH = total petroleum hydrocarbons
FL-PRO = Florida Petroleum Range Organics

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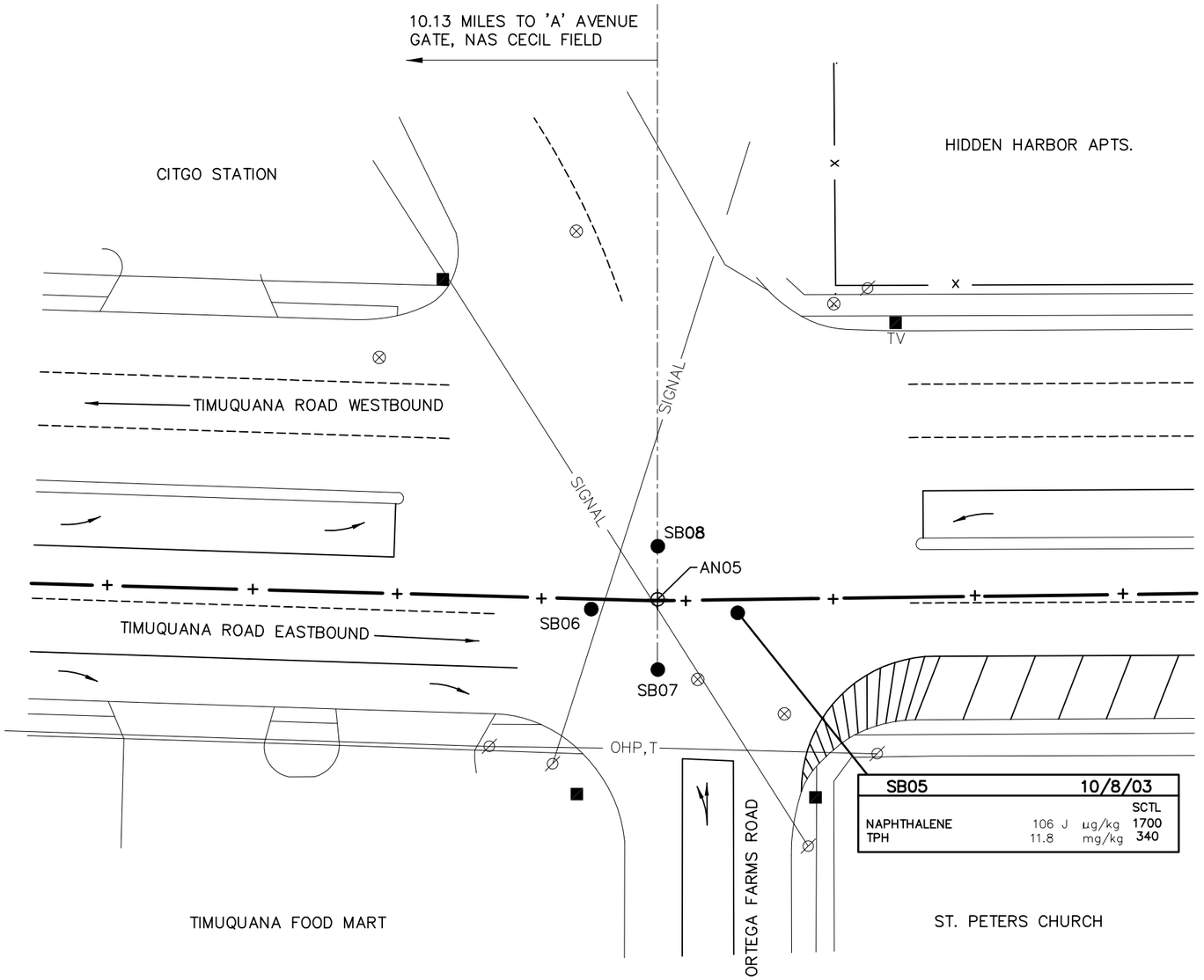

SB05			10/8/03
			SCTL
NAPHTHALENE	106 J	µg/kg	1700
TPH	11.8	mg/kg	340

NOTE:

1. SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

⊗	MANHOLE COVERS
OHV,T,TV	OVERHEAD TRANSMISSION LINE
●	SOIL SAMPLE LOCATION
⊕	ANOMALY OR VALVE LOCATION
—+—	JET FUEL PIPELINE
GCTL	SOIL CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF DATE 01/06/04
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL ANALYTICAL RESULTS
CF-AN05
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV. 0

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

Table 3-8
Fixed-Base Laboratory Soil Analytical Results for CF-AN16

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL[1]	SB-5 @ 6 ft
		10/9/2003
VOCs (USEPA Method 8260B) (µg/kg)		
MTBE	200	<7.4
Benzene	7	<7.4
Toluene	500	<7.4
Ethylbenzene	600	<7.4
Total Xylenes	200	<22
PAHs (USEPA Method 8310) (µg/kg)		
Naphthalene	1700	<360
1-Methylnaphthalene	2200	<360
2-Methylnaphthalene	6100	<360
Acenaphthylene	27000	<720
Acenaphthene	2100	<720
Phenanthrene	250000	<360
Anthracene	2500000	<360
Fluorene	160000	<360
Fluoranthene	1200000	<360
Pyrene	880000	<360
Benzo(a)anthracene	1400	<360
Chrysene	77000	<360
Benzo(b)fluoranthene	1400	<72
Benzo(k)fluoranthene	15000	<72
Benzo(a)pyrene	100	<72
Dibenzo(a,h)anthracene	100	<72
Benzo(g,h,i)perylene	2300000	<72
Indeno(1,2,3-cd)pyrene	1500	<72
TRPH (FDEP Method FL-PRO) (mg/kg)		
TPH	340	79.8

Notes:
[1]Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits.
< = concentration less than value indicated

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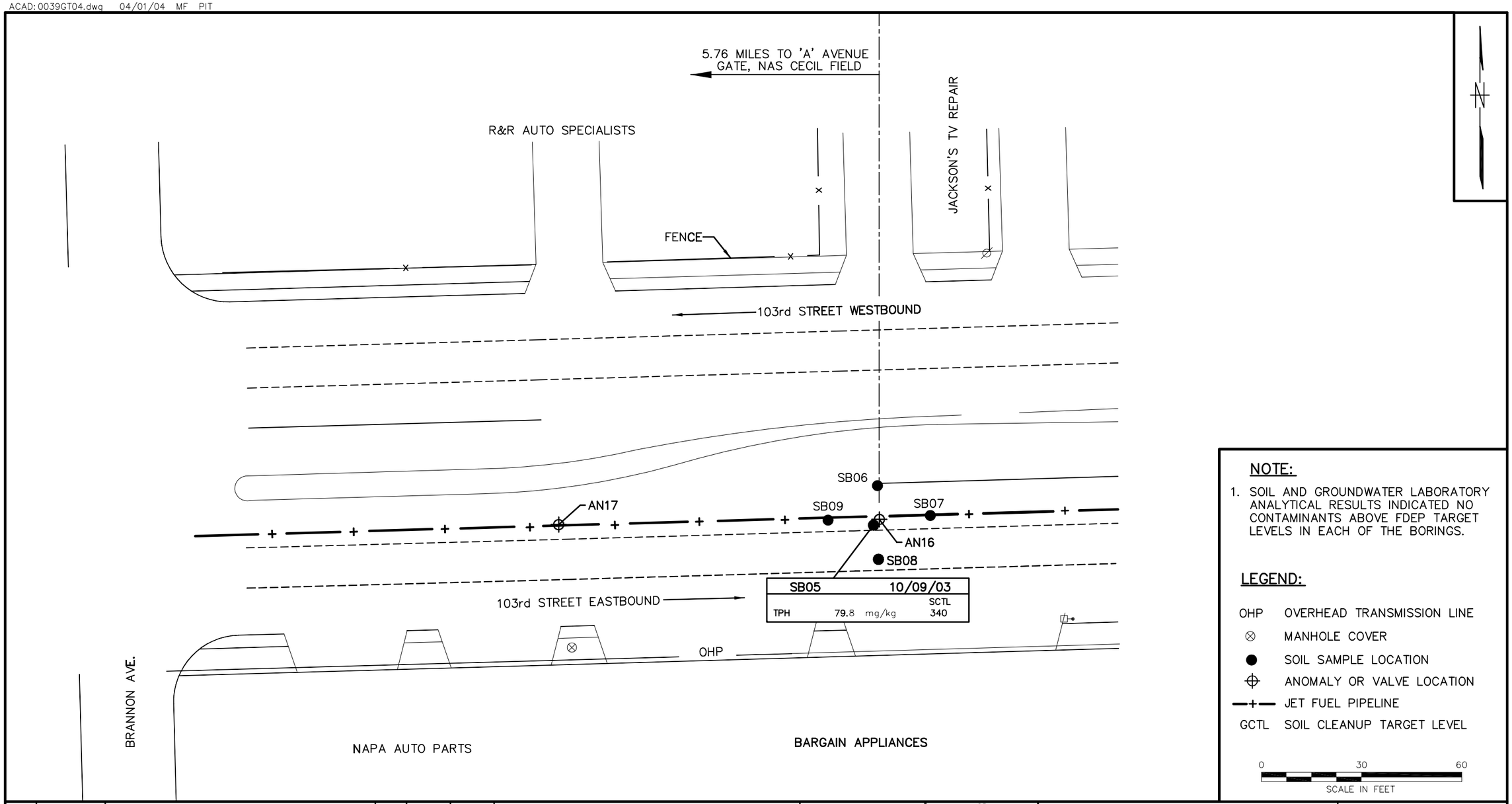

NOTE:

1. SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

OHP	OVERHEAD TRANSMISSION LINE
⊗	MANHOLE COVER
●	SOIL SAMPLE LOCATION
⊕	ANOMALY OR VALVE LOCATION
—+—	JET FUEL PIPELINE
GCTL	SOIL CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF DATE 01/06/04
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COST/SCHED-AREA
SCALE AS NOTED

SOIL ANALYTICAL RESULTS
CF-AN16
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-3
REV. 0

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

3.1.3.3 CF-TH03

The fixed-base laboratory analytical results for the confirmatory soil samples collected at site CF-TH03 indicate that VOCs were detected in the soil samples collected from soil borings SB-34 and SB-35. PAHS were detected in the soil samples collected from soil borings SB-28, SB-30 and SB-35. TRPH was detected in soil samples collected from soil borings SB-26, SB-28, SB-30, SB-31, SB-32, SB-33, B-34, and SB-35. The concentration of total xylenes exceeded the SCTL in the soil sample collected from soil boring SB-35. The concentration of benzo(a)pyrene exceeded the SCTL in the soil sample collected from soil boring SB-28. The concentration of TRPH exceeded the SCTL in the soil samples collected from soil borings SB-31, SB-33 and SB-35. The fixed-base laboratory analytical results for soil at site CF-TH03 are summarized in Table 3-9 and depicted on Figure 3-4. The laboratory analytical report is provided in Appendix H.

3.2 GROUNDWATER QUALITY

3.2.1 Mobile Laboratory Analytical Results for Groundwater

3.2.1.1 CF-AN05

VOAs were detected in mobile laboratory samples CF-AN05-TMW05, CF-AN05-TMW06, CF-AN05-TMW07, and CF-AN05-TMW08, however, the concentrations were below the GCTLs in all four samples. The concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were below method detection limits in all mobile laboratory samples collected at CF-AN05. The mobile laboratory analytical results for site CF-AN05 are summarized in Table 3-4. The laboratory report is provided in Appendix E.

3.2.1.2 CF-AN16

Xylenes were detected in mobile laboratory samples CF-AN16-TMW06 and CF-AN16-TMW07, however, the concentration was below the GCTL in both samples. The mobile laboratory results for all other groundwater samples collected from CF-AN16 were below method detection limits. The mobile laboratory analytical results for site CF-AN16 are summarized in Table 3-5. The laboratory report is provided in Appendix E.

Table 3-9
Fixed-Base Laboratory Soil Analytical Results for CF-TH03

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	SCTL[1]	SB-26	SB-28	SB-30	SB-31	SB-32	SB-33	SB-34	SB-35
		3 ft	2 ft	2.5 ft	2 ft	3 ft	3 ft	3 ft	2 ft
		10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
VOCs (USEPA Method 8260B) (µg/kg)									
Benzene	7	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	<8.4
Ethylbenzene	600	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	134
Toluene	500	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	3.5
Total Xylenes	200	<21	<23	<22	<25	<22	<22	10.2 J	**538**
MTBE	200	<7.0	<7.8	<7.4	<8.3	<7.5	<7.5	<7.7	<8.4
PAHs (USEPA Method 8310) (µg/kg)									
Acenaphthene	2100	<750	<800	<720	<800	<740	<720	<830	<730
Acenaphthylene	27000	<750	<800	<720	<800	<740	<720	<830	<730
Anthracene	2500000	<380	<400	<360	<400	<370	<360	<420	<360
Benzo(a)anthracene	1400	<380	<400	<360	<400	<370	<360	<420	<360
Benzo(a)pyrene	100	<75	**139**	87.9	<80	<74	<72	<83	<73
Benzo(b)flouranthene	1400	<75	87.7	73.1	<80	<74	<72	<83	<73
Benzo(g,h,i)perylene	2300000	<75	140	59.7	<80	<74	<72	<83	<73
Benzo(k)fluoranthene	15000	<75	39.2 J	31.1	<80	<74	<72	<83	<73
Chrysene	77000	<380	<400	<360	<400	<370	<360	<420	<360
Dibenzo(a,h)anthracene	100	<75	<80	<72	<80	<74	<72	<83	<73
Fluoranthene	1200000	<380	<400	<360	<400	<370	<360	<420	<360
Fluorene	160000	<380	<400	<360	<400	<370	<360	<420	<360
Indeno(1,2,3-cd)pyrene	1500	<75	120	55.1	<80	<74	<72	<83	<73
Naphthalene	1700	<380	<400	<360	<400	<370	<360	<420	129 J
1-Methylnaphthalene	2200	<380	<400	<360	<400	<370	<360	<420	<360
2-Methylnaphthalene	6100	<380	<400	<360	<400	<370	<360	<420	<360
Phenanthrene	250000	<380	<400	<360	<400	<370	<360	<420	<360
Pyrene	880000	<380	<400	<360	<400	<370	<360	<420	<360
TRPH (FDEP Method FL-PRO) (mg/kg)									
TPH	340	6.65	134	255	**775**	98.4	**341**	25.4	**1470**

Notes:
Notes: [1]Chapter 62-777, FAC (August 1999). Most stringent value of groundwater leachability and direct exposure limits.
BOLD = exceedance of SCTL
J = estimated value
< = concentration less than value indicated

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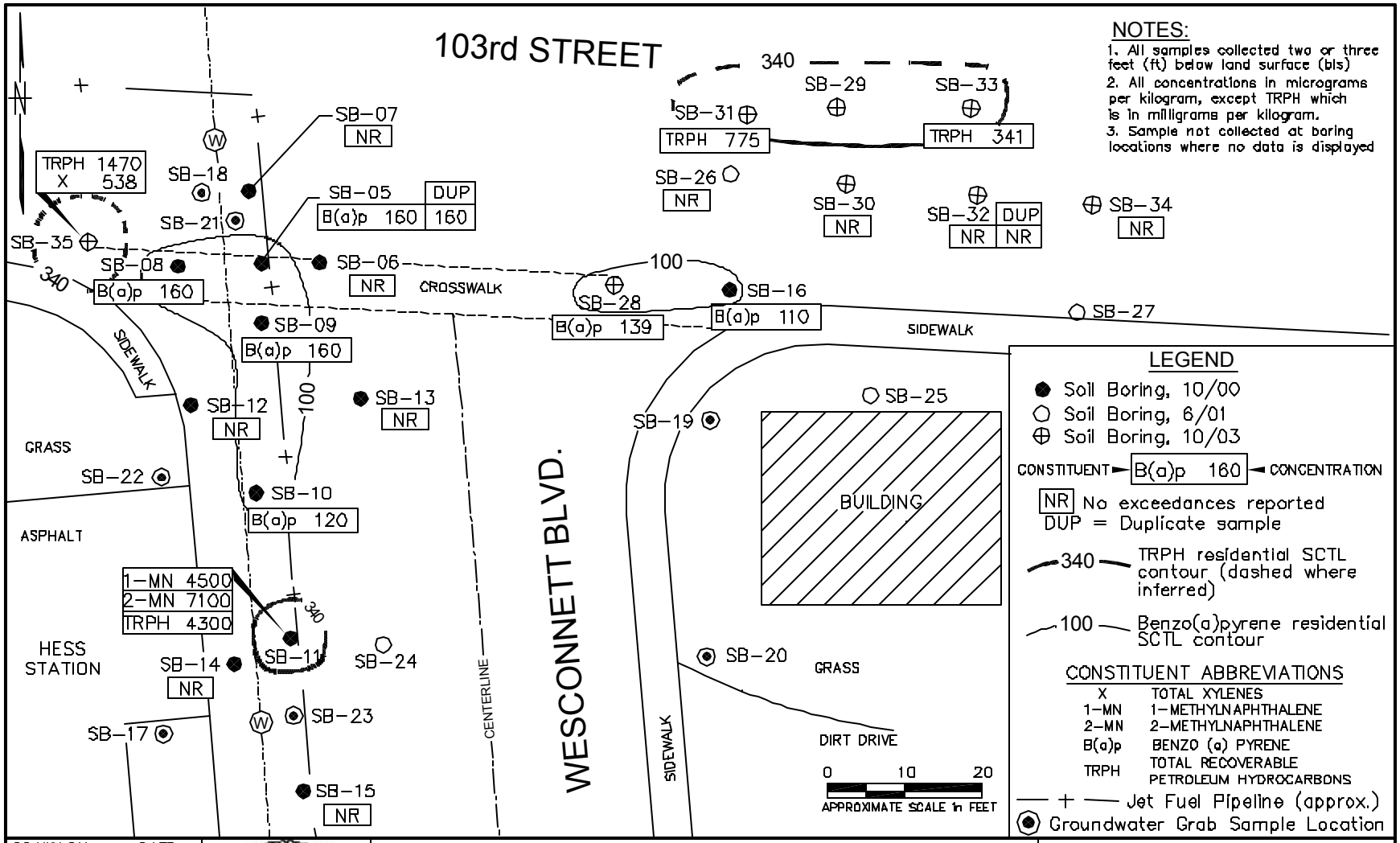

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COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3.4 REV. 0

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3.2.2 Fixed-Base Laboratory Analytical Results for Groundwater

3.2.2.1 CF-AN05

The fixed-base laboratory analytical results for the groundwater sample collected at CF-AN05 indicate that ethylbenzene, toluene, total xylenes, MTBE, and lead were detected at concentrations that were below their respective GCTLs. The concentrations of all other COCs were below method detection limits. The fixed-base laboratory analytical results for groundwater at site CF-AN05 are summarized on Table 3-10 and depicted on Figure 3-5. The laboratory report is provided in Appendix F.

3.2.2.2 CF-AN16

The fixed-base laboratory analytical results for the groundwater sample collected at CF-AN16 indicate that toluene, total xylenes, and lead were detected at concentrations that were below their respective GCTLs. The concentrations of all other COCs were below method detection limits. The fixed-base laboratory analytical results for groundwater at site CF-AN16 are summarized on Table 3-11 and depicted on Figure 3-6. The laboratory report is provided in Appendix G.

3.2.2.3 CF-AN14

As indicated in the FDEP comment letter, there was some discrepancy in the sampling dates and analytical results reported in the original SAR for the groundwater sampling conducted at pipeline anomaly CF-AN14. The SAR reported that monitoring well CF-MW-AN14-1S was sampled on three different dates. This information was incorrect. The well was first sampled on December 15, 1999, and subsequently on February 9, 2000. The laboratory analytical report for the December 1999 event was provided in the SAR, however, the laboratory results for the February 2000 event were omitted. The laboratory report for the February 2000 event is provided in Appendix I of this SARA. The results are summarized on Table 3-12, and depicted on Figure 3-7. The concentrations of all COCs were below their respective GCTLs in the sample collected in February 2000.

3.2.2.4 CF-VA02

As requested in the FDEP SAR comment letter, a groundwater sample was collected from monitoring well CEF-VA02-MW1 at site CF-VA02 to confirm the results of the previous sampling event. The sample was analyzed for constituents of the GAG/KAG as defined by Chapter 62-770, FAC. The laboratory analytical results indicate that naphthalene was detected at a concentration that was below the GCTL. The laboratory analytical results for monitoring well CEF-VA02-MW1 are summarized on Table 3-13. The laboratory report is provided in Appendix J.

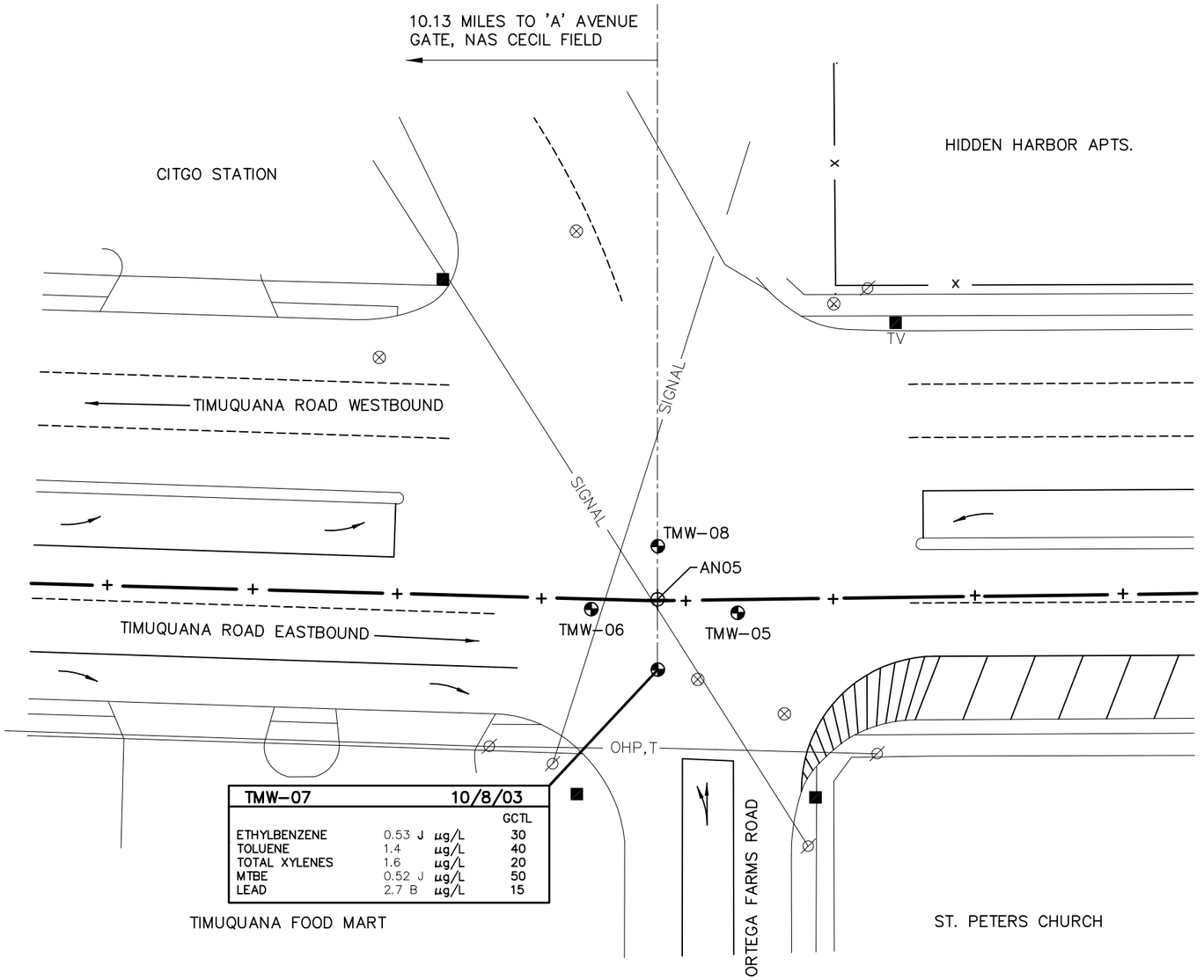
Table 3-10
Fixed-Base Laboratory Groundwater Analytical Results for CF-AN05

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL[1]	TMW-07
		10/8/2003
VOCs (USEPA Method 8260B) (µg/L)		
Benzene	1	< 1.0
Ethylbenzene	30	0.53 J
Toluene	40	1.4
Total Xylenes	20	1.6
MTBE	50	0.52 J
1,2 Dichloroethane	3	< 1.0
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	< 2.2
1-methylnaphthalene	20	< 2.2
2-methylnaphthalene	20	< 2.2
Acenaphthylene	210	< 4.4
Acenaphthene	20	< 4.4
Phenanthrene	210	< 2.2
Anthracene	2100	< 2.2
Fluoranthene	280	< 2.2
Fluorene	280	< 2.2
Pyrene	210	< 2.2
Benzo(a)anthracene	0.2	<0.22
Chrysene	4.8	< 2.2
Benzo(b)fluoranthene	0.2	< 0.22
Benzo(k)fluoranthene	0.5	< 0.22
Benzo(a)pyrene	0.2	< 0.22
Dibenz(a,h)anthracene	0.2	< 0.22
Benzo(g,h,i)perylene	210	< 0.22
Indeno(1,2,3-cd)pyrene	0.2	< 0.22
Ethylene Dibromide (USEPA Method 504.1) (ug/L)	0.02	< 0.019
TRPH (FDEP Method FL-PRO) (mg/kg)	5	< 0.29
Lead (SW846 6010B) (µg/L)	15	2.7 B

Notes:
Notes: [1]Chapter 62-777, FAC (August, 1999)
< = concentration less than value indicated
J = estimated value
B = greater than the instrument detection limit, but less than the reporting limit

ACAD: 0039GT01.dwg 04/01/04 MF PIT



TMW-07		10/8/03	
			GCTL
ETHYLBENZENE	0.53 J	µg/L	30
TOLUENE	1.4	µg/L	40
TOTAL XYLENES	1.6	µg/L	20
MTBE	0.52 J	µg/L	50
LEAD	2.7 B	µg/L	15

NOTE:

1. SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

⊗	MANHOLE COVERS
OHV,T,TV	OVERHEAD TRANSMISSION LINE
◕	TEMPORARY MONITORING WELL
⊕	ANOMALY OR VALVE LOCATION
—+—	JET FUEL PIPELINE
GCTL	GROUNDWATER CLEANUP TARGET LEVEL

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF DATE 01/05/04
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GROUNDWATER ANALYTICAL RESULTS
CF-AN05
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-5
REV. 0

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

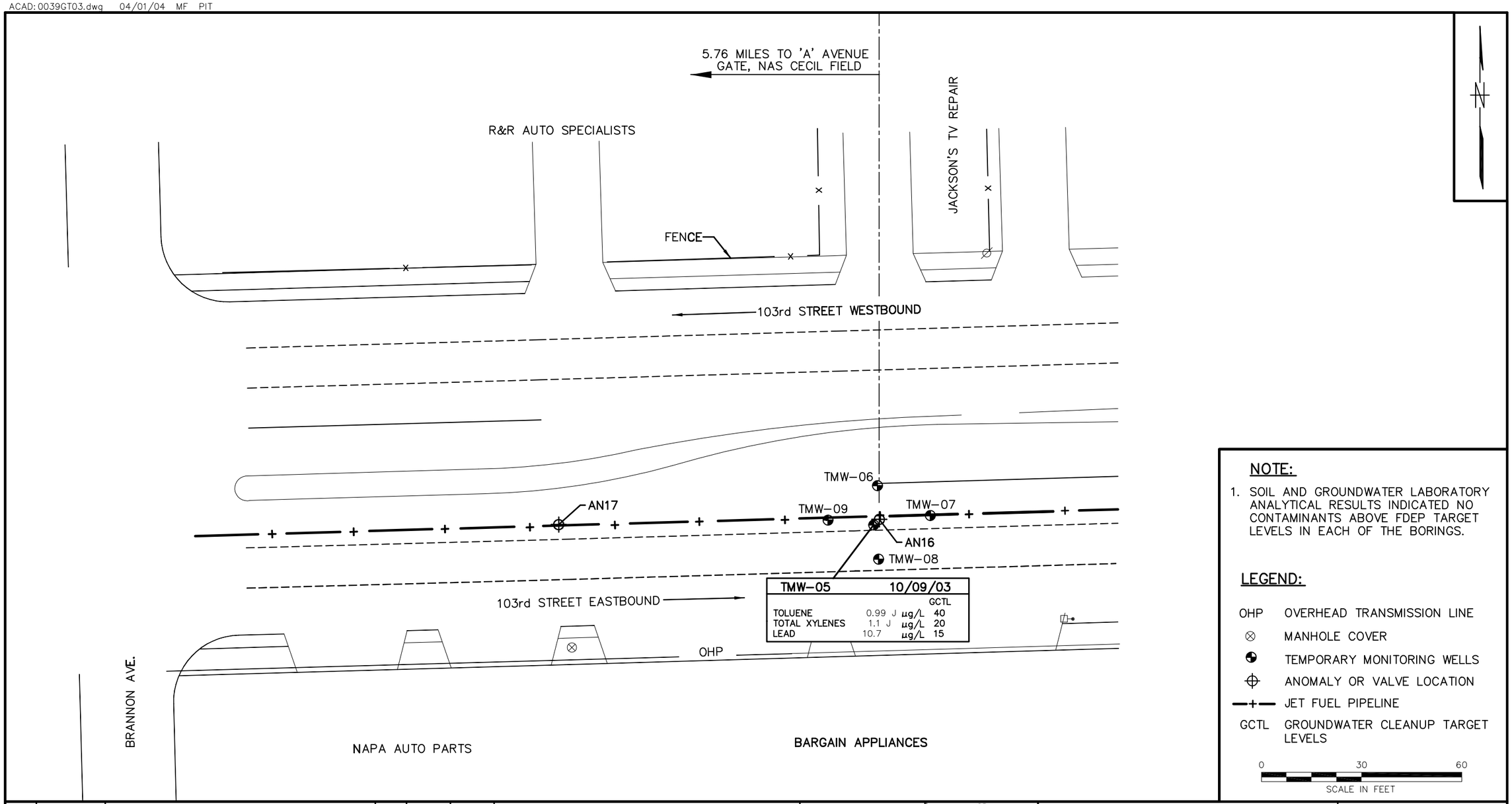
Table 3-11
Groundwater Analytical Results for CF-AN16

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL[1]	TMW-05
		10/9/2003
VOCs (USEPA Method 8260B) (µg/L)		
Benzene	1	< 1
Ethylbenzene	30	< 1
Toluene	40	0.99 J
Total Xylenes	20	1.1 J
MTBE	50	< 1
1,2 Dichloroethane	3	< 1
PAHs (USEPA Method 8310) (µg/L)		
Naphthalene	20	< 2.2
1-methylnaphthalene	20	< 2.2
2-methylnaphthalene	20	< 2.2
Acenaphthylene	210	< 4.3
Acenaphthene	20	< 4.3
Phenanthrene	210	< 2.2
Anthracene	2100	< 2.2
Fluoranthene	280	< 2.2
Fluorene	280	< 2.2
Pyrene	210	< 2.2
Benzo(a)anthracene	0.2	<0.22
Chrysene	4.8	< 2.2
Benzo(b)fluoranthene	0.2	< 0.22
Benzo(k)fluoranthene	0.5	< 0.22
Benzo(a)pyrene	0.2	< 0.22
Dibenz(a,h)anthracene	0.2	< 0.22
Benzo(g,h,i)perylene	210	< 0.22
Indeno(1,2,3-cd)pyrene	0.2	< 0.22
Ethylene Dibromide (USEPA Method 504.1) (ug/L)	0.02	< 0.018
TRPH (FDEP Method FL-PRO) (mg/kg)	5	< 0.25
Lead (SW846 6010B) (µg/L)	15	10.7

Notes:
[1]Chapter 62-777, FAC (August, 1999)
< = concentration less than value indicated
J = estimated value

ACAD: 0039GT03.dwg 04/01/04 MF PIT



NOTE:

1. SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS INDICATED NO CONTAMINANTS ABOVE FDEP TARGET LEVELS IN EACH OF THE BORINGS.

LEGEND:

OHP	OVERHEAD TRANSMISSION LINE
⊗	MANHOLE COVER
◕	TEMPORARY MONITORING WELLS
⊕	ANOMALY OR VALVE LOCATION
—+—	JET FUEL PIPELINE
GCTL	GROUNDWATER CLEANUP TARGET LEVELS

0 30 60
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY MF DATE 01/06/04
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GROUNDWATER ANALYTICAL RESULTS
CF-AN16
NASJAX TO NASCF
JET FUEL PIPELINE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0013
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-6
REV. 0

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

Table 3-12
Fixed-Base Laboratory Groundwater Analytical Results for CF-AN14

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL[1]	MW-01	MW-01
		12/15/1999	2/9/2000
VOCs (µg/L)			
Benzene	1	NA	NA
Ethylbenzene	30	NA	NA
Toluene	40	NA	NA
Total Xylenes	20	NA	NA
MTBE	50	NA	NA
1,2 Dichloroethane	3	NA	NA
PAHs (USEPA Method 8310) (µg/L)			
Naphthalene	20	0.50 U	0.50 U
1-methylnaphthalene	20	1.0 U	1.0 U
2-methylnaphthalene	20	1.0 U	1.0 U
Acenaphthylene	210	1.0 U	1.0 U
Acenaphthene	20	0.50 U	0.50 U
Phenanthrene	210	1.0 U	1.0 U
Anthracene	2100	0.050 U	0.20 U
Fluoranthene	280	0.13 I	0.10 U
Pyrene	210	0.050 U	0.10 U
Benzo(a)anthracene	0.2	0.050 U	0.10 U
Chrysene	4.8	0.050 U	0.10 U
Benzo(b)fluoranthene	0.2	**0.32**	0.10 U
Benzo(k)fluoranthene	0.5	0.050 U	0.10 U
Benzo(a)pyrene	0.2	0.060 I	0.10 U
Dibenz(a,h)anthracene	0.2	0.10 U	0.10 U
Benzo(g,h,i)perylene	210	0.10 U	0.10 U
Indeno(1,2,3-cd)pyrene	0.2	0.050 U	0.10 U

Notes:
[1]Chapter 62-777, FAC (August, 1999)
BOLD = exceeds GCTL
NA = not analyzed
U = no constituents detected
I =

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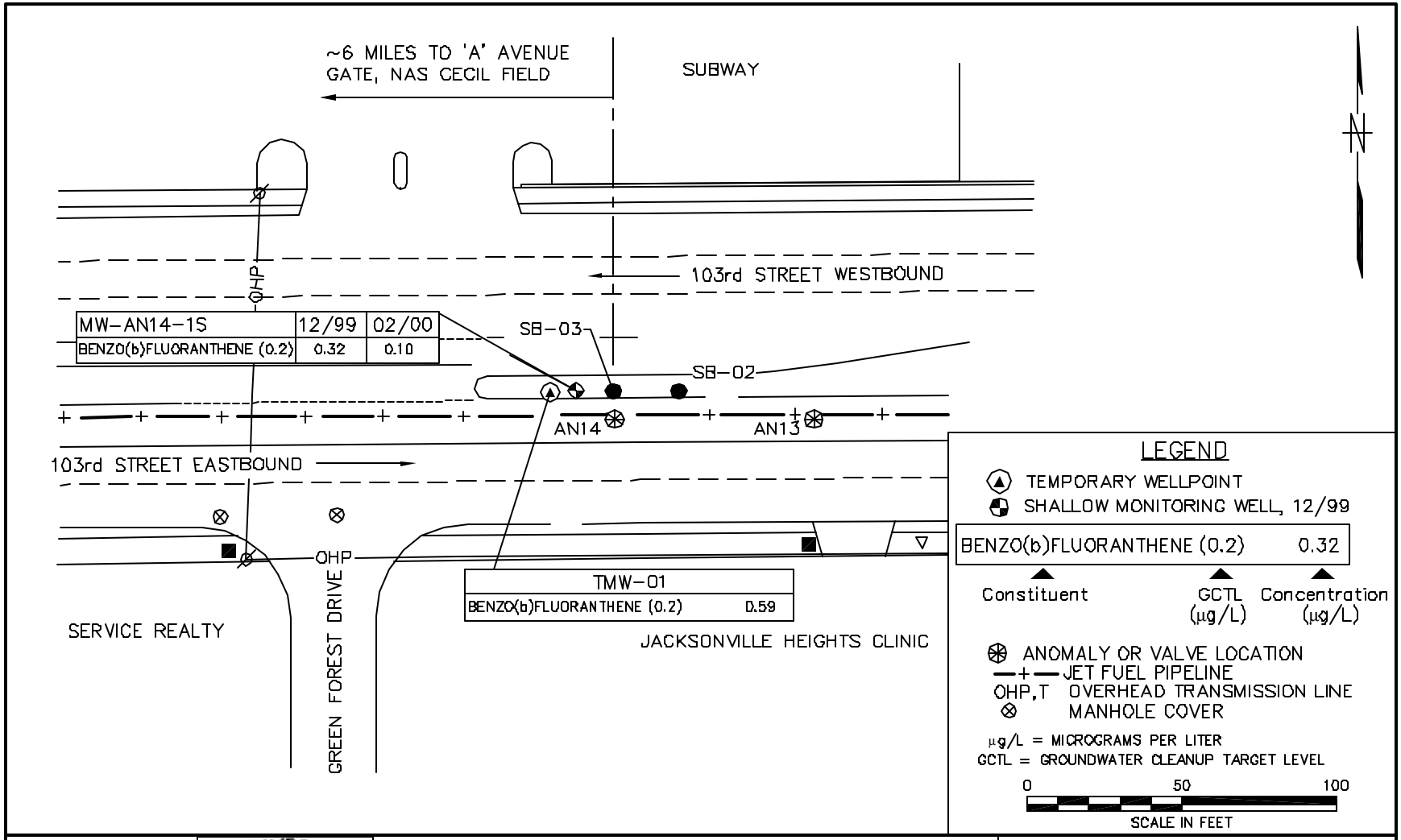


DRAWN BY LLK	DATE 1/2/02	GROUNDWATER ANALYTICAL RESULTS CF-AN14 NASJAX TO NASCF JET FUEL PIPELINE JACKSONVILLE, FLORIDA	CONTRACT NO. 0013
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3-7 REV. 0

Table 3-13
Fixed-Base Laboratory Groundwater Analytical Results for CF-VA02

Site Assessment Report Addendum
NAS Cecil Field to NAS Jacksonville Jet Fuel Pipeline
Naval Air Station Cecil Field
Jacksonville, Florida

Compound	GCTL[1]	MW-1	MW-1	MW-1
		12/13/1999	12/30/1999	11/21/2003
VOCs (USEPA Method 8021B or 8260B) (µg/L)				
Benzene	1	NA	ND	< 1.0
Ethylbenzene	30	NA	ND	< 1.0
Toluene	40	NA	ND	< 1.0
Total Xylenes	20	NA	ND	< 3.0
MTBE	50	NA	ND	< 1.0
1,2-Dichloroethane	3	NA	ND	< 1.0
PAHs (USEPA Method 8270 or 8310) (µg/L)				
Naphthalene	20	ND	ND	0.20
1-methylnaphthalene	20	ND	ND	< 0.10
2-methylnaphthalene	20	ND	ND	< 0.10
Acenaphthylene	210	ND	ND	< 0.10
Acenaphthene	20	ND	ND	< 0.10
Phenanthrene	210	ND	ND	< 0.10
Anthracene	2100	ND	ND	< 0.10
Fluoranthene	280	ND	ND	< 0.10
Fluorene	280	ND	ND	< 0.10
Pyrene	210	ND	ND	< 0.10
Benzo(a)anthracene	0.2	ND	ND	< 0.10
Chrysene	4.8	ND	ND	< 0.10
Benzo(b)fluoranthene	0.2	ND	ND	< 0.10
Benzo(k)fluoranthene	0.5	ND	ND	< 0.10
Benzo(a)pyrene	0.2	ND	ND	< 0.10
Dibenzo(a,h)anthracene	0.2	ND	ND	< 0.10
Benzo(g,h,i)perylene	210	ND	ND	< 0.10
Indeno(1,2,3-cd)pyrene	0.2	ND	ND	< 0.10

Notes:
[1]Chapter 62-777, FAC (August 1999)
BOLD = exceeds GCTLs
NA = not analyzed
ND = no constituents detected
< = concentration less than value indicated

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CF-AN05

The results of the supplemental soil and groundwater investigation conducted at site CF-AN05 indicate the following:

- Free product was not detected at the site.
- Excessively contaminated soil was not detected at the site.
- Concentrations of all COCs in soil were below SCTLs
- Concentrations of all COCs in groundwater were below GCTLs.

Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN05.

4.2 CF-AN16

The results of the supplemental soil and groundwater assessment conducted at site CF-AN16 indicate the following:

- Free product was not detected at the site.
- Excessively contaminated soil was not detected at the site.
- Concentrations of all COCs in soil were below SCTLs
- Concentrations of all COCs in groundwater were below GCTLs.

Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN16.

4.3 CF-AN14

Clarification of the sampling dates and analytical results for monitoring well CF-AN14-MW1 indicates that the concentrations of all COCs were below their respective GCTLs in the groundwater sample collected in February 2000. Based on these results and the information provided in the original SAR, NFA is recommended for site CF-AN14.

4.4 CF-TH03

The supplemental soil investigation was conducted at CF-TH03 to further delineate the extent of contaminated soil. Specifically, to delineate a benzo(a)pyrene exceedance reported in SB-08 located in the northwest portion of the site, a benzo(a)pyrene exceedance in SB-16 located in the northeast portion of the site, and an OVA exceedance in SB-26 located in the northeast portion of the site.

To delineate the benzo(a)pyrene exceedance reported in SB-08, soil boring SB-35 was installed to the west of SB-08. The laboratory analytical results indicate that the concentration of benzo(a)pyrene was below the method detection limit in SB-35. However, TRPH and xylenes were detected in SB-35 at concentrations that exceeded their respective SCTLs. Although TRPH and xylene exceedances were detected in SB-35, these COCs were not detected in any of the other borings located in this portion of the site. This suggests that the contamination detected in this boring may not be associated with the pipeline. In addition, SB-35 is located just outside the limits of the planned road widening project being conducted by the City of Jacksonville, and is within the FDOT ROW. Therefore, it is recommended that this area be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW and that No Further Action is required by the Navy for this location.

To delineate the benzo(a)pyrene exceedance reported in SB-16, soil boring SB-26 was installed to the north of SB-16 and SB-28 was installed to the west of SB-16. The laboratory analytical results indicate that the concentration of benzo(a)pyrene was below the method detection limit in SB-26. The concentration of benzo(a)pyrene reported in SB-28 exceeded the SCTL, however, no borings could be installed further to the west due to the presence of underground utilities. Based on the results of the supplemental soil investigation, the extent of the benzo(a)pyrene exceedance reported in SB-16 has been delineated to the north by the soil sample collected from SB-26. The data form SB-28 indicates that the extent of the plume is not delineated to the west of SB-16, however, this area will be excavated during the road widening activities.

To delineate the OVA exceedance reported in SB-26, soil borings SB-29 through SB-34 were installed to the north and east of SB-26. The laboratory analytical results indicate that the concentration of TRPH exceeded the SCTL in SB-31 and SB-33 located to the northeast of SB-26. However, these soil borings are located a significant distance from the pipeline. This suggests that the contamination detected in this area may not be associated with the pipeline. In addition, this area is located outside the limits of the planned road widening project and is within the FDOT ROW. Therefore, it is recommended that this area be included in the memorandum of agreement to be negotiated with the FDOT for other sites located within the FDOT ROW, and that No Further Action is required by the Navy for this location.

4.5 CF-VA02

The laboratory analytical results from the groundwater sample collected from monitoring well CEF-VA02-MW1 indicate that the concentrations of all COCs were below their respective GCTLs. Based on these results and the information provided in the original SAR, No Further Action is recommended for site CF-VA02.

REFERENCES

TtNUS, 2002. "Site Assessment Report for Jet Fuel Pipeline". NASCF, Jacksonville, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. May.

APPENDIX A

FDEP REVIEW LETTER OF PIPELINE SAR DATED SEPTEMBER 30, 2002

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

September 30, 2002

Mr. Wayne Hansel
Code ES245 (UST RPM)
Southern Division
Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, South Carolina 29419-9010

RE: Site Assessment Report, Jet Fuel Pipeline, Naval Air Station Cecil Field, Jacksonville, Florida

Dear Mr. Hansel:

I have completed the review of the Site Assessment Report, Jet Fuel Pipeline, Naval Air Station Cecil Field, dated April 2002 (received May 3, 2002, errata page received June 12, 2002), prepared and submitted by Tetra Tech NUS, Inc. The report documents site assessment activities at 19 pipeline anomalies, 11 valve box locations and a location at the intersection of 103rd Street and Westconnett Boulevard. Originally, the work conducted in investigating these potential petroleum discharges along the Jet Fuel Pipeline between NAS Cecil Field and NAS Jacksonville amounted to little more than petroleum closure assessments as specified in Chapter 62-761, Florida Administrative Code (F.A.C.). If contamination was detected, further site assessment was conducted to document the horizontal and vertical extent of contamination as required by Chapter 62-770, F.A.C.

Petroleum contamination was not detected in soil or groundwater at concentrations exceeding soil or groundwater cleanup target levels at pipeline anomalies AN03, AN04, AN06, AN07, AN10, AN12, AN13, AN15, AN17, AN18, AN19, AN20 and AN21 and valves VA07, VA10, VA12, VA 13 and VA15. Therefore, No Further Action is warranted and the Navy is not required to conduct further site assessment in accordance with Chapter 62-770, F.A.C.

Petroleum contamination was detected in soil at concentrations exceeding the Department's residential soil cleanup target levels at isolated sampling locations at pipeline anomalies AN08 and AN11. Based upon a statistical analysis of the data collected, the calculated risk, based upon exposure to

the areas around AN08 and AN11, is within the Department's acceptable risk for unrestricted useage. Therefore, No Further Action is warranted and the Navy is not required to conduct further site assessment in accordance with Chapter 62-770, F.A.C.

Petroleum contamination was detected in groundwater at valve VA11. The petroleum contamination detected is consistent with that found migrating from the Lil' Champ Food Store #80 (FDEP ID#8507097) at 7211 103rd Street, Jacksonville. Site assessments conducted on the petroleum release from that location indicate that a BTEX and MTBE plume has migrated to the location of valve VA11. That these volatile contaminants are mainly associated with gasoline and not JP-5 further indicates that the contamination detected was not from a release of JP-5 from the Navy pipeline. Therefore, No Further Action is warranted and the Navy is not required to conduct further assessment activities at this location.

The report proposes soil excavation at valves VA06 and VA09 and at TH03, an area of soil contamination at the intersection of 103rd Street and Westconnett Boulevard. Based upon the information provided in the report, the areal extent of contaminated soil appears to have been delineated at valves VA06 and VA09 and the proposed soil excavations appear adequate to remediate the sites to levels protective for unrestricted useage. The extent of contaminated soil at TH03 does not appear to have been completely delineated. In conversations with the Navy concerning this site, it is understood that the contaminated soil will be excavated by the City of Jacksonville's contractors during the proposed widening of Westconnett and that the Navy will be responsible for transporting and disposing of the contaminated soil. The Department agrees that this is an acceptable means of remediating contaminated soil at this site, but the Department will require confirmatory sampling in order to document that contaminated soil does not remain after the roadwork has been completed.

Petroleum contaminated soil exceeding the Department's SCTLs was detected at pipeline anomaly AN09 and valves VA08 and VA14. The report proposes that risks from exposure to contaminated soil be managed by implementing institutional controls restricting these areas from residential development. The rationale for pursuing institutional controls at AN09, VA08 and VA14 is that excavating soils from the sites would cause road closures and possibly create road stability issues. As the Department of Transportation is the owner of the property at AN09, VA08 and

VA14, they would need to be the implementer of any institutional controls. The Department is currently working on a Memorandum of Understanding with the Department of Transportation which may address the implementation of institutional controls at DOT owned properties. The Navy will be contacted when the Memorandum of Understanding has been executed.

For pipeline anomalies AN05, AN14 and AN16 and valve VA02, I cannot concur that no further action is warranted at this time due to questions concerning the assessment conducted. I have the following comments that need to be addressed:

(1) The soil and groundwater samples at AN05 were collected at distances from 50 feet to approximately 100 feet from the actual location where the anomaly was detected in the pipeline. It doesn't appear these locations are close enough to the pipeline to determine if a release of petroleum product has occurred in the past. Also, I could not find a rationale for collecting a soil sample from SB-04 for laboratory analysis as this location was not where the highest OVA reading was detected.

(2) For AN14, in section 3.12.5 it states that an exceedance of the groundwater cleanup target levels (GCTLs) was detected in permanent monitoring well CF-AN14-1S from a sample collected December 15, 1999. Table 3.12.3 indicates that the sample was collected October 15, 2000. Also, in the section it states that the monitoring well was resampled on February 9, 2000 and that no exceedance of GCTLs was detected. However, this information was not provided in Table 3.12.3 or elsewhere in the report.

(3) The soil and groundwater samples at AN16 were collected at distances from 30 to 35 feet from the actual location where the anomaly was detected in the pipeline. It doesn't appear these locations are close enough to the pipeline to determine if a release of petroleum product has occurred in the past.

(4) At valve VA02, OVA measurements and direct-push groundwater sampling indicate a potential release of petroleum product from the pipeline. While this was not confirmed by a groundwater sample collected from permanent well CF-VA02-MW-1, I believe another sample should be collected from this well in order to confirm that groundwater has not been impacted.

If I can be of any further assistance with this matter, please contact me at (850) 245-8997.

Sincerely,

David P. Grabka, P.G.
Remedial Project Manager

cc: Scott Glass, Southern Division
Debbie Vaughn-Wright, USEPA Region 4
Paul Calligan, Tetra Tech NUS, Tampa
Mark Malewicki, CH2M Hill Constructors, Inc.
Mike Fitzsimmons, FDEP Northeast District

TJB JJC for ESN

APPENDIX B

SOIL BORING LOGS

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: DPT SP-095

BORING ID: CF- ANO5 - SB05
DATE: 10/7/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION Color	MATERIAL DESCRIPTION Material Classification	USCS *	Remarks
	0-6"			black	Asphalt		
	6"-1'			white	limerock		
	1'-7'			Lt. tan	Silty fine sand	SM	dry No odor
					EOB w Auger @		7' ▽ @ 5.5'
							Note: Moist @ 4.5'

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SP-095

BORING ID: CF- AN05- SB06
DATE: 10/7/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION Color	MATERIAL DESCRIPTION Material Classification	USCS *	Remarks
	0-6"			black	Asphalt		
	6"-1'			white	limerock		
	1'-2'			Lt. brn	silty fine sand	SM	
	2'-2.5'			Lt. org brn	clayey fine sand	SC	dry
	2.5-3'			Lt. tan	silty fine sand	SM	dry
	3-4'			Lt. tan	"	SM	moist @ 4.5' 4'
	4'-7'			white	slightly silty fine sd.	SP	wet @ 4.5'
	7-8'			yel. org.	clayey sand	SC	wet

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes _____ No X Well I.D. #: _____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SP-095

BORING ID: CF- AN05-5307
DATE: 10/7/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION Color	MATERIAL DESCRIPTION Material Classification	USCS *	Remarks
	0-6"			black	asphalt		
	6"-1.5'			white/tan	limerock		
	1.5'-3			Lt. tan	silty fine sand	SM	dry No odor
	3-6.5'			Lt. brown	silty fine sand	SM	moist @ 4.5'
							▼ @ 5.5'

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SP-095

BORING ID: CF- ANOS-SB08
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-2"			black	asphalt	—	
	2"-1'				limerock		
	1'-6'			Lt. brn	silty fine sd.	SM	No odor
							moist @ 4.5' b/s.
							wet @ 5.5' b/s.
					EOBR 6' b/s.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

Tetra Tech NUS, Inc.

PROJECT NAME: NASCF-NASJAX Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING NO.: CF-AN16-SB05
DATE: 10/9/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter or T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4"						Black	Asphalt						
4"-6.75'						tan	limerock						
6.75-8'						lt.brn	silty fine sd.	SM	dry moist				
8-10'						brn	silty fine sd.	SM	▽ 8' b/s.				
							* push GW rod/screen to 12' b/s.						
							* EOB @ 10' b/s.						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

Tetra Tech NUS, Inc.

PROJECT NAME: NASCF-NASJAX Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING NO.: CF-AN16-SB06
DATE: 10/9/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter or T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4"						black	Asphalt						
4"-1.25'						tan	limerock						
1.25'-5'						white	fine silty sd.	SM	dry				
5-5.5'							same						
5.5-10'						dk. brn	silty fine sand	SM	wet @ 8'				
							*EOB @ 10' b/s						
						*	push Grd screen	to	8-12' b/s.				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

Tetra Tech NUS, Inc.

PROJECT NAME: NASCF-NASJAX Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING NO.: CF-AN16-SB07
DATE: 10/09/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter or T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0-4"					blk	Asphalt						
	4"-1.5'					tan	limerock						
	1.5-2'					lt. brn	silty fine sand	SM	dry				
	2'-4.5' MD					brn	silty fine sand	SM	dry				
	5-10'					dk. brn	silty fine sand	SM	wet @ 8' b/s				
							* EOB @ 10' b/s						
							* push Grd tool to 12' b/s for sample of Grd.						

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

Tetra Tech NUS, Inc.

PROJECT NAME: NASCF-NASJAX Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING NO.: CF-AN16-SB08
DATE: 10/10/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter or T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0-4"						blk	Asphalt		—				
4"-2'						lt.brn	limerock		—				
2'-4.5'						white	silty fine sand	SM	dry				
4.5-5.5'						brn	silty fine sand	SM	dry				
5.5'-10'						dk.brn	silty fine sand	SM	▽ @ 7.5' b/s.				
							* EOB @ 10' b/s						
							* push GW tool to 12' b/s for sample.						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

Tetra Tech NUS, Inc.

PROJECT NAME: NASCF-NASJAX Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING NO.: CF-AN16-SB09
DATE: 10/10/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter or T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0-4"					blk	Asphalt						
	4"-1.75'					tan	limerock						
	1.75-2.5'					white	silty fine sand	SM	dry				
	2.5'-4.5'					brn	silty fine sand	SM	dry				
	5-10'					dk brn	silty fine sand	SM	▽ 8' bls				
							* EOB @ 10' bls						
							* pushed 6ft screen to 8-12' bls.						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SP-095 / Hand Auger

BORING ID: CF- 7H3-SB26
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-4"			black	Asphalt		
	4"-6"			Lt. tan	limerock		
	6"-3'			brown	silty sand	SM	w/ rocks, pet. odor
	3'-3.5'			gray	silty sand	SM	pet. odor
	3.5-4.5'			dk. gray	sandy clay	CL	slightly rolls, pet. odor
	4.5-5'			lt. gray	silty sand	SM	no visit @ 3.5 dark sheen (gray to black on soil). wet at 4.5' bls
					EOB @ 5' bls.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS hand auger

BORING ID: CF- TH3-SB28
DATE: 10/9/03
GEOLOGIST: Mervin Dale
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-3"			black	Asphalt	—	
	3"-1.75'			lt. tan	limerock	—	
	1.75'-3'			gray	silty fine sand	SM	damp
	3'-3.5'			white	silty fine sand	SM	damp
	3.5'-5'			gray	sandy clay	CL	pliable, moist
							wet @ 5' b/s.
					EOBG 5' b/s.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes _____ No X Well I.D. #: _____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: Hand Auger

BORING ID: CF- TH3 - SB29
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: MD ~~T.T. LUTES~~ M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-3"			black	Asphalt		
	3"-1.5'			Lt. tan	limerock		
	1.5'-2'			brown	silty fine sand SM		dry, some limerock.
	2'				Hit PVC - Stop!		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: Hand Auger

BORING ID: CF- THG-SB30
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: T.J. LUTES

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-4"			black	Asphalt		
	4"-2'			white	limerock		
	2'-3'			brown	silty fine sand	SM	with limerock pebbles
	3'-3.75'			brown	silty fine sand	SM	w/pieces of clay oyster shell, moist
	3.75'-5'			dk. brn/gray	sandy clay w/thin sand lenses at 4.5-4.75'	CL	rollable moist no odor. wet @ 5' bls.
					EOB @ 5' bls.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: 55 Hand Auger

BORING ID: CF- 7113-SB31
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: T. J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-4"			black	Asphalt		
	4"-1.5'			lt. brn	limerock		
	1.5-3'			dk. brown	silty sand	SM	pet. odor moist at 3' & no
	3'-4.25'			"	"	SM	
	4.25-5.25'			gray	sandy clay	CL	moist, rollable
	5.25'-5.5'			org/brn	silty fine sand	SM	wet @ 5.5' b/s.
					EOB @ ~~4.5~~ 5.5' b/s.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING ID: CF- TH3-SB52
DATE: 10/8/03
GEOLOGIST: Mervin Dale
DRILLER: T.J. Lutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
0-3"				black	asphalt		
3"-1.25'				lt. tan	limerock		
1.25'-2.5'				dk. brn	sand, silty	SM	
2.5'-4'				dk. brn	sand, silty	SM	moist
4'-4.75'				gray	sandy clay	CL	stained w/ org brown sand
4.75-5'				org. brown	sandy clay	CL	moist
							wet @ 5' b/s.
					EOB @ 5' b/s.		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING ID: CF- TH3 - SB33
DATE: ~~10/8/03~~ 10/9/03 MD
GEOLOGIST: Mervin Dale
DRILLER: T. J. Cutes

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
	0-3"			black	asphalt		
	3"-1.3'			lt. tan	limerock		
	1.3'-2.5'			brown	silty fine sand	SM	dry
	2.5'-3.5'			yel. brn	silty fine sand	SM	damp
	3.5'-5.25'			gray	sandy clay	CL	rollable, damp
							Some org. brn staining
					EOB @ 5.25'		moist @ 5.25'
							Note: Need to proceed.
							tough to Hand auger
							thru this clay

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand Auger

BORING ID: CF- TH3 - SB34
DATE: 10/9/03
GEOLOGIST: Mervin Dale
DRILLER: M. Carpenter

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION Color	MATERIAL DESCRIPTION Material Classification	USCS *	Remarks
0-3"				black	asphalt		
3"-1.3'				lt. tan	limerock		
1.3'-3.5'				dk. brn	silty fine sand	SM	
3.5'-5'				gray	~~silty fine sand~~	CL	org. stained (moist @ 4.5')
					sandy clay	MD	
							moist @ 5' bls.
					Eos @ 5'		
							Note: getting late - move on.

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Boring Log

PROJECT NAME: NASCF-NASJAX Fuel Pipeline
PROJECT NUMBER: N0013
DRILLING COMPANY: Prosonic
DRILLING RIG: SS Hand auger

BORING ID: CF- TH3-SB35
DATE: 10/9/03
GEOLOGIST: Mervin Dale
DRILLER: T.J. LUTES

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks
0-3"				black	Asphalt		
3"-1.5'				lt. tan	limerock		
1.5'-3'				dk gray	silty fine sand	SM	moist @ 2.5' wet @ 3' b/s.
					EOB @ 3' b/s		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

APPENDIX C

DPT SAMPLE LOG SHEETS

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

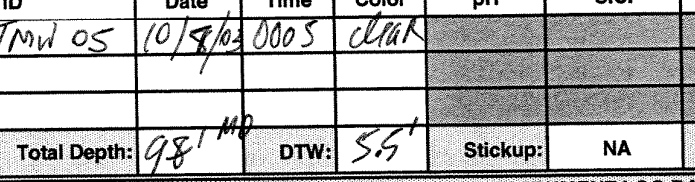
Soil Boring ID No.: CF- ANOS SB05
Sample Location: ~~JAX~~ ANOS
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- ANOS - TMW 05	10/8/03	0005	clear					
Total Depth: 98' MD		DTW: 5.5'		Stickup:	NA	Screen Int:	5-9'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- ANOS - SB05
Date: 10/7/03
Time Start: 2226
Time End: 0230
Time Sample: 0200
Amount Grout: ½ bucket

Location Desc.: 

(~5-7 gals H_2O / 94 lbs Type I Portland)

Depth	Sample ID (MD)	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks (TIME / SCRN)
1.5-2	~~CF-ANOS-SB~~	0.0	—	0.0	2226/2231
2.5-3		0.0	—	0.0	2229/2234
2.5-3	CF- ANOS- SB05	—	—	—	0200 (LAB Sample)

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	methanol, H_2O	3-40ml vials	Accutest	yes
8310	NaOH	1-4oz jar	"	yes
FL-PRO	none	1-4oz "	"	yes

Soil

OBSERVATIONS / NOTES

FID CAL. 99.0 PPM
Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0
Borehole = 0.0 ppm

LAB INFO

LAB: ACCUTEST
COC #: 2346

Check if Collected:
☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- ANOS - SB06
Sample Location: ~~JAX~~ ANOS
Sampler: M. Dale and D. Siefken

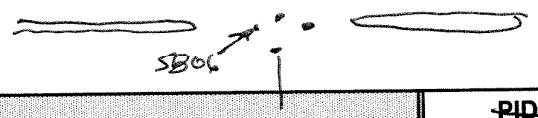
GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- ANOS- TMW06	10/8/03	0058	Lt. brn					
Total Depth: 10'		DTW: 4.5'		Stickup:	NA	Screen Int:	6-10'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- ANOS
Date: 10/7/03
Time Start: 2320
Time End: 0230
Time Sample: 0218
Amount Grout: ½ bucket
See cement mix on SB05

Location Desc.:



Depth	Sample ID	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks TIME / SCRN
1.5-2		0.0	—	0.0	2323 / 2328
~~2.5-3~~					~~2339~~
3-3.5		0.0	—	0.0	2332 / 2337
3-3.5	CF-ANOS-SB06	—	—	—	LAB sample 0218

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	methanol / H_2O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	"	yes
FL-PRO	None	1-4oz jar	"	yes

Soil

OBSERVATIONS / NOTES

FID CAL. 99.0 PPM
Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0

LAB INFO

LAB: Accutest
COC #: 2346

Check if Collected:
☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- ANOS SB07 no
Sample Location: ~~JAX~~ ANOS
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- ANOS- TMW07	10/8/03	0028	clear					
CF- ANOS- TMW07	10/8/03	0135	clear					
Total Depth:	10'	DTW:	5.5'	Stickup:	NA	Screen Int:	6-10'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF-
Date: 10/7/03
Location Desc.: SB07
Time Start: 2247
Time End: 0230
Time Sample: 0233
Amount Grout: ½ bucket
See SB05 for cement mix

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks Time / Scrn
1.5-2'		0.0	—	0.0	2253 / 2258
2.5-3'		0.0	—	0.0	2257 / 2302
2.5-3	CF-ANOS-SB07	—	—	—	Lab sample (0233)

SAMPLE COLLECTION INFORMATION

	Analysis	Preservative	Container Requirements	Laboratory	Collected
GW	8260B	HCl	3- 40ml vials	Accutest	yes
GW	8310	None	2- 1 liter Amber	"	↓
GW	504.1	None	3- 40 ml vials	"	↓
GW	6010B	HNO_3	1- 250 ml HDPE	"	↓
GW	FL-PRO	H_2SO_4	2- 1 liter Amber	"	↓
Soil	8260	Meth / H_2O	3- 40 ml vials	"	yes
Soil	8310	None	1- 4oz jar	"	↓
	FL-PRO	None	1- 4oz jar	"	

OBSERVATIONS / NOTES

FID CAL. 99 PPM
Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0

LAB INFO
LAB: Accutest
COC #: 2346

Check if Collected:
☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- ~~AN08~~ AN05-SB08
Sample Location: ~~JAX~~ AN05
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- AN05 - TMW08	10/8/03	0330	H. brn					
Total Depth: 10'		DTW: 5.5'		Stickup:	NA	Screen Int:	6-10'	6/s

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- AN05 - SB08 Date: 10/8/03

Location Desc.: SB08

Time Start: 0250
Time End: 0330
Time Sample: 0315
Amount Grout: ½ bucket

See SB05 log sheet for cement mix.

Depth	Sample ID	~~PID~~ (FID) READINGS Initial	Filtered	Total	Remarks TIME / SCRN
1.5-2		0.0	—	0.0	0256 / 0301
3-3.5		0.0	—	0.0	0300 / 0305
3-3.5	CF-AN05-SB08	—	—	—	Lab sample (0315)

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	methanol/1-1-2	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	"	↓
FL-PRO	None	1-4oz. jar	"	

Soil

OBSERVATIONS / NOTES

FID CAL. 99.0 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0

LAB INFO

LAB: Accutest

COC #: 2346

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site:	NASCF-NASJAX Fuel Pipeline	Soil Boring ID No.:	CF- AN16-SB05
Project No.:	N0013	Sample Location:	AN16
[X] Temporary Monitoring Well		Sampler:	M. Dale
[X] Soil Boring			
[ ] Other:			

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- TMW05	10/9/03	2215	dk.brn	← mobile Lab				
CF-AN16-TMW05	10/10/03	0237	lt.brn	← fixed lab				
Total Depth:	12'	DTW:	8'	Stickup:	NA	Screen Int:	8-12'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF-AN16- SB05	Date:	10/9/03	Time Start:	2139
Location Desc.:	(5) ↑N NTS			Time End:	0237
				Time Sample:	2235
				Amount Grout:	2.5 g/hole

Depth	Sample ID	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks Time/Screen
1-2		0.0	—	0.0	2140 / 2145
3-4		0.0	—	0.0	2144 / 2149
5-6		0.0	—	0.0	2154 / 2159
7-8		0.0	—	0.0	2157 / 2202
9-10		0.0	—	0.0	2158 / 2203
5-6	CF-AN16-SB05	—	—	—	mobile (2204)
5-6	CF-AN16-SB05	—	—	—	fixed (2235)

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
8260	(water)	HCL	3-40 ml vials	Accutest	yes
8310	(water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO	(water)	H2SO4	2 - liter glass ambers	Accutest	
504.1	(water)	none	3-40 ml vials	Accutest	
6010B	(water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260	(Soil)	CH3OH/H20	3-40 ml vials	Accutest	yes
8310	(Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO	(Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1

Drilling Area Background (PPM): 0.0

PH = 0.0, BZ = 0.0

LAB INFO

LAB: Accutest

COC #: 2347

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- AN16-SB06
Sample Location: AN16
Sampler: M. Dale

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- TMW06	10/9/03	2304	dKbn					
Total Depth: 12'		DTW: 8'		Stickup:	NA	Screen Int:	8-12'	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF-AN16- SB06	Date:	10/9/03	Time Start:	2242
Location Desc.:	↑N NTS			Time End:	0237
				Time Sample:	2322
				Amount Grout:	2.5 g/hole

Depth ft bls	Sample ID	~~PID~~ (FID) READINGS Initial	Filtered	Total	Remarks Time/Screen
1-2		0.0	—	0.0	2243 / 2248
3-4		0.0	—	0.0	2245 / 2250
5-6		0.0	—	0.0	2255 / 2300
7-8		0.0	—	0.0	2256 / 2301
9-10		0.0	—	0.0	2258 / 2303
5-6	CF-AN16-SB06	—	—	—	mobile (2306)
5-6	CF-AN16-SB06	—	—	—	fixed (2322)

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
8260	(water)	HCL	3-40 ml vials	Accutest	NO
8310	(water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO	(water)	H2SO4	2 - liter glass ambers	Accutest	↓
504.1	(water)	none	3-40 ml vials	Accutest	↓
6010B	(water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260	(Soil)	CH3OH/H20	3-40 ml vials	Accutest	yes
8310	(Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO	(Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1

Drilling Area Background (PPM): 0.0
BH=0.0, BZ=0.0

LAB INFO

LAB: Accutest
COC #: 2347

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): M.W. Dale

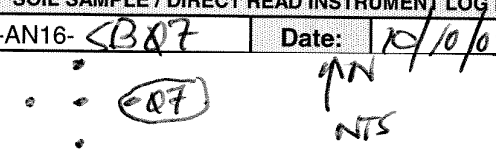
Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site:	NASCF-NASJAX Fuel Pipeline	Soil Boring ID No.:	CF- AN16- SB07
Project No.:	N0013	Sample Location:	AN16
[X] Temporary Monitoring Well		Sampler:	M. Dale
[X] Soil Boring			
[ ] Other:			

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- TMW07	10/10/03	0000	dk. brn					
Total Depth: 12'	DTW: 8'			Stickup: NA		Screen Int: 8-12' bls.		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF-AN16- SB07	Date:	10/10/03	Time Start:	2333
Location Desc.:				Time End:	0237
				Time Sample:	0023
				Amount Grout:	2.5 g/hole

Depth	Sample ID	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks Time/Screen
~~1-2~~ 2.-2.5'		0.0	—	0.0	2334 / 2339
3-4		0.0	—	0.0	2336 / 2341
5-6		0.0	—	0.0	2348 / 2353
7-8		0.0	—	0.0	2350 / 2355
9-10		0.0	—	0.0	2351 / 2356
5-6	CF-AN16-SB07	—	—	—	2353 (mobile)
5-6	CF-AN16-SB07	—	—	—	0023 (fixed)

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
8260	(water)	HCL	3-40 ml vials	Accutest	NO
8310	(water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO	(water)	H2SO4	2 - liter glass ambers	Accutest	↓
504.1	(water)	none	3-40 ml vials	Accutest	↓
6010B	(water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260	(Soil)	CH3OH/H20	3-40 ml vials	Accutest	yes
8310	(Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO	(Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1

Drilling Area Background (PPM): 0.0

BH4 & B7 = 0.0 ppm

LAB INFO

LAB: Accutest

COC #: 2347

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. Dale

Tetra Tech NUS, Inc. **DPT SAMPLE LOG SHEET**

Project / Site:	NASCF-NASJAX Fuel Pipeline	Soil Boring ID No.:	CF- AN16-SB08
Project No.:	N0013	Sample Location:	AN16
[X] Temporary Monitoring Well		Sampler:	M. Dale
[X] Soil Boring			
[ ] Other:			

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- TMW08	10/10/03	0100	dk-brn					
Total Depth: 12'	DTW: 7.5'			Stickup: NA		Screen Int: 8-12' bls		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF-AN16-SB08	Date:	10/10/03	Time Start:	0031
Location Desc.:	↑N NTS (-08)			Time End:	0237
				Time Sample:	0114
				Amount Grout:	2.5 g/hole

Depth	Sample ID	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks Time/Screen
1-2		0.0	—	0.0	0032 / 0037
3-4		0.0	—	0.0	0035 / 0040
5-6		0.0	—	0.0	0049 / 0054
7-8		0.0	—	0.0	0051 / 0056
9-10		0.0	—	0.0	0053 / 0058
5-6	CF-AN16-SB08	—	—	—	0056 / mobile
5-6	CF-AN16-SB08	—	—	—	0114 / fixed

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
8260	(water)	HCL	3-40 ml vials	Accutest	NO
8310	(water)	none	2 - 1 liter glass ambers	Accutest	↓
FL-PRO	(water)	H2SO4	2 - liter glass ambers	Accutest	↓
504.1	(water)	none	3-40 ml vials	Accutest	↓
6010B	(water)	HN03	1 - 250 ml HDPE	Accutest	↓
8260	(Soil)	CH3OH/H20	3-40 ml vials	Accutest	yes
8310	(Soil)	none	1 - 4 oz glass jar	Accutest	↓
FL-PRO	(Soil)	none	1 - 4 oz glass jar	Accutest	↓

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1

Drilling Area Background (PPM): 0.0 BH = BZ = 0.0ppm

LAB INFO

LAB: Accutest

COC #: 2347

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site:	NASCF-NASJAX Fuel Pipeline	Soil Boring ID No.:	CF- AN16-SB09
Project No.:	N0013	Sample Location:	AN16
[X] Temporary Monitoring Well		Sampler:	M. Dale
[X] Soil Boring			
[ ] Other:			

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-AN16- ~~FMW~~ TMW09	10/10/03	0156	H. brn					
MD								
Total Depth: 12'		DTW: 8'		Stickup:	NA	Screen Int:	8-12' bls.	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF-AN16- SB09	Date:	10/10/03	Time Start:	
Location Desc.:	09 ↑N NTS			Time End:	
				Time Sample:	0217
				Amount Grout:	2.5 g/hole

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks Time/Screen
1-2		0.0	—	0.0	0131 / 0136
3-4		0.0	—	0.0	0134 / 0139
5-6		0.0	—	0.0	0142 / 0147
7-8		0.0	—	0.0	0143 / 0148
9-10		0.0	—	0.0	0145 / 0150
5-6	CF-AN16-SB09	—	—	—	0149 (mobile sample)
5-6	CF-AN16-SB09	—	—	—	0217 (fixed)

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
8260	(water)	HCL	3-40 ml vials	Accutest	
8310	(water)	none	2 - 1 liter glass ambers	Accutest	
FL-PRO	(water)	H2SO4	2 - liter glass ambers	Accutest	
504.1	(water)	none	3-40 ml vials	Accutest	
6010B	(water)	HN03	1 - 250 ml HDPE	Accutest	
8260	(Soil)	CH3OH/H20	3-40 ml vials	Accutest	yes
8310	(Soil)	none	1 - 4 oz glass jar	Accutest	✓
FL-PRO	(Soil)	none	1 - 4 oz glass jar	Accutest	

OBSERVATIONS / NOTES

FID CAL. 99.8 PPM Field Log Book No. _____ 13-1

Drilling Area Background (PPM): 0.0

BH = BZ = 0.0 ppm

LAB INFO

LAB: Accutest

COC #: 2347

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3 - SB26
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- TH3- SB26	N/A							
Total Depth: —	DTW: —			Stickup:	NA	Screen Int:	—	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3 - SB26 Date: 10/8-9/03 Time Start: 2151
Location Desc.: About 6' West of CW. 26. CW ~16 CW NTS CW = RMISMIX
Time End: 0236
Time Sample: 0235
Amount Grout: 1/2 bucket/hole
See SB28 log for cement MIX

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks TIME/SCRN
1-2		107	25	82	2152 / 2157
2-3		249	25	224	2154 / 2159
4-~~5~~4.5		497	39.2	457.8	2207 / 2212
2-3	CF- TH3 - SB26	—	—	—	(0235) LAB Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	CH_3OH/H_2O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	"	↓
FL-PRO	None	1-4oz jar	"	↓

OBSERVATIONS / NOTES

FID CAL. 99. PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
Borehole = 5.2, BZ = 0.0 ppm

Check if Collected:
[ ] MS / MSD ~~CW~~ [X] DUPLICATE / ID No.: ~~CF-CEF-TH3-SO-DUP1~~ ~~None~~ TH2N

LAB INFO

LAB: Accutest
COC #: 2370

Signature(s): M. W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3-SB28
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	N/A							
Total Depth: —		DTW: —		Stickup:	NA	Screen Int: —		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF- TH3-SB28	Date:	10/9/03	Time Start:	0133
Location Desc.:	CW 25 10 ↑N NTS			Time End:	0200
				Time Sample:	0156
				Amount Grout:	1/2 bucket

CW = Crosswalk

MIX ~ 6 gals / 94 lb. bag Type I Portland cement

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks Time / Start
1-2		618	284.7	333.5	0134 / 0139
2-3		502	439.9	62.1	0136 / 0141
4-4.5		166.4	77.0	89.4	0140 / 0145
1-2	CF-TH3-SB28 MO	—	—	—	0156 Lab Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	CH_3OH/H_2O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	↓	↓
FL-PRO	None	1-4oz jar		

OBSERVATIONS / NOTES

FID CAL. 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
Borehole = 12, BZ = 0.0

LAB INFO

LAB: Accutest
COC #: 2370

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3 -SB29
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	N/A							
Total Depth: —		DTW: —		Stickup:	NA	Screen Int: —		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3 - SB29 Date: 10/8/03
Location Desc.: 29 is about 9' North of TN SB-30. CW / CW/.30 ↑N NTS
light Alms crossing (CW)

Time Start: 2251
Time End: 2300
Time Sample: N/A
Amount Grout: ½ bucket
See SB28 for cement mix

Depth	Sample ID	~~PID~~/FID READINGS Initial	Filtered	Total	Remarks TIME/SCRN
1-2		42	12	30	2253/2258

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH_3OH / H_2O	3-40 ml vials	Accutest	NO
8310	None	1-4oz jar	↓	NO
FL-PRO	None	1-4oz jar		NO

OBSERVATIONS / NOTES

FID CAL. 99 PPM Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0
Borehole -0.0, BZ = 0.0

LAB INFO

LAB: Accutest
COC #: N/A

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3-SB30
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	N/A							
Total Depth:	—	DTW:	—	Stickup:	NA	Screen Int:	—	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB30 Date: 10/8/03 - 10/9/03 Time Start: 2227
Time End: 0212
Time Sample: 0211
Amount Grout: ½ bucket/hole see SB28 log for cement mix.

Location Desc.: SB-30 about 6" east of CW & 12' N of sidewalk CW 26' CW 30 N NTS

Depth	Sample ID	PID/FID READINGS Initial	Filtered	Total	Remarks Time / SCM
1-2		257	126	131	2228 / 2233
2-3		127	123	4	2230 / 2235
4-4.5		720	91.2	628.8	2237 / 2242
2-2.5	CF-TH3-SB30	—	—	—	0211 (Lab Sample)

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH_3OH/H_2O	3-40ml vials	Accutest	yes
8310	None	1-4oz jar	↓	↓
FL-PRO	None	1-4oz jar		

OBSERVATIONS / NOTES

FID CAL. 99. PPM Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0
Borehole = 46.0, BZ = 0.0

LAB INFO

LAB: ACCUTEST
COC #: 2370

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): M. W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3 - SB31
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-	N/A							
Total Depth: —		DTW: —		Stickup:	NA	Screen Int: —		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3 - SB31
Date: 10/8/03 - 10/9/03
Time Start: 0010
Time End: 0252
Time Sample: 0251
Amount Grout: 1/2 bucket/hole see SB29 for cement mix

Location Desc.: SB-31 10 Apart 7' to S/NNE of SB-26. 31 • /CW. 26 • /CW. NTS

(Next to CW) CW

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks TIME / SCRN
1-2		81	34	47	0011 / 0016
2-3		97	102	I	0013 / 0018
4-4.5		211	44	167	0017 / 0022
1-2	CF- TH3- SB31	—	—	—	Lab Sample (0251)

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH_3OH / H_2O	3-40ml vial	Accutest	yes
8310	None	1-4oz JAR	↓	↓
FL-PRO	None	1-4oz JAR		

OBSERVATIONS / NOTES

FID CAL. 99 PPM
Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0
Barrelhole = 207, BZ = 0.0

LAB INFO

LAB: Accutest
COC #: 2370

Check if Collected:
[ ] MS / MSD
[ ] DUPLICATE / ID No.: none

Signature(s): M. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- ~~THS~~ SB-32
Sample Location: ~~JAX~~ THS
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-		N/A						
Total Depth:	—	DTW:	—	Stickup:	NA	Screen Int:	—	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- THS - SB32
Date: 10/8/03 - 10/9/03
Time Start: 2341
Time End: 0308
Time Sample: 0307
Amount Grout: ½ bucket/hole

Location Desc.: Cw .30 ← 15' → .32 ↑N NTS

Cw

Depth	Sample ID	PID/FID READINGS Initial	Filtered	Total	Remarks TIME / DEPTH
1-2		4	0	4	2342 / 2347
2-3		1152	136.9	1015.1	2347 / 2352
4-4.5		92.6	37.8	54.8	2351 / 2356
2-3	CF- ~~An~~ THS - SB32	—	—	—	(0307) Lab sample

See SB28 for cement mix

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH_3OH / H_2O	3-40 ml vials	Accutest	yes
8310	none	1-4oz	↓	↓
FL-PRO	none	1-4oz		

OBSERVATIONS / NOTES

FID CAL. 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
Borehole = 35, BZ = 0.0

LAB INFO

LAB: Accutest
COC #: 2370

Check if Collected:
[ ] MS / MSD [X] DUPLICATE / ID No.: CF - THS - SO - DUP1 ~~None~~

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3 - SB33
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-		N/A						
Total Depth: —		DTW: —		Stickup:	NA	Screen Int: —		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID:	CF- TH3 - SB33	Date:	10/9/03	Time Start:	0112
Location Desc.:	10/030 ← 16' → 1 / 9/T 033 ↓ 032 / ↑N NTS			Time End:	0324
				Time Sample:	0323
				Amount Grout:	½ bucket/hole see SB18 for cement mix

Depth	Sample ID	~~PID~~ / FID READINGS Initial	Filtered	Total	Remarks TIME / SCAN
1-2		49.5	32.7	26.8	0113 / 0118
2-3		878	163.2	664.8	0115 / 0120
4-4.5		22.5	10.3	12.2	0117 / 0122
2-3	CF- TH3 - SB33	—	—	—	(0323) Lab Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260B	CH_3OH / H_2O	3 - 40 ml vials	Accutest	yes
8310	None	1 - 4oz jar	↓	↓
FL-PRO	None	1 - 4oz jar		

OBSERVATIONS / NOTES

FID CAL. 99. PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
borehole = ; BZ =

LAB INFO

LAB: Accutest
COC #: 2370

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3-SB34
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF- TH3	N/A							
Total Depth: —		DTW: —		Stickup:	NA	Screen Int:	—	

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB34 Date: 10/9/03

Location Desc.: 16' .30 ← 16' → .32 ← 15' → .34 ↑ N NTS

Time Start: 0048
Time End: 0338
Time Sample: 0337
Amount Grout: ½ bucket/hole
See SB28 for cement mix

Depth	Sample ID	~~PID~~ FID READINGS Initial	Filtered	Total	Remarks TIME/SCRN
1-2		5.1	2.0	3.1	0047/0052
2-3		1094	848	246	0049/0054
~~4-4.5~~ 4.5-5		150	73	77	0055/0100
2-3	CF-TH3-SB34	—	—	—	(0337) Lab Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	CH_3OH / H_2O	3 - 40 ml vial	Accutest	yes
8310	None	1 - 4oz jar	↓	↓
FL-PRO	none	1 - 4oz jar		

OBSERVATIONS / NOTES

FID CAL. 99 PPM Field Log Book No. 13-1

Drilling Area Background (PPM): 0.0
borehole = 67.6 ppm ; BZ = 0.0 ppm

LAB INFO

LAB: Accutest
COC #: 2370

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): M.W. Dale

Tetra Tech NUS, Inc. DPT SAMPLE LOG SHEET

Project / Site: NASCF-NASJAX Fuel Pipeline
Project No.: N0013
[X] Temporary Monitoring Well
[X] Soil Boring
[ ] Other:

Soil Boring ID No.: CF- TH3-SB35
Sample Location: ~~JAX~~ TH3
Sampler: M. Dale and D. Siefken

GROUNDWATER SAMPLING DATA

Sample ID	Date	Time	Color	pH	S.C.	D.O.	Temp. (C)	Odor
CF-		N/A						
Total Depth: —		DTW: —		Stickup:	NA	Screen Int: —		

SOIL SAMPLE / DIRECT READ INSTRUMENT LOG DATA

Soil Boring ID: CF- TH3-SB35
Date: 10/9/03
Time Start: 0359
Time End: 0411
Time Sample: 0410
Amount Grout: 1/2 bucket/hole
See SB28 for cement mix

Location Desc.: SB35 SB28 CW SW Corner CW = Crosswalk ↑N NTS

~~PID~~ / FID READINGS

Depth	Sample ID	Initial	Filtered	Total	Remarks
1-2		1330	76	1254	TIME/SCRN 0400/0405
2-3		1882	~~1882~~ 582	MD 1300	0402/0407
1-2	CF-TH3-SB35	—	—	—	(0410) Lab Sample

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
8260	CH_3OH / H_2O	3-40 ml vials	Accutest	yes
8310	None	1-4oz jar	↓	↓
PL-PRO	None	1-4oz jar		

OBSERVATIONS / NOTES

FID CAL: 99 PPM
Field Log Book No. 13-1
Drilling Area Background (PPM): 0.0

LAB INFO

LAB: ACCUTEST
COC #: 2370

Check if Collected:
☐ MS / MSD ☐ DUPLICATE / ID No.: None

Signature(s): M. W. Dale

APPENDIX D

GROUNDWATER SAMPLE LOG AND LOW FLOW PURGE SHEET FOR CF-VA02

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASCF, Jet Fuel Pipeline, 103rd St.
Project No.: N0013

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: ~~CEF-VA02-1S~~ VA02-MW-1S MWD
Sample Location: CEF-VA02-1S
Sampled By: MD
C.O.C. No.: VA02 - 1B
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP mV	Other
Date: 11/21/03								
Time: 1550								
Method: Low Flow Peristaltic	clear	5.38	0.001	24.2	1.53	8.97	285	

PURGE DATA

	Time	pH	S.C.	Temp (°C)	Turbidity	DO		ORP
Date: 11/21/03								
Method: Low Flow Peristaltic								
Monitor Reading (ppm): 0.2								
Well Casing Diameter: 2 inch								
Well Casing Material: Sch. 40 PVC								
Total Well Depth (TD): 12 ft.	See Low Flow Purge Sheet for data.							
Static Water Level (WL): 2.27 MD								
One Casing Volume(gal/L): 6.2								
Start Purge (hrs): 1401								
End Purge (hrs): 1547								
Total Purge Time (min): 107								
Total Vol. Purged (gal/L): 20								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
SW846 8260B	4C/HCL	3-40 ml vials	✓
SW846 8310	4C	2 - 1 liter glass ambers	✓

OBSERVATIONS / NOTES

Note that teflon tubing set in well at mid-screen or approx. 7 ft. BTOC.

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): M. W. Dale

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NASCF, Jet Fuel Pipeline, 103rd St.
PROJECT NUMBER: N0013

WELL ID.: CEF-VA02-1S
DATE: 11/21/2003

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	Cum. Vol. (Liters)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1401	2.02	—	0	—	—	—	—	—	—	start purge
1404	2.31	200	0.9	5.67	0.001		8.63	24.4	281	clear
1405	2.33	200	~~0~~ 1.2	—	—	—	—	—	—	slow pump
1411	2.37	200	2.4	5.67	0.001	15.5	8.63	24.8	280	~~clear tan (lt. brown)~~
1412	—	200	2.6	—	—	—	—	—	—	slow pump for drawdown.
1415	2.35	200	3.2	5.67	0.001	—	8.69	24.8	279	
1419	2.36	200	4.0	5.68	0.001	8.70	8.76	24.9	279	
1426	2.39	200	5.4	5.59	0.001	5.39	8.84	24.9	281	slowed pump
1438	2.38	183	7.6	5.43	0.001	3.11	8.88	24.3	284	
1449	2.40	183	9.6	5.40	0.001	2.72	8.89	24.1	285	
1459	2.40	183	11.4	5.38	0.001	2.08	8.89	24.1	278	
1510	2.40	183	13.4	5.45	0.001	1.68	8.90	24.1	285	
1520	2.40	183	15.2	5.44	0.001	1.74	8.93	24.1	284	
1535	2.40	183	17.9	5.38	0.001	1.53	8.97	24.2	285	clear
1547	2.40	183	20	—	—	—	—	—	—	stable on last 3 & @ 3 well vols.

SIGNATURE(S): M. W. [illegible]

APPENDIX E

MOBILE LABORATORY REPORTS

KB LABS, INC.

DATA REPORT NARRATIVE

Client:	TtNUS	**Driller/Sampler:**	Prosonic	**Analyst:**	Yael Hoogland
Site:	Cecil Field CTO #072	**KB Labs Project Manager:**	Kelly Bergdoll	**KB Labs Project #:**	03-166
Onsite Dates:	10/07/03-10/10/03	**Client Project Manager:**	Paul Calligan	**Matrix:**	Water/Soil

1. All samples have been reviewed and, if required, updated in the Final Data Report for rounding and significant figures.

Signature: _____

Title: Director of Operations Date:_____

KB LABS, INC.

PROJECT NARRATIVE

Client:	TtNUS	**Driller/Sampler:**	Prosonic	**Analyst:**	Yael Hoogland
Site:	Cecil Field CTO #072	**KB Labs Project Manager:**	Kelly Bergdoll	**KB Labs Project #:**	03-166
Onsite Dates:	10/07/03-10/10/03	**Client Project Manager:**	Paul Calligan	**Matrix:**	Water/Soil

Project Scope

From October 7 to 10, 2003, a total of 17 soil and 9 ground water samples were collected at three NAS Cecil Field pipeline sites (TH3, CF-AN05, & CF-AN16) in Jacksonville, Florida, by Tetra Tech NUS and relinquished to KB Labs' Mobile Laboratory. The samples were analyzed on-site for MtBE, benzene, ethylbenzene, toluene, xylenes, naphthalene, and 1-&2-methylnaphthalene.

NELAP Certification

KB Mobile Labs Unit KB3: FDOH NELAP Certification Number E82816

Analytical Procedure

Waters: The samples were analyzed for volatile organic compounds (VOCs) using SW846 Method 5030/8260 for waters. Ten (10) ml of sample were purged with helium and the VOCs were collected on a solid-phase adsorption trap. The adsorption trap was heated and back-purged with helium and the components were separated by capillary column gas chromatography and measured with a mass spectrometer detector (MSD). The individual VOCs in the samples were measured against corresponding VOC standards.

Soils: The low-level soil samples were analyzed using SW846 Method 5030/8260. One (1) gram (g) of soil sample was added to 10 mL of laboratory reagent water, heated and analyzed like a water sample as described above.

Unless otherwise indicated, soil data is calculated based on the matrix received (i.e. wet weight basis).

Analytical Results

Laboratory results were provided to the client on an as-completed or next-day basis. Final results of the on-site analyses are provided in a hardcopy report. The data produced and reported in the field has been reviewed and approved for this final report by the Director of Operations for KB Labs.

Quality Control (QC) Data

Surrogate Recoveries – Table 1 lists the daily analytical sequence and percent recovery results for surrogate compounds, which were added to all analyses. Four (4) surrogate compounds were added to each analysis in order to continually monitor general method performance.

VOC Spike Recoveries – Table 2 lists the percent recovery results for matrix spike and laboratory control samples. A known amount of each target compound was added to selected field samples and to laboratory reagent water in order to monitor the performance of each of the target compounds in the actual matrix and in laboratory reagent water.

Method Blanks – Daily analysis of laboratory reagent water samples was performed in order to monitor the cleanliness of the analytical system.

Signature: _____

Title: Director of Operations Date: _____

KB LABS, INC.
6821 Southwest Archer Road
Gainesville, Florida 32608

***Telephone* (352) 367-0073**
***Fax* (352) 367-0074**
Email:* *info@kbmobilelabs.com

October 16, 2003

Paul Calligan
Tetra Tech NUS
5421 Beaumont Center Boulevard, Suite 660
Tampa, Florida 33634

RE: NAS Cecil Field CTO #072, Jacksonville, Florida - Final Data Report
KB Labs Project # 03-166

Dear Mr. Calligan:

Enclosed is the final report of samples analyzed by KB Labs, Inc. for the above referenced site. Samples were collected and analyzed from October 7 to 10, 2003. Included are a brief project narrative, a data report narrative, tables listing quality control results, the final analytical results, and sample chain-of-custody forms. This information will also be sent electronically. Including this cover page, the Final Report totals 11 pages.

KB Labs' mobile laboratories have been inspected by the FDOH Bureau of Laboratories and have been approved for NELAP Certification as of April 1, 2003. Our personnel, methodology, proficiency testing, and quality assurance requirements complied with the guidelines of Chapter 64E-1 of the Florida Administrative Code and with the consensus standards adopted at the National Environmental Laboratory Accreditation Conference (NELAC). Data for the site referenced above were determined in accordance with published procedures under Test Methods for Evaluating Solid Waste (EPA SW-846, Update III Revised May 1997). Unless otherwise indicated on the quality control narrative accompanying the data report, the quality assurance and quality control procedures performed in conjunction with analysis of groundwater samples demonstrated that the reported data met our for accuracy and precision under NELAC Standards

If you have any questions, please do not hesitate to call me or Kelly Bergdoll, President of KB Labs, at (352) 367-0073.

Sincerely,

KB Labs, Inc.

Todd Romero
Director of Operations

"KB Labs is a small, woman-owned business enterprise."

KB LABS, INC.

Final Data Report
Cecil Field CTO 072
Jacksonville, FL
KB Labs Project # 03-166

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	MtBE	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
CFAN05 TMW 05	10/8/03	Water	1	**8.4**	<1.0	**3.5**	<1.0	**2.9**	**1.0**	<5.0	<5.0	<5.0
CFAN05 TMW 07	10/8/03	Water	1	<5.0	<1.0	**2.8**	**1.1**	**3.4**	**1.1**	<5.0	<5.0	<5.0
CFAN05 TMW 06	10/8/03	Water	1	<5.0	<1.0	**2.8**	<1.0	**2.0**	<1.0	<5.0	<5.0	<5.0
CFAN05 TMW 08	10/8/03	Water	1	<5.0	<1.0	**3.4**	**1.1**	**3.7**	**1.2**	<5.0	<5.0	<5.0
CFAN05 SB 05	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 06	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 07	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN05 SB 08	10/8/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 28	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 30	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	**0.060**
CFTH3 SB 26	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 31	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	**0.014**	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 32	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 33	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 34	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFTH3 SB 35	10/9/03	Soil	1	<0.050	<0.0070	<0.010	**0.024**	**0.10**	**0.027**	<0.050	<0.050	<0.050
CFAN16 TMW 05	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 06	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	**1.0**	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 07	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	**1.0**	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 08	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 TMW 09	10/10/03	Water	1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0
CFAN16 SB 05	10/9/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 06	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 07	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 08	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050
CFAN16 SB 09	10/10/03	Soil	1	<0.050	<0.0070	<0.010	<0.010	<0.010	<0.010	<0.050	<0.050	<0.050

Reporting units for waters are ug/L and for soils are mg/Kg.

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Prosonic	**Analyst:** Yael Hoogland
Site: Cecil Field CTO # 072	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 03-166
On-site Dates: 10/07/03-10/10/03	**Client Project Manager**: Paul Calligan	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
BFB	10/07/03	121	109	101	90	> UCL	Pass	Pass	Pass
VSTD 01	10/07/03	96	98	105	102	Pass	Pass	Pass	Pass
VSTD 05	10/07/03	103	100	100	100	Pass	Pass	Pass	Pass
VSTD 10	10/07/03	97	96	100	100	Pass	Pass	Pass	Pass
VSTD 20	10/07/03	104	104	98	100	Pass	Pass	Pass	Pass
VSTD 100	10/07/03	94	95	99	99	Pass	Pass	Pass	Pass
LCS	10/07/03	101	95	101	100	Pass	Pass	Pass	Pass
BLANK	10/07/03	108	104	101	101	Pass	Pass	Pass	Pass
VSTD 01	10/07/03	93	94	106	98	Pass	Pass	Pass	Pass
CF-AN05 TMW 05	10/08/03	94	103	102	98	Pass	Pass	Pass	Pass
CF-AN05 TMW 07	10/08/03	91	93	103	101	Pass	Pass	Pass	Pass
CF-AN05 TMW 06	10/08/03	88	100	103	98	Pass	Pass	Pass	Pass
VF-AN05 SB 05	10/08/03	94	96	102	100	Pass	Pass	Pass	Pass
CF-AN05 SB 06	10/08/03	95	107	104	102	Pass	Pass	Pass	Pass
CF-AN05 SB 07	10/08/03	92	103	100	102	Pass	Pass	Pass	Pass
VSTD 20 TEST	10/08/03	97	100	102	103	Pass	Pass	Pass	Pass
CF-AN05 SB 08	10/08/03	94	93	102	99	Pass	Pass	Pass	Pass
CF-AN05 TMW 08	10/08/03	95	94	101	103	Pass	Pass	Pass	Pass
CCS	10/08/03	97	98	100	105	Pass	Pass	Pass	Pass
BFB	10/08/03	92	89	100	100	Pass	Pass	Pass	Pass
VSTD 20	10/08/03	95	96	102	103	Pass	Pass	Pass	Pass
LCS	10/08/03	102	103	101	101	Pass	Pass	Pass	Pass
BLANK	10/08/03	101	110	103	100	Pass	Pass	Pass	Pass
BLANK	10/08/03	88	92	103	101	Pass	Pass	Pass	Pass
CF-TH3 SB 28	10/09/03	94	100	109	118	Pass	Pass	Pass	Pass
CF-TH3 28MS	10/09/03	93	100	108	104	Pass	Pass	Pass	Pass
CF-TH3 SB 28MSD	10/09/03	98	108	106	119	Pass	Pass	Pass	Pass
CF-TH3 SB 30	10/09/03	112	107	106	108	Pass	Pass	Pass	Pass
CF-TH3 SB 26	10/09/03	106	110	105	105	Pass	Pass	Pass	Pass
CF-TH3 SB 32	10/09/03	115	109	112	126	Pass	Pass	Pass	> UCL
CF-TH3 SB 32	10/09/03	110	113	106	111	Pass	Pass	Pass	Pass
CF-TH3 SB 33	10/09/03	100	110	106	108	Pass	Pass	Pass	Pass
CF-TH3 SB 34	10/09/03	107	106	102	100	Pass	Pass	Pass	Pass
CF-TH3 SB 35	10/09/03	102	106	105	111	Pass	Pass	Pass	Pass
CCS	10/09/03	107	110	102	102	Pass	Pass	Pass	Pass
BLANK	10/09/03	87	92	109	100	Pass	Pass	Pass	Pass
BFB	10/09/03	100	100	107	95	Pass	Pass	Pass	Pass
VSTD 20	10/09/03	95	98	104	101	Pass	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Prosonic	**Analyst:** Yael Hoogland
Site: Cecil Field CTO # 072	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 03-166
On-site Dates: 10/07/03-10/10/03	**Client Project Manager**: Paul Calligan	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
LCS	10/09/03	106	108	101	99	Pass	Pass	Pass	Pass
BLANK	10/09/03	106	106	101	99	Pass	Pass	Pass	Pass
CF TH3 SB 05	10/09/03	107	109	103	100	Pass	Pass	Pass	Pass
CF TH3 TMW 05	10/10/03	94	96	100	103	Pass	Pass	Pass	Pass
CF TH3 TMW 06	10/10/03	107	109	102	102	Pass	Pass	Pass	Pass
CF TH3 SB 06	10/10/03	108	107	102	99	Pass	Pass	Pass	Pass
CF TH3 SB 07	10/10/03	89	97	104	106	Pass	Pass	Pass	Pass
CF TH3 TMW 07	10/10/03	103	101	104	105	Pass	Pass	Pass	Pass
CF TH3 TMW 08	10/10/03	96	104	102	104	Pass	Pass	Pass	Pass
CF TH3 SB 08	10/10/03	96	100	101	102	Pass	Pass	Pass	Pass
CF TH3 TMW 09	10/10/03	99	109	100	99	Pass	Pass	Pass	Pass
CF TH3 SB 09	10/10/03	108	105	100	101	Pass	Pass	Pass	Pass
CF TH3 TMW 09MS	10/10/03	102	103	102	100	Pass	Pass	Pass	Pass
CF TH3 TMW 09MSD	10/10/03	96	96	101	103	Pass	Pass	Pass	Pass
CCS	10/10/03	96	99	100	101	Pass	Pass	Pass	Pass
Comments:	Although some surrogates may be out of the control percent recovery range (80% to 120%), other supporting QC, such as matrix spikes, matrix spike duplicates, method blanks, and laboratory control samples, are performed by KB Labs to further validate								

Signature: _____

Title: Director of Operations

Date: _____

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Prosonic	**Analyst:** Yael Hoogland
Site: Cecil Field CTO #072	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 03-166
On-site Dates: 10/07/03-10/10/03	**Client Project Manager:** Paul Calligan	**Matrix**:Water/Soil

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Samples: CF-TH3 SB 28MS
CF-TH3 SB 28MSD
Date of Analysis: 10/8/2003

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
MTBE	57	175	20	67	102	42	Pass	Pass	> RPDL
Benzene	63	135	20	97	100	2	Pass	Pass	Pass
Toluene	66	130	20	105	103	2	Pass	Pass	Pass
2-Methyl Naphthalene	53	147	20	64	62	2	Pass	Pass	Pass
1-Methyl Naphthalene	61	139	20	62	63	1	Pass	Pass	Pass
Ethylbenzene	64	136	20	102	96	6	Pass	Pass	Pass
m,p-Xylene	55	143	20	107	117	9	Pass	Pass	Pass
o-Xylene	62	136	20	106	119	12	Pass	Pass	Pass
Naphthalene	0	233	20	78	89	14	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: CF TH3 TMW 09MS
CF TH3 TMW 09MSD
Date of Analysis: 10/9/2003

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
MTBE	57	175	20	97	94	4	Pass	Pass	Pass
Benzene	63	135	20	103	98	6	Pass	Pass	Pass
Toluene	66	130	20	100	100	1	Pass	Pass	Pass
2-Methyl Naphthalene	53	147	20	51	94	60	< LCL	Pass	> RPDL
1-Methyl Naphthalene	61	139	20	53	89	52	< LCL	Pass	> RPDL
Ethylbenzene	64	136	20	99	97	1	Pass	Pass	Pass
m,p-Xylene	55	143	20	99	102	3	Pass	Pass	Pass
o-Xylene	62	136	20	100	105	4	Pass	Pass	Pass
Naphthalene	0	233	20	81	99	20	Pass	Pass	> RPDL

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Prosonic	**Analyst:** Yael Hoogland
Site: Cecil Field CTO #072	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 03-166
On-site Dates: 10/07/03-10/10/03	**Client Project Manager:** Paul Calligan	**Matrix**:Water/Soil

Laboratory Control Spikes (LCS):

Samples: LCS 1 — **Date of Analysis:** 10/7/2003
LCS 2 — 10/8/2003
LCS 3 — 10/9/2003

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#1	LCS#2	LCS#3	LCS#1	LCS#2	LCS#3
MTBE	70	to	130	107	93	91	Pass	Pass	Pass
Benzene	70	to	130	101	97	105	Pass	Pass	Pass
Toluene	70	to	130	106	95	98	Pass	Pass	Pass
2-Methyl Naphthalene	70	to	130	139	108	100	> UCL	Pass	Pass
1-Methyl Naphthalene	70	to	130	134	108	100	> UCL	Pass	Pass
Ethylbenzene	70	to	130	103	97	98	Pass	Pass	Pass
m,p-Xylene	70	to	130	103	97	99	Pass	Pass	Pass
o-Xylene	70	to	130	105	99	98	Pass	Pass	Pass
Naphthalene	70	to	130	128	99	93	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Signature: _____
Title: Director of Operations

Date: _____

APPENDIX F

FIXED-BASE LABORATORY REPORT FOR CF-AN05

Southeast ACCUTEST Laboratories

10/29/03

Technical Report for

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013

N0013-WR380

Accutest Job Number: F19992

Report to:

Total number of pages in report: 141

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Tetra Tech, NUS

Job No: F19992

NASCF-NASJAX Pipeline N0013
Project No: N0013-WR380

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F19992-1	10/08/03	01:35 MD	10/09/03	AQ	Ground Water	CF-AN05-TMW07
F19992-2	10/08/03	02:00 MD	10/09/03	SO	Soil	CF-AN05-SB05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0018777.D	1	10/15/03	KW	n/a	n/a	VC823
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.53	1.0	0.50	ug/l	J
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.52	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.4	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	1.6	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-115%
17060-07-0	1,2-Dichloroethane-D4	102%		78-125%
2037-26-5	Toluene-D8	107%		87-113%
460-00-4	4-Bromofluorobenzene	100%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK00461.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
Run #2							

	Initial Volume	Final Volume
Run #1	37.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017864.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.4	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.4	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.56	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.56	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.56	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.56	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		32-142%
92-94-4	p-Terphenyl	61%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	OP32383.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
Run #2							

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.29	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		51-125%

(a) Sample not preserved, adjusted to pH < 2 prior to extraction.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-TMW07		
Lab Sample ID:	F19992-1	Date Sampled:	10/08/03
Matrix:	AQ - Ground Water	Date Received:	10/09/03
		Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	2.7 B	5.0	1.2	ug/l	1	10/15/03	10/15/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN05-SB05		
Lab Sample ID:	F19992-2	Date Sampled:	10/08/03
Matrix:	SO - Soil	Date Received:	10/09/03
Method:	SW846 8260B	Percent Solids:	88.9
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022611.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

	Initial Weight
Run #1	3.60 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.8	3.1	ug/kg	
108-88-3	Toluene	ND	7.8	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.8	3.1	ug/kg	
1330-20-7	Xylene (total)	ND	23	7.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.8	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	98%		79-121%
460-00-4	4-Bromofluorobenzene	112%		77-133%
17060-07-0	1,2-Dichloroethane-D4	90%		72-133%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN05-SB05		
Lab Sample ID:	F19992-2	Date Sampled:	10/08/03
Matrix:	SO - Soil	Date Received:	10/09/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	88.9
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA017972.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	740	190	ug/kg	
208-96-8	Acenaphthylene	ND	740	190	ug/kg	
120-12-7	Anthracene	ND	370	190	ug/kg	
56-55-3	Benzo(a)anthracene	ND	370	93	ug/kg	
50-32-8	Benzo(a)pyrene	ND	74	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	74	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	74	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	74	19	ug/kg	
218-01-9	Chrysene	ND	370	93	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	74	19	ug/kg	
206-44-0	Fluoranthene	ND	370	93	ug/kg	
86-73-7	Fluorene	ND	370	190	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	74	19	ug/kg	
91-20-3	Naphthalene	106	370	93	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	370	93	ug/kg	
91-57-6	2-Methylnaphthalene	ND	370	93	ug/kg	
85-01-8	Phenanthrene	ND	370	190	ug/kg	
129-00-0	Pyrene	ND	370	93	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		38-139%
92-94-4	p-Terphenyl	94%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN05-SB05		
Lab Sample ID:	F19992-2	Date Sampled:	10/08/03
Matrix:	SO - Soil	Date Received:	10/09/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	88.9
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32555.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	11.8	9.3	6.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC823-BS	C0018755.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.5	102	76-123
75-27-4	Bromodichloromethane	25	24.3	97	72-122
75-25-2	Bromoform	25	23.3	93	59-124
108-90-7	Chlorobenzene	25	26.5	106	78-115
75-00-3	Chloroethane	25	22.9	92	65-141
67-66-3	Chloroform	25	24.3	97	74-123
110-75-8	2-Chloroethyl vinyl ether	125	249	199*	24-148
56-23-5	Carbon tetrachloride	25	26.3	105	68-137
75-34-3	1,1-Dichloroethane	25	25.0	100	73-125
75-35-4	1,1-Dichloroethylene	25	25.7	103	64-136
107-06-2	1,2-Dichloroethane	25	24.2	97	66-118
78-87-5	1,2-Dichloropropane	25	25.0	100	75-129
124-48-1	Dibromochloromethane	25	24.4	98	72-117
156-59-2	cis-1,2-Dichloroethylene	25	25.2	101	79-127
10061-01-5	cis-1,3-Dichloropropene	25	22.8	91	71-117
541-73-1	m-Dichlorobenzene	25	26.3	105	74-117
95-50-1	o-Dichlorobenzene	25	26.6	106	73-115
106-46-7	p-Dichlorobenzene	25	26.2	105	74-117
156-60-5	trans-1,2-Dichloroethylene	25	25.8	103	67-125
10061-02-6	trans-1,3-Dichloropropene	25	23.6	94	65-113
100-41-4	Ethylbenzene	25	26.3	105	76-117
74-83-9	Methyl bromide	25	23.7	95	45-137
74-87-3	Methyl chloride	25	21.8	87	47-149
75-09-2	Methylene chloride	25	23.3	93	63-126
1634-04-4	Methyl Tert Butyl Ether	25	24.0	96	68-125
71-55-6	1,1,1-Trichloroethane	25	27.3	109	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	25.2	101	69-114
79-00-5	1,1,2-Trichloroethane	25	25.6	102	74-115
127-18-4	Tetrachloroethylene	25	27.3	109	75-124
108-88-3	Toluene	25	27.0	108	76-118
79-01-6	Trichloroethylene	25	24.1	96	75-122
75-01-4	Vinyl chloride	25	22.8	91	62-142
1330-20-7	Xylene (total)	75	79.8	106	78-120

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC823-BS	C0018755.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	86-115%
17060-07-0	1,2-Dichloroethane-D4	98%	78-125%
2037-26-5	Toluene-D8	105%	87-113%
460-00-4	4-Bromofluorobenzene	98%	84-117%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH827-BS	H022609.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F19992-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	52.1	104	73-123
100-41-4	Ethylbenzene	50	51.5	103	73-116
1634-04-4	Methyl Tert Butyl Ether	50	55.6	111	66-131
108-88-3	Toluene	50	48.2	96	72-116
1330-20-7	Xylene (total)	150	156	104	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	94%	79-121%
460-00-4	4-Bromofluorobenzene	100%	77-133%
17060-07-0	1,2-Dichloroethane-D4	93%	72-133%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC823-MB	C0018756.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.50	ug/l	
75-25-2	Bromoform	ND	2.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.0	ug/l	

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC823-MB	C0018756.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	86-115%
17060-07-0	1,2-Dichloroethane-D4	99%	78-125%
2037-26-5	Toluene-D8	104%	87-113%
460-00-4	4-Bromofluorobenzene	100%	84-117%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH827-MB	H022610.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F19992-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	15	4.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	103%	79-121%
460-00-4	4-Bromofluorobenzene	101%	77-133%
17060-07-0	1,2-Dichloroethane-D4	93%	72-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F19992-2MS	H022619.D	1	10/13/03	NAF	n/a	n/a	VH827
F19992-2MSD	H022620.D	1	10/13/03	NAF	n/a	n/a	VH827
F19992-2	H022611.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F19992-2

CAS No.	Compound	F19992-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		57.3	63.5	111	65.3	114	3	64-125/21
100-41-4	Ethylbenzene	ND		57.3	64.8	113	56.9	99	13	58-123/22
1634-04-4	Methyl Tert Butyl Ether	ND		57.3	58.4	102	58.4	102	0	48-119/23
108-88-3	Toluene	ND		57.3	59.1	103	60.9	106	3	60-128/24
1330-20-7	Xylene (total)	ND		172	196	114	169	98	15	57-127/27

CAS No.	Surrogate Recoveries	MS	MSD	F19992-2	Limits
1868-53-7	Dibromofluoromethane	102%	102%	94%	70-130%
2037-26-5	Toluene-D8	96%	97%	98%	79-121%
460-00-4	4-Bromofluorobenzene	96%	98%	112%	77-133%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	90%	72-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F20039-1MS	C0018764.D	1	10/15/03	KW	n/a	n/a	VC823
F20039-1MSD	C0018765.D	1	10/15/03	KW	n/a	n/a	VC823
F20039-1 [a]	C0018763.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Compound	F20039-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	27.4	110	27.1	108	1	71-127/8
75-27-4	Bromodichloromethane	ND		25	26.7	107	25.8	103	3	70-121/10
75-25-2	Bromoform	ND		25	24.1	96	24.1	96	0	50-124/18
108-90-7	Chlorobenzene	ND		25	24.9	100	24.8	99	0	77-113/6
75-00-3	Chloroethane	ND		25	25.3	101	25.0	100	1	57-155/19
67-66-3	Chloroform	ND		25	27.7	111	27.1	108	2	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	224	179*	202	162*	10	10-158/37
56-23-5	Carbon tetrachloride	ND		25	28.9	116	27.8	111	4	61-140/13
75-34-3	1,1-Dichloroethane	ND		25	28.6	114	27.8	111	3	71-129/11
75-35-4	1,1-Dichloroethylene	ND		25	28.6	114	28.1	112	2	60-141/14
107-06-2	1,2-Dichloroethane	ND		25	28.7	115	27.7	111	4	64-121/9
78-87-5	1,2-Dichloropropane	ND		25	27.7	111	27.5	110	1	73-131/8
124-48-1	Dibromochloromethane	ND		25	25.5	102	25.5	102	0	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	27.2	109	26.1	104	4	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	24.0	96	23.6	94	2	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	18.8	75	19.2	77	2	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	18.9	76	19.1	76	1	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	19.4	78	19.0	76	2	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	29.1	116	28.8	115	1	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	25.2	101	25.3	101	0	51-115/13
100-41-4	Ethylbenzene	ND		25	25.7	103	25.4	102	1	72-119/7
74-83-9	Methyl bromide	ND		25	26.6	106	27.9	112	5	44-140/19
74-87-3	Methyl chloride	ND		25	23.7	95	24.1	96	2	43-148/23
75-09-2	Methylene chloride	ND		25	27.6	110	27.4	110	1	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	26.7	107	26.2	105	2	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	30.1	120	30.2	121	0	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	26.0	104	25.8	103	1	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	27.6	110	27.0	108	2	71-117/10
127-18-4	Tetrachloroethylene	ND		25	26.1	104	25.2	101	4	74-123/11
108-88-3	Toluene	ND		25	27.2	109	26.5	106	3	73-119/10
79-01-6	Trichloroethylene	ND		25	24.5	98	24.2	97	1	71-124/9
75-01-4	Vinyl chloride	ND		25	23.7	95	24.6	98	4	53-149/22
1330-20-7	Xylene (total)	ND		75	76.2	102	74.2	99	3	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F20039-1MS	C0018764.D	1	10/15/03	KW	n/a	n/a	VC823
F20039-1MSD	C0018765.D	1	10/15/03	KW	n/a	n/a	VC823
F20039-1 [a]	C0018763.D	1	10/15/03	KW	n/a	n/a	VC823

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

F19992-1

CAS No.	Surrogate Recoveries	MS	MSD	F20039-1	Limits
1868-53-7	Dibromofluoromethane	101%	101%	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	108%	107%	108%	78-125%
2037-26-5	Toluene-D8	104%	104%	105%	87-113%
460-00-4	4-Bromofluorobenzene	95%	96%	99%	84-117%

(a) Sample was not preserved to a pH < 2.

Instrument Performance Check (BFB)

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VH827-BFB	Injection Date:	10/13/03
Lab File ID:	H022607.D	Injection Time:	08:08
Instrument ID:	GCMSH		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18787	21.4		Pass
75	30.0 - 60.0% of mass 95	42131	48.0		Pass
95	Base peak, 100% relative abundance	87739	100.0		Pass
96	5.0 - 9.0% of mass 95	5669	6.5		Pass
173	Less than 2.0% of mass 174	0	0.0	(0.0) [a]	Pass
174	50.0 - 100.0% of mass 95	52208	59.5		Pass
175	5.0 - 9.0% of mass 174	3922	4.5	(7.5) [a]	Pass
176	95.0 - 101.0% of mass 174	51392	58.6	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	3528	4.0	(6.9) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH827-CC807	H022608.D	10/13/03	08:23	00:15	Continuing cal 40
VH827-BS	H022609.D	10/13/03	08:58	00:50	Blank Spike
VH827-MB	H022610.D	10/13/03	09:29	01:21	Method Blank
F19992-2	H022611.D	10/13/03	10:06	01:58	CF-AN05-SB05
ZZZZZZ	H022612.D	10/13/03	10:36	02:28	(unrelated sample)
ZZZZZZ	H022613.D	10/13/03	11:07	02:59	(unrelated sample)
ZZZZZZ	H022617.D	10/13/03	13:12	05:04	(unrelated sample)
F19992-2MS	H022619.D	10/13/03	14:14	06:06	Matrix Spike
F19992-2MSD	H022620.D	10/13/03	14:44	06:36	Matrix Spike Duplicate
ZZZZZZ	H022621.D	10/13/03	15:15	07:07	(unrelated sample)
ZZZZZZ	H022622.D	10/13/03	15:46	07:38	(unrelated sample)
ZZZZZZ	H022626.D	10/13/03	17:50	09:42	(unrelated sample)
ZZZZZZ	H022627.D	10/13/03	18:21	10:13	(unrelated sample)
ZZZZZZ	H022628.D	10/13/03	18:52	10:44	(unrelated sample)
ZZZZZZ	H022629.D	10/13/03	19:23	11:15	(unrelated sample)
ZZZZZZ	H022630.D	10/13/03	19:53	11:45	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VC823-BFB	Injection Date:	10/15/03
Lab File ID:	C0018752.D	Injection Time:	10:38
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	23045	20.1		Pass
75	30.0 - 60.0% of mass 95	51402	44.9		Pass
95	Base peak, 100% relative abundance	114576	100.0		Pass
96	5.0 - 9.0% of mass 95	8263	7.2		Pass
173	Less than 2.0% of mass 174	681	0.59	(0.67) [a]	Pass
174	50.0 - 100.0% of mass 95	101770	88.8		Pass
175	5.0 - 9.0% of mass 174	6975	6.1	(6.9) [a]	Pass
176	95.0 - 101.0% of mass 174	101549	88.6	(99.8) [a]	Pass
177	5.0 - 9.0% of mass 176	7172	6.3	(7.1) [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
VC823-CC818	C0018754.D	10/15/03	11:31	00:53	Continuing cal 40
VC823-BS	C0018755.D	10/15/03	11:58	01:20	Blank Spike
VC823-MB	C0018756.D	10/15/03	12:25	01:47	Method Blank
ZZZZZZ	C0018758.D	10/15/03	13:22	02:44	(unrelated sample)
ZZZZZZ	C0018759.D	10/15/03	13:49	03:11	(unrelated sample)
ZZZZZZ	C0018760.D	10/15/03	14:15	03:37	(unrelated sample)
ZZZZZZ	C0018761.D	10/15/03	14:42	04:04	(unrelated sample)
ZZZZZZ	C0018762.D	10/15/03	15:08	04:30	(unrelated sample)
F20039-1	C0018763.D	10/15/03	15:35	04:57	(used for QC only; not part of job F19992)
F20039-1MS	C0018764.D	10/15/03	16:02	05:24	Matrix Spike
F20039-1MSD	C0018765.D	10/15/03	16:28	05:50	Matrix Spike Duplicate
ZZZZZZ	C0018766.D	10/15/03	16:55	06:17	(unrelated sample)
ZZZZZZ	C0018767.D	10/15/03	17:22	06:44	(unrelated sample)
ZZZZZZ	C0018768.D	10/15/03	17:48	07:10	(unrelated sample)
ZZZZZZ	C0018769.D	10/15/03	18:14	07:36	(unrelated sample)
ZZZZZZ	C0018770.D	10/15/03	18:41	08:03	(unrelated sample)
ZZZZZZ	C0018771.D	10/15/03	19:07	08:29	(unrelated sample)
ZZZZZZ	C0018772.D	10/15/03	19:34	08:56	(unrelated sample)
ZZZZZZ	C0018774.D	10/15/03	20:26	09:48	(unrelated sample)
ZZZZZZ	C0018775.D	10/15/03	20:53	10:15	(unrelated sample)
ZZZZZZ	C0018776.D	10/15/03	21:21	10:43	(unrelated sample)
F19992-1	C0018777.D	10/15/03	21:47	11:09	CF-AN05-TMW07

Instrument Performance Check (BFB)

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VH807-BFB	Injection Date:	09/09/03
Lab File ID:	H022184.D	Injection Time:	12:33
Instrument ID:	GCMSH		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16100	22.7		Pass
75	30.0 - 60.0% of mass 95	36256	51.0		Pass
95	Base peak, 100% relative abundance	71080	100.0		Pass
96	5.0 - 9.0% of mass 95	4562	6.4		Pass
173	Less than 2.0% of mass 174	0	0.0	(0.0) [a]	Pass
174	50.0 - 100.0% of mass 95	44459	62.5		Pass
175	5.0 - 9.0% of mass 174	3130	4.4	(7.0) [a]	Pass
176	95.0 - 101.0% of mass 174	42597	59.9	(95.8) [a]	Pass
177	5.0 - 9.0% of mass 176	2785	3.9	(6.5) [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
VH807-IC807	H022185.D	09/09/03	12:49	00:16	Initial cal 5
VH807-IC807	H022186.D	09/09/03	13:19	00:46	Initial cal 10
VH807-IC807	H022187.D	09/09/03	13:49	01:16	Initial cal 20
VH807-ICC807	H022188.D	09/09/03	14:20	01:47	Initial cal 40
VH807-IC807	H022189.D	09/09/03	14:50	02:17	Initial cal 100
VH807-IC807	H022190.D	09/09/03	15:20	02:47	Initial cal 200

Instrument Performance Check (BFB)

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VC818-BFB	Injection Date:	10/09/03
Lab File ID:	C0018647.D	Injection Time:	14:15
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13141	20.5		Pass
75	30.0 - 60.0% of mass 95	28893	45.0		Pass
95	Base peak, 100% relative abundance	64242	100.0		Pass
96	5.0 - 9.0% of mass 95	4331	6.7		Pass
173	Less than 2.0% of mass 174	223	0.35	(0.39) [a]	Pass
174	50.0 - 100.0% of mass 95	56714	88.3		Pass
175	5.0 - 9.0% of mass 174	4050	6.3	(7.1) [a]	Pass
176	95.0 - 101.0% of mass 174	54509	84.8	(96.1) [a]	Pass
177	5.0 - 9.0% of mass 176	3662	5.7	(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
VC818-IC818	C0018648.D	10/09/03	14:40	00:25	Initial cal 1
VC818-IC818	C0018649.D	10/09/03	15:07	00:52	Initial cal 5
VC818-IC818	C0018650.D	10/09/03	15:46	01:31	Initial cal 20
VC818-ICC818	C0018651.D	10/09/03	16:12	01:57	Initial cal 40
VC818-IC818	C0018652.D	10/09/03	16:39	02:24	Initial cal 70
VC818-IC818	C0018653.D	10/09/03	17:05	02:50	Initial cal 100

Volatile Internal Standard Area Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	VH827-CC807	Injection Date:	10/13/03
Lab File ID:	H022608.D	Injection Time:	08:23
Instrument ID:	GCMSH	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	583180	10.02	461871	13.13	180876	15.54	129761	7.29
Upper Limit [a]	1166360	10.52	923742	13.63	361752	16.04	259522	7.79
Lower Limit [b]	291590	9.52	230936	12.63	90438	15.04	64881	6.79

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH827-BS	539467	10.02	421376	13.13	163703	15.53	107625	7.30
VH827-MB	512149	10.02	359837	13.12	137469	15.53	84705	7.30
F19992-2	474098	10.02	348346	13.13	122553	15.53	50805*	7.31
ZZZZZZ	486623	10.03	346577	13.13	117014	15.54	57410*	7.30
ZZZZZZ	449019	10.03	252724	13.13	60089*	15.54	80927	7.30
ZZZZZZ	423261	10.02	319266	13.13	119629	15.53	58361*	7.32
F19992-2MS	440945	10.03	342895	13.13	131546	15.54	50534*	7.30
F19992-2MSD	441720	10.03	340392	13.14	125992	15.54	47714*	7.31
ZZZZZZ	404837	10.03	252817	13.13	95497	15.54	83716	7.32
ZZZZZZ	395038	10.02	241286	13.13	81680*	15.54	92114	7.31
ZZZZZZ	376766	10.03	313622	13.13	147192	15.54	74727	7.30
ZZZZZZ	423433	10.02	344326	13.13	167729	15.54	94756	7.31
ZZZZZZ	485775	10.02	393314	13.13	183584	15.54	95257	7.32
ZZZZZZ	449470	10.03	377141	13.12	173220	15.53	90324	7.31
ZZZZZZ	457820	10.03	376793	13.13	172111	15.54	106266	7.30

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: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	VC823-CC818	Injection Date:	10/15/03
Lab File ID:	C0018754.D	Injection Time:	11:31
Instrument ID:	GCMSC	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1920369	10.26	1484856	13.50	894059	16.04	200960	7.54
Upper Limit [a]	3840738	10.76	2969712	14.00	1788118	16.54	401920	8.04
Lower Limit [b]	960185	9.76	742428	13.00	447030	15.54	100480	7.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC823-BS	1863628	10.26	1449429	13.50	864500	16.04	205062	7.54
VC823-MB	1797251	10.26	1364742	13.50	772991	16.04	184507	7.54
ZZZZZZ	1857521	10.26	1391945	13.50	791812	16.04	198643	7.52
ZZZZZZ	1676340	10.26	1253903	13.50	714891	16.04	179915	7.52
ZZZZZZ	1545040	10.26	1176876	13.50	671872	16.04	166049	7.54
ZZZZZZ	1421665	10.26	1071893	13.50	613865	16.04	151353	7.51
ZZZZZZ	1341811	10.26	1009715	13.50	575565	16.04	137053	7.54
F20039-1	1253034	10.26	949385	13.50	536302	16.04	128233	7.52
F20039-1MS	1278678	10.26	1007920	13.50	629276	16.04	139991	7.52
F20039-1MSD	1339326	10.26	1048707	13.50	649163	16.04	146157	7.51
ZZZZZZ	1291296	10.26	974031	13.50	560494	16.04	140840	7.52
ZZZZZZ	1203643	10.26	907563	13.50	524154	16.04	144829	7.53
ZZZZZZ	1136912	10.26	862256	13.50	493526	16.04	135327	7.52
ZZZZZZ	1097955	10.26	831865	13.50	480555	16.04	174567	7.55
ZZZZZZ	1055780	10.26	798910	13.50	467715	16.04	120692	7.52
ZZZZZZ	1041232	10.26	778254	13.50	451131	16.04	111893	7.51
ZZZZZZ	1186707	10.26	1010971	13.50	627679	16.04	116667	7.52
ZZZZZZ	1514164	10.26	1159898	13.50	664260	16.04	155772	7.53
ZZZZZZ	1475553	10.26	1148025	13.50	683866	16.04	151538	7.54
ZZZZZZ	1604670	10.26	1230765	13.50	737306	16.04	163409	7.55
F19992-1	1625622	10.26	1227983	13.50	703872	16.04	175428	7.52

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: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

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
F19992-1	C0018777.D	99.0	102.0	107.0	100.0
F20039-1MS	C0018764.D	101.0	108.0	104.0	95.0
F20039-1MSD	C0018765.D	101.0	107.0	104.0	96.0
VC823-BS	C0018755.D	99.0	98.0	105.0	98.0
VC823-MB	C0018756.D	98.0	99.0	104.0	100.0

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

Volatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: SW846 8260B Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F19992-2	H022611.D	94.0	98.0	112.0	90.0
F19992-2MS	H022619.D	102.0	96.0	96.0	95.0
F19992-2MSD	H022620.D	102.0	97.0	98.0	94.0
VH827-BS	H022609.D	96.0	94.0	100.0	93.0
VH827-MB	H022610.D	94.0	103.0	101.0	93.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	79-121%
S3 = 4-Bromofluorobenzene	77-133%
S4 = 1,2-Dichloroethane-D4	72-133%

Initial Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH807-ICC807
Lab FileID: H022188.D

Response Factor Report MSVOA3

Method : C:\HPCHEM\1\METHODS\090903S.M (RTE Integrator)
Title : SWA 5035/8260B
Last Update : Tue Sep 09 15:14:31 2003
Response via : Initial Calibration

Calibration Files
1 =H022185.D 2 =H022186.D 3 =H022187.D
4 =H022188.D 5 =H022189.D 6 =H022190.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	0.244	0.245	0.260	0.257	0.244	0.219	0.245	5.93
3)	P	Chloromethane	0.427	0.432	0.445	0.436	0.420	0.388	0.425	4.63
4)	C	Vinyl Chloride	0.317	0.334	0.346	0.334	0.324	0.293	0.325	5.69
5)		Bromomethane	0.160	0.168	0.181	0.175	0.157		0.168	5.78
6)		Chloroethane	0.163	0.191	0.197	0.187	0.183	0.158	0.180	8.80
7)		Trichlorofluorometh		0.237	0.265	0.263	0.256	0.226	0.250	6.82
8)		1,2-Dichloro-1,1,2-	0.445	0.434	0.421	0.402	0.392	0.363	0.409	7.31
9)		Ethyl Ether	0.353	0.365	0.381	0.377	0.383	0.370	0.371	3.03
10)		Acrolein	0.027	0.029	0.030	0.029	0.034	0.034	0.031	9.06
11)		Freon 113	0.264	0.268	0.271	0.250	0.245	0.221	0.253	7.38
12)	C	1,1-Dichloroethene	0.558	0.542	0.552	0.542	0.540	0.507	0.540	3.32
13)		Acetone	0.201	0.166	0.164	0.152	0.167	0.165	0.169	9.63
14)		Iodomethane	0.406	0.386	0.415	0.398	0.396	0.381	0.397	3.15
15)		Carbon Disulfide	0.967	0.975	0.965	0.936	0.921	0.861	0.937	4.58
16)		Methyl acetate	0.390	0.356	0.392	0.353	0.384	0.380	0.376	4.54
17)		Methylene Chloride	0.638	0.585	0.572	0.552	0.552	0.532	0.572	6.51
18)		Acrylonitrile	0.139	0.131	0.125	0.130	0.147	0.147	0.136	6.75
19)		Methyl Tert Butyl E	1.041	1.012	1.031	1.015	1.064	1.016	1.030	1.94
20)		trans-1,2-Dichloroe	0.630	0.612	0.608	0.595	0.590	0.557	0.599	4.13
21)		Hexane	0.552	0.526	0.506	0.481	0.493	0.461	0.503	6.48
22)		Vinyl acetate	1.317	1.295	1.006	1.175	1.245	1.160	1.200	9.47
23)	P	1,1-Dichloroethane	0.717	0.710	0.726	0.709	0.691	0.632	0.698	4.86
24)		Di-isopropyl ether	1.596	1.593	1.585	1.588	1.587	1.477	1.571	2.94
25)		Ethyl tert-butyl Et	1.253	1.276	1.282	1.289	1.332	1.282	1.286	2.02
26)		2-Butanone	0.257	0.234	0.237	0.225	0.262	0.265	0.247	6.75
27)		cis-1,2-Dichloroeth	0.360	0.366	0.373	0.368	0.359	0.333	0.360	3.87
28)		2,2-Dichloropropane	0.367	0.386	0.392	0.369	0.347	0.315	0.363	7.72
29)		Bromochloromethane	0.151	0.158	0.168	0.157	0.163	0.152	0.158	4.08
30)	C	Chloroform	0.665	0.678	0.671	0.652	0.629	0.587	0.647	5.24
31)		Tetrahydrofuran	0.150	0.136	0.131	0.132	0.153	0.154	0.143	7.67
32)	S	Dibromofluoromethan	0.249	0.254	0.250	0.248	0.251	0.241	0.249	1.75
33)		1,1,1-Trichloroetha	0.450	0.447	0.457	0.437	0.428	0.392	0.435	5.44
34)		Cyclohexane	0.660	0.672	0.672	0.650	0.649	0.614	0.653	3.33
35)		1,1-Dichloropropene	0.492	0.488	0.488	0.478	0.463	0.424	0.472	5.50
36)		Carbon Tetrachlorid	0.378	0.390	0.384	0.378	0.360	0.329	0.370	6.04
37)	S	1,2-Dichloroethane-	0.384	0.384	0.392	0.373	0.367	0.362	0.377	3.02
38)		1,2-Dichloroethane	0.599	0.598	0.600	0.593	0.576	0.530	0.583	4.67
39)		Benzene	1.518	1.464	1.454	1.422	1.357	1.212	1.405	7.69
40)		Tert-Amyl Methyl Et	1.061	1.036	1.055	1.054	1.073	0.996	1.046	2.59
41)		Trichloroethene	0.350	0.344	0.349	0.350	0.346	0.316	0.343	3.83
42)		Methylcyclohexane	0.551	0.571	0.538	0.527	0.530	0.467	0.531	6.64
43)	C	1,2-Dichloropropane	0.402	0.403	0.403	0.395	0.394	0.361	0.393	4.11
44)		Dibromomethane	0.212	0.212	0.206	0.206	0.211	0.200	0.208	2.27
45)		Bromodichloromethan	0.481	0.488	0.496	0.496	0.509	0.472	0.490	2.64
46)		2-Nitropropane	0.135	0.126	0.128	0.130	0.150	0.142	0.135	6.92

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VH807-ICC807
Lab FileID: H022188.D

47)		2-Chloroethyl vinyl	0.059	0.057	0.059	0.061	0.069	0.066	0.062	7.52
48)		cis-1,3-Dichloropro	0.576	0.616	0.610	0.615	0.650	0.611	0.613	3.84
49)		4-Methyl-2-pentanon	0.509	0.481	0.476	0.472	0.537	0.502	0.496	5.02
50)	I	Chlorobenzene-d5	----------ISTD----------							
51)	S	Toluene-d8	1.354	1.334	1.546	1.333	1.351	1.579	1.416	8.05
52)	C	Toluene	2.037	1.913	2.198	1.832	1.783	1.903	1.944	7.78
53)		trans-1,3-Dichlorop	0.686	0.692	0.818	0.737	0.770	0.862	0.761	9.22
54)		1,1,2-Trichloroetha	0.349	0.351	0.405	0.342	0.352	0.400	0.366	7.65
55)		1,3-Dichloropropane	0.785	0.764	0.859	0.745	0.754	0.671	0.763	7.98
56)		2-hexanone	0.460	0.409	0.491	0.428	0.501	0.478	0.461	7.89
57)		Tetrachloroethene	0.451	0.420	0.468	0.397	0.390	0.342	0.411	11.09
58)		Dibromochloromethan	0.379	0.376	0.443	0.394	0.418	0.394	0.401	6.40
59)		1,2-Dibromoethane	0.356	0.331	0.418	0.367	0.388	0.371	0.372	7.89
60)		1-Chlorohexane	0.582	0.577	0.642	0.564	0.564	0.519	0.575	6.93
61)	P	Chlorobenzene	1.154	1.132	1.091	1.092	1.065	0.971	1.084	5.90
62)		1,1,1,2-Tetrachloro	0.373	0.391	0.386	0.382	0.371	0.326	0.371	6.38
63)	C	Ethylbenzene	2.076	2.018	1.991	1.973	1.880	1.634	1.929	8.18
64)		m,p-Xylene	1.733	1.657	1.658	1.631	1.517	1.298	1.582	9.83
65)		o-Xylene	1.688	1.716	1.683	1.672	1.588	1.383	1.622	7.68
66)		Styrene	1.146	1.117	1.159	1.188	1.140	1.004	1.126	5.69
67)	P	Bromoform	0.215	0.234	0.247	0.253	0.277	0.278	0.251	9.75
68)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
69)		Isopropylbenzene	3.927	3.722	3.611	4.288	3.565	3.171	3.714	10.09
70)		Cyclohexanone	0.037	0.036	0.034	0.041	0.044	0.049	0.040	13.80
71)	S	4-Bromofluorobenzen	1.295	1.296	1.240	1.482	1.271	1.271	1.309	6.65
72)	P	1,1,2,2-Tetrachloro	1.248	1.180	1.140	1.359	1.220	1.180	1.221	6.31
73)		trans-1,4-Dichloro-		0.345	0.339	0.441	0.417	0.419	0.392	11.88
74)		1,2,3-Trichloroprop	0.340	0.298	0.283	0.344	0.314	0.297	0.313	7.87
75)		Bromobenzene	0.953	0.898	0.870	1.036	0.841	0.745	0.891	11.16
76)		n-Propylbenzene		5.068	4.774	5.623	4.561	3.947	4.795	12.92
77)		2-Chlorotoluene	3.783	3.665	3.523	4.115	3.231	2.784	3.517	13.15
78)		1,3,5-Trimethylbenz	3.527	3.408	3.245	3.825	3.033	2.581	3.270	13.15
79)		4-Chlorotoluene	3.576	3.376	3.131	3.815	3.122	2.882	3.317	10.27
80)		tert-Butylbenzene	2.659	2.542	2.428	2.880	2.375	2.131	2.502	10.24
81)		1,2,4-Trimethylbenz	3.509	3.476	3.272	3.957	3.243	2.883	3.390	10.52
82)		sec-Butylbenzene	4.156	3.973	3.830	4.581	3.792	3.372	3.951	10.22
83)		4-Isopropyltoluene	3.126	3.052	2.864	3.448	2.915	2.554	2.993	9.96
84)		1,3-Dichlorobenzene	1.849	1.720	1.664	1.703	1.620	1.472	1.671	7.44
85)		1,4-Dichlorobenzene	1.864	1.758	1.630	1.672	1.620	1.471	1.669	8.00
86)		Benzyl chloride	1.731	1.667	1.716	1.789	1.997	1.937	1.806	7.30
87)		n-Butylbenzene	3.215	3.063	2.919	3.043	3.057	2.765	3.010	5.07
88)		1,2-Dichlorobenzene	1.682	1.589	1.563	1.574	1.554	1.423	1.564	5.32
89)		1,2-Dibromo-3-Chlor		0.180	0.183	0.196	0.225	0.226	0.202	11.07
90)		1,2,4-Trichlorobenz	0.768	0.828	0.888	0.908	0.791	0.866	0.842	6.59
91)		Hexachlorobutadiene	0.478	0.450	0.513	0.510	0.435	0.470	0.476	6.62
92)		Naphthalene	1.670	1.603	1.965	2.066	1.924	2.245	1.912	12.64
93)		1,2,3-Trichlorobenz	0.712	0.683	0.800	0.804	0.716	0.792	0.751	7.11
94)	I	Tert Butyl Alcohol-d1	----------ISTD----------							
95)		Tert Butyl Alcohol	1.367	1.292	1.296	1.360	1.379	1.344	1.340	2.78
96)		Tert Amyl Alcohol	0.913	0.939	0.970	1.019	1.130	1.136	1.018	9.44
97)		1,4-Dioxane		0.092	0.099	0.098	0.104	0.101	0.099	4.64

(#) = Out of Range

090903S.M Wed Sep 10 15:59:09 2003 RPT1

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH827-CC807
Lab FileID: H022608.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\101303\H022608.D Vial: 1
Acq On : 13 Oct 2003 8:23 am Operator: NancyF
Sample : CC807-40 Inst : MSVOA3
Misc : ms2613,vh827,5.00,,,,, Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\090903S.M (RTE Integrator)
Title : SWA 5035/8260B
Last Update : Wed Sep 10 16:52:33 2003
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	112	0.01
2		Dichlorodifluoromethane	0.245	0.282	-15.1	123	0.03
3	P	Chloromethane	0.425	0.466	-9.6	120	0.04
4	C	Vinyl Chloride	0.325	0.349	-7.4	117	0.04
5		Bromomethane	0.168	0.167	0.6	107	0.05
6		Chloroethane	0.180	0.167	7.2	100	0.05
7		Trichlorofluoromethane	0.250	0.314	-25.6#	134	-0.03
8		1,2-Dichloro-1,1,2-trifluor	0.409	0.433	-5.9	121	-0.05
9		Ethyl Ether	0.371	0.359	3.2	107	0.02
10		Acrolein	0.031	0.029	6.5	113	0.02
11		Freon 113	0.253	0.280	-10.7	126	0.04
12	C	1,1-Dichloroethene	0.540	0.544	-0.7	113	-0.03
13		Acetone	0.169	0.166	1.8	123	0.02
14		Iodomethane	0.397	0.406	-2.3	114	-0.05
15		Carbon Disulfide	0.937	1.168	-24.7#	140	-0.02
16		Methyl acetate	0.376	0.388	-3.2	123	0.01
17		Methylene Chloride	0.572	0.570	0.3	116	0.01
18		Acrylonitrile	0.136	0.130	4.4	112	0.01
19		Methyl Tert Butyl Ether	1.030	1.099	-6.7	122	0.02
20		trans-1,2-Dichloroethene	0.599	0.632	-5.5	119	0.02
21		Hexane	0.503	0.660	-31.2#	154	0.02
22		Vinyl acetate	1.200	1.142	4.8	109	0.01
23	P	1,1-Dichloroethane	0.698	0.734	-5.2	116	0.01
24		Di-isopropyl ether	1.571	1.760	-12.0	125	0.02
25		Ethyl tert-butyl Ether	1.286	1.435	-11.6	125	0.01
26		2-Butanone	0.247	0.260	-5.3	130	0.02
27		cis-1,2-Dichloroethene	0.360	0.365	-1.4	112	0.01
28		2,2-Dichloropropane	0.363	0.394	-8.5	120	0.01
29		Bromochloromethane	0.158	0.160	-1.3	114	0.01
30	C	Chloroform	0.647	0.638	1.4	110	0.02
31		Tetrahydrofuran	0.143	0.157	-9.8	134	0.01
32	S	Dibromofluoromethane	0.249	0.242	2.8	110	0.01
33		1,1,1-Trichloroethane	0.435	0.450	-3.4	116	0.02
34		Cyclohexane	0.653	0.804	-23.1#	139	0.01
35		1,1-Dichloropropene	0.472	0.516	-9.3	121	0.01
36		Carbon Tetrachloride	0.370	0.373	-0.8	111	0.01
37	S	1,2-Dichloroethane-d4	0.377	0.375	0.5	113	0.01
38		1,2-Dichloroethane	0.583	0.550	5.7	104	0.01
39		Benzene	1.405	1.458	-3.8	115	0.01
40		Tert-Amyl Methyl Ether	1.046	1.148	-9.8	122	0.01
41		Trichloroethene	0.343	0.357	-4.1	115	0.01
42		Methylcyclohexane	0.531	0.660	-24.3#	141	0.01

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VH827-CC807
Lab FileID: H022608.D

43	C	1,2-Dichloropropane	0.393	0.408	-3.8	116	0.00
44		Dibromomethane	0.208	0.201	3.4	109	0.01
45		Bromodichloromethane	0.490	0.482	1.6	109	0.01
46		2-Nitropropane	0.135	0.140	-3.7	121	0.00
47		2-Chloroethyl vinyl ether	0.062	0.101	-62.9#	187	0.00
48		cis-1,3-Dichloropropene	0.613	0.643	-4.9	118	0.00
49		4-Methyl-2-pentanone	0.496	0.535	-7.9	127	0.01
50	I	Chlorobenzene-d5	1.000	1.000	0.0	116	0.01
51	S	Toluene-d8	1.416	1.306	7.8	114	0.00
52	C	Toluene	1.944	1.836	5.6	116	0.01
53		trans-1,3-Dichloropropene	0.761	0.721	5.3	113	0.01
54		1,1,2-Trichloroethane	0.366	0.329	10.1	112	0.01
55		1,3-Dichloropropane	0.763	0.716	6.2	111	0.01
56		2-hexanone	0.461	0.476	-3.3	129	0.01
57		Tetrachloroethene	0.411	0.409	0.5	120	0.00
58		Dibromochloromethane	0.401	0.367	8.5	108	0.00
59		1,2-Dibromoethane	0.372	0.355	4.6	112	0.00
60		1-Chlorohexane	0.575	0.663	-15.3	136	0.00
61	P	Chlorobenzene	1.084	1.076	0.7	114	0.00
62		1,1,1,2-Tetrachloroethane	0.371	0.362	2.4	110	0.00
63	C	Ethylbenzene	1.929	2.039	-5.7	120	0.00
64		m,p-Xylene	1.582	1.642	-3.8	117	0.01
65		o-Xylene	1.622	1.661	-2.4	115	0.00
66		Styrene	1.126	1.160	-3.0	113	0.01
67	P	Bromoform	0.251	0.239	4.8	109	0.00
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.01
69		Isopropylbenzene	3.714	4.535	-22.1#	122	0.00
70		Cyclohexanone	0.040	0.040	0.0	112	0.00
71	S	4-Bromofluorobenzene	1.309	1.296	1.0	101	0.00
72	P	1,1,2,2-Tetrachloroethane	1.221	1.173	3.9	99	0.00
73		trans-1,4-Dichloro-2-Butene	0.392	0.389	0.8	102	0.00
74		1,2,3-Trichloropropane	0.313	0.297	5.1	99	0.00
75		Bromobenzene	0.891	0.845	5.2	94	0.00
76		n-Propylbenzene	4.795	5.045	-5.2	103	0.00
77		2-Chlorotoluene	3.517	3.506	0.3	98	0.00
78		1,3,5-Trimethylbenzene	3.270	3.349	-2.4	101	0.01
79		4-Chlorotoluene	3.317	3.303	0.4	100	0.00
80		tert-Butylbenzene	2.502	2.539	-1.5	102	0.01
81		1,2,4-Trimethylbenzene	3.390	3.476	-2.5	101	0.00
82		sec-Butylbenzene	3.951	4.204	-6.4	106	0.00
83		4-Isopropyltoluene	2.993	3.202	-7.0	107	0.01
84		1,3-Dichlorobenzene	1.671	1.657	0.8	112	0.00
85		1,4-Dichlorobenzene	1.669	1.668	0.1	115	0.00
86		Benzyl chloride	1.806	2.058	-14.0	133	0.00
87		n-Butylbenzene	3.010	3.421	-13.7	130	0.00
88		1,2-Dichlorobenzene	1.564	1.550	0.9	113	0.00
89		1,2-Dibromo-3-Chloropropane	0.202	0.198	2.0	116	0.00
90		1,2,4-Trichlorobenzene	0.842	0.984	-16.9	125	0.00
91		Hexachlorobutadiene	0.476	0.583	-22.5#	132	0.00
92		Naphthalene	1.912	2.231	-16.7	124	0.00
93		1,2,3-Trichlorobenzene	0.751	0.870	-15.8	125	0.00
94	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	143	0.01
95		Tert Butyl Alcohol	1.340	1.303	2.8	137	0.02
96		Tert Amyl Alcohol	1.018	1.114	-9.4	157	0.02
97		1,4-Dioxane	0.099	0.084	15.2	124	0.01

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH827-CC807
Lab FileID: H022608.D

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                                        Average  % D =   7.5
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    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     H022188.D  090903S.M        Tue Oct 14 09:59:14 2003   RPT1
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Initial Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VC818-ICC818
Lab FileID: C0018651.D

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\82601009.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Oct 10 08:09:49 2003
Response via : Initial Calibration

Calibration Files
1 =C0018648.D 2 =C0018649.D 3 =C0018650.D
4 =C0018651.D 5 =C0018652.D 6 =C0018653.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.300	0.276	0.299	0.293	0.292	0.260	0.287	5.52
3)	P	Chloromethane		0.333	0.345	0.332	0.329	0.315	0.331	3.21
4)	C	Vinyl Chloride	0.305	0.246	0.269	0.267	0.265	0.245	0.266	8.12
5)		Bromomethane		0.156	0.157	0.153	0.149	0.138	0.151	5.14
6)		Chloroethane	0.168	0.132	0.132	0.131	0.128	0.119	0.135	12.65
7)		Trichlorofluorometh	0.285	0.259	0.308	0.311	0.320	0.291	0.296	7.47
8)		1,2-Dichlorotrifluo	0.323	0.315	0.311	0.305	0.304	0.293	0.308	3.39
9)		Ethyl ether	0.245	0.223	0.232	0.228	0.231	0.227	0.231	3.27
10)		Acrolein	0.016	0.020	0.020	0.021	0.022	0.022	0.020	10.03
11)		Freon 113	0.292	0.277	0.278	0.279	0.280	0.277	0.280	2.04
12)		Acetone		0.104	0.097	0.095	0.097	0.093	0.097	4.47
13)	C	1,1-Dichloroethene	0.431	0.408	0.403	0.419	0.422	0.419	0.417	2.41
14)		Iodomethane	0.469	0.439	0.451	0.460	0.475	0.470	0.461	2.99
15)		Methyl Acetate	0.232	0.207	0.213	0.211	0.216	0.215	0.216	3.91
16)		Carbon Disulfide	0.933	0.854	0.858	0.870	0.869	0.861	0.874	3.35
17)		Methylene Chloride	0.542	0.448	0.433	0.431	0.430	0.429	0.452	9.85
18)		Acrylonitrile	0.066	0.085	0.087	0.087	0.090	0.091	0.084	10.85
19)		Methyl Tert Butyl E	0.639	0.668	0.692	0.681	0.708	0.714	0.684	4.06
20)		trans-1,2-Dichloroe	0.367	0.368	0.368	0.371	0.382	0.380	0.373	1.77
21)		Hexane	0.389	0.367	0.382	0.385	0.389	0.388	0.383	2.21
22)		Vinyl acetate	0.554	0.520	0.542	0.513	0.527	0.606	0.543	6.27
23)		Di-isopropyl ether	1.083	1.010	1.030	1.026	1.031	1.019	1.033	2.46
24)	P	1,1-Dichloroethane	0.472	0.460	0.456	0.454	0.463	0.458	0.461	1.34
25)		ETBE	0.716	0.753	0.813	0.818	0.852	0.852	0.801	6.85
26)		2-Butanone	0.140	0.134	0.139	0.136	0.144	0.141	0.139	2.59
27)		cis-1,2-Dichloroeth	0.273	0.265	0.261	0.265	0.269	0.270	0.267	1.64
28)		2,2-Dichloropropane	0.250	0.239	0.240	0.238	0.237	0.229	0.239	2.79
29)		Bromochloromethane	0.124	0.137	0.135	0.136	0.137	0.139	0.135	3.95
30)	C	Chloroform	0.452	0.440	0.433	0.426	0.430	0.433	0.435	2.18
31)		Tetrahydrofuran		0.089	0.087	0.087	0.093	0.091	0.089	2.84
32)	S	Dibromofluoromethan	0.270	0.265	0.270	0.263	0.264	0.264	0.266	1.29
33)		1,1,1-Trichloroetha	0.352	0.341	0.338	0.339	0.346	0.345	0.343	1.54
34)		Cyclohexane	0.475	0.480	0.501	0.498	0.515	0.514	0.497	3.31
35)		1,1-Dichloropropene	0.292	0.292	0.303	0.305	0.316	0.315	0.304	3.55
36)		Carbon Tetrachlorid	0.319	0.313	0.321	0.323	0.331	0.332	0.323	2.21
37)	S	1,2-Dichloroethane-	0.292	0.290	0.295	0.291	0.287	0.287	0.290	1.07
38)		1,2-Dichloroethane	0.372	0.375	0.364	0.365	0.372	0.370	0.370	1.20
39)		Benzene		0.994	0.975	0.968	0.980	0.951	0.974	1.62
40)		TAME	0.641	0.646	0.699	0.703	0.728	0.733	0.692	5.74
41)		Trichloroethene	0.263	0.237	0.247	0.253	0.261	0.260	0.253	4.00
42)	C	1,2-Dichloropropane	0.275	0.271	0.273	0.269	0.274	0.266	0.271	1.20
43)		Methylcyclohexane	0.384	0.373	0.400	0.409	0.419	0.413	0.400	4.46
44)		Dibromomethane	0.161	0.166	0.170	0.164	0.167	0.171	0.166	2.26
45)		Bromodichloromethan	0.324	0.321	0.327	0.329	0.334	0.341	0.329	2.19
46)		2-Nitropropane	0.077	0.072	0.076	0.078	0.080	0.080	0.077	3.62

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VC818-ICC818
Lab FileID: C0018651.D

47)		2-Chloroethyl vinyl	0.064	0.078	0.085	0.086	0.088	0.087	0.081	11.44
48)		cis-1,3-Dichloropro	0.378	0.375	0.393	0.407	0.423	0.426	0.400	5.52
49)		4-Methyl-2-pentanon	0.277	0.283	0.294	0.294	0.299	0.294	0.290	2.80
50)	I	Chlorobenzene-d5	----------	----------	ISTD	----------	----------	----------	----------	
51)	S	Toluene-d8	1.193	1.178	1.176	1.172	1.176	1.168	1.177	0.71
52)	C	Toluene		1.242	1.233	1.227	1.262	1.262	1.245	1.29
53)		trans-1,3-Dichlorop	0.432	0.439	0.445	0.456	0.466	0.468	0.451	3.29
54)		1,1,2-Trichloroetha	0.251	0.235	0.233	0.228	0.235	0.235	0.236	3.16
55)		2-hexanone	0.203	0.235	0.248	0.250	0.259	0.249	0.241	8.27
56)		1,3-Dichloropropane	0.481	0.475	0.477	0.471	0.479	0.478	0.477	0.73
57)		Tetrachloroethene	0.366	0.330	0.341	0.342	0.354	0.353	0.348	3.68
58)		Dibromochloromethan	0.306	0.282	0.304	0.312	0.323	0.334	0.310	5.72
59)		1,2-Dibromoethane	0.270	0.278	0.285	0.286	0.294	0.300	0.286	3.76
60)		1-Chlorohexane	0.306	0.349	0.392	0.405	0.423	0.428	0.384	12.40
61)	P	Chlorobenzene	0.882	0.850	0.864	0.853	0.880	0.896	0.871	2.07
62)		1,1,1,2-Tetrachloro	0.317	0.301	0.317	0.329	0.332	0.330	0.321	3.64
63)	C	Ethylbenzene	1.528	1.327	1.399	1.410	1.456	1.447	1.428	4.69
64)		m,p-Xylene	1.226	1.058	1.090	1.119	1.135	1.134	1.127	5.02
65)		o-Xylene	1.144	1.052	1.139	1.173	1.192	1.168	1.144	4.29
66)		Styrene		0.775	0.903	0.938	0.975	0.960	0.910	8.82
67)	P	Bromoform	0.204	0.201	0.234	0.240	0.253	0.262	0.232	10.81
68)	I	1,4-Dichlorobenzene-d	----------	----------	ISTD	----------	----------	----------	----------	
69)		Isopropylbenzene	1.886	1.892	2.127	2.136	2.244	2.298	2.097	8.29
70)		Cyclohexanone		0.021	0.019	0.018	0.020	0.021	0.019	6.70
71)	S	4-Bromofluorobenzen	0.896	0.893	0.885	0.859	0.871	0.887	0.882	1.60
72)	P	1,1,2,2-Tetrachloro	0.701	0.650	0.639	0.613	0.625	0.633	0.644	4.80
73)		trans-1,4-Dichloro-	0.199	0.179	0.214	0.215	0.223	0.227	0.209	8.61
74)		1,2,3-Trichloroprop	0.179	0.183	0.181	0.180	0.180	0.182	0.181	0.97
75)		Bromobenzene	0.662	0.659	0.655	0.666	0.666	0.658	0.661	0.67
76)		n-Propylbenzene	2.658	2.734	2.849	2.883	2.951	2.932	2.834	4.08
77)		1,3,5-Trimethylbenz	2.062	1.846	1.958	1.967	2.016	1.996	1.974	3.71
78)		2-Chlorotoluene	1.962	1.871	1.939	1.936	1.974	1.962	1.940	1.90
79)		4-Chlorotoluene	1.708	1.628	1.742	1.755	1.798	1.839	1.745	4.19
80)		tert-Butylbenzene	1.001	1.254	1.315	1.149	1.366	1.392	1.246	11.92
81)		1,2,4-Trimethylbenz	2.593	1.981	2.006	2.032	2.118	2.135	2.144	10.64
82)		sec-Butylbenzene	2.031	2.168	2.375	2.424	2.514	2.569	2.347	8.85
83)		4-Isopropyltoluene	1.532	1.826	1.971	2.006	2.093	2.126	1.926	11.42
84)		1,3-Dichlorobenzene	1.283	1.218	1.225	1.230	1.276	1.286	1.253	2.54
85)		1,4-Dichlorobenzene	1.425	1.294	1.278	1.304	1.335	1.352	1.331	3.99
86)		Benzyl chloride	1.178	1.109	1.250	1.282	1.333	1.330	1.247	7.10
87)		n-Butylbenzene	1.933	1.828	1.960	2.014	2.079	2.089	1.984	4.96
88)		1,2-Dichlorobenzene	1.240	1.170	1.195	1.184	1.233	1.259	1.213	2.93
89)		1,2-Dibromo-3-Chlor	0.124	0.102	0.109	0.111	0.115	0.116	0.113	6.58
90)		1,2,4-Trichlorobenz	0.775	0.717	0.798	0.802	0.848	0.852	0.799	6.28
91)		Hexachlorobutadiene	0.347	0.336	0.350	0.339	0.356	0.349	0.346	2.17
92)		Naphthalene	1.776	1.528	1.714	1.727	1.863	1.888	1.749	7.40
93)		1,2,3-Trichlorobenz	0.694	0.691	0.709	0.726	0.749	0.758	0.721	3.91
94)	I	Tert Butyl alcohol-d1	----------	----------	ISTD	----------	----------	----------	----------	
95)		Tert-Butyl alcohol	1.170	1.086	1.156	1.083	1.124	1.110	1.121	3.21
96)		Tert Amyl Alcohol	0.370	0.390	0.432	0.440	0.476	0.474	0.430	10.10
97)		1,4-Dioxane		0.091	0.115	0.108	0.123	0.121	0.111	11.44

(#) = Out of Range

82601009.M Mon Oct 13 08:18:54 2003 RPT1

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VC823-CC818
Lab FileID: C0018754.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\101503\C0018754.D Vial: 1
Acq On : 15 Oct 2003 11:31 am Operator: KarenW
Sample : CC818-40 Inst : MSVOA5
Misc : ms2628,vc823,,,,, Multiplr: 1.00
MS Integration Params: Rteint.p

Method : C:\MSDCHEM\2\METHODS\82601009.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Oct 10 08:09:49 2003
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	177	0.00
2		Dichlorodifluoromethane	0.287	0.268	6.6	162	0.00
3	P	Chloromethane	0.331	0.273	17.5	146	0.00
4	C	Vinyl Chloride	0.266	0.223	16.2	148	0.00
5		Bromomethane	0.151	0.130	13.9	151	0.00
6		Chloroethane	0.135	0.115	14.8	155	0.00
7		Trichlorofluoromethane	0.296	0.308	-4.1	175	0.00
8		1,2-Dichlorotrifluoroethane	0.308	0.283	8.1	165	0.00
9		Ethyl ether	0.231	0.218	5.6	169	0.00
10		Acrolein	0.020	0.012	40.0#	102	0.02
11		Freon 113	0.280	0.259	7.5	164	0.00
12		Acetone	0.097	0.088	9.3	163	0.01
13	C	1,1-Dichloroethene	0.417	0.373	10.6	158	0.00
14		Iodomethane	0.461	0.434	5.9	167	0.00
15		Methyl Acetate	0.216	0.203	6.0	171	0.00
16		Carbon Disulfide	0.874	0.810	7.3	165	-0.02
17		Methylene Chloride	0.452	0.399	11.7	164	-0.04
18		Acrylonitrile	0.084	0.088	-4.8	179	0.00
19		Methyl Tert Butyl Ether	0.684	0.640	6.4	166	0.00
20		trans-1,2-Dichloroethene	0.373	0.350	6.2	167	0.00
21		Hexane	0.383	0.372	2.9	171	0.00
22		Vinyl acetate	0.543	0.659	-21.4#	227#	0.00
23		Di-isopropyl ether	1.033	0.981	5.0	169	0.00
24	P	1,1-Dichloroethane	0.461	0.432	6.3	168	0.00
25		ETBE	0.801	0.760	5.1	164	0.00
26		2-Butanone	0.139	0.130	6.5	169	0.00
27		cis-1,2-Dichloroethene	0.267	0.251	6.0	168	0.00
28		2,2-Dichloropropane	0.239	0.253	-5.9	188	0.00
29		Bromochloromethane	0.135	0.129	4.4	168	0.00
30	C	Chloroform	0.435	0.403	7.4	168	0.00
31		Tetrahydrofuran	0.089	0.082	7.9	168	0.00
32	S	Dibromofluoromethane	0.266	0.260	2.3	175	0.00
33		1,1,1-Trichloroethane	0.343	0.335	2.3	175	0.00
34		Cyclohexane	0.497	0.468	5.8	166	0.00
35		1,1-Dichloropropene	0.304	0.289	4.9	167	0.00
36		Carbon Tetrachloride	0.323	0.306	5.3	167	0.00
37	S	1,2-Dichloroethane-d4	0.290	0.281	3.1	171	0.00
38		1,2-Dichloroethane	0.370	0.340	8.1	165	0.00
39		Benzene	0.974	0.913	6.3	167	0.00
40		TAME	0.692	0.657	5.1	165	0.00
41		Trichloroethene	0.253	0.228	9.9	159	0.00
42	C	1,2-Dichloropropane	0.271	0.256	5.5	168	0.00

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VC823-CC818
Lab FileID: C0018754.D

43		Methylcyclohexane	0.400	0.388	3.0	168	0.00
44		Dibromomethane	0.166	0.152	8.4	164	0.00
45		Bromodichloromethane	0.329	0.300	8.8	161	0.00
46		2-Nitropropane	0.077	0.074	3.9	167	0.00
47		2-Chloroethyl vinyl ether	0.081	0.080	1.2	165	0.00
48		cis-1,3-Dichloropropene	0.400	0.372	7.0	162	0.00
49		4-Methyl-2-pentanone	0.290	0.271	6.6	163	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	162	0.00
51	S	Toluene-d8	1.177	1.233	-4.8	171	0.00
52	C	Toluene	1.245	1.255	-0.8	166	0.00
53		trans-1,3-Dichloropropene	0.451	0.439	2.7	156	0.00
54		1,1,2-Trichloroethane	0.236	0.232	1.7	165	0.00
55		2-hexanone	0.241	0.250	-3.7	162	0.00
56		1,3-Dichloropropane	0.477	0.474	0.6	163	0.00
57		Tetrachloroethene	0.348	0.355	-2.0	169	0.00
58		Dibromochloromethane	0.310	0.307	1.0	160	0.00
59		1,2-Dibromoethane	0.286	0.287	-0.3	163	0.00
60		1-Chlorohexane	0.384	0.413	-7.6	165	0.00
61	P	Chlorobenzene	0.871	0.877	-0.7	167	0.00
62		1,1,1,2-Tetrachloroethane	0.321	0.330	-2.8	163	0.00
63	C	Ethylbenzene	1.428	1.449	-1.5	167	0.00
64		m,p-Xylene	1.127	1.141	-1.2	165	0.00
65		o-Xylene	1.144	1.187	-3.8	164	0.00
66		Styrene	0.910	0.960	-5.5	166	0.00
67	P	Bromoform	0.232	0.217	6.5	147	0.00
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	160	0.00
69		Isopropylbenzene	2.097	2.218	-5.8	166	0.00
70		Cyclohexanone	0.019	0.017	10.5	151	0.00
71	S	4-Bromofluorobenzene	0.882	0.852	3.4	159	0.00
72	P	1,1,2,2-Tetrachloroethane	0.644	0.630	2.2	164	0.00
73		trans-1,4-Dichloro-2-butene	0.209	0.059	71.8#	44#	0.00
74		1,2,3-Trichloropropane	0.181	0.173	4.4	153	0.00
75		Bromobenzene	0.661	0.677	-2.4	163	0.00
76		n-Propylbenzene	2.834	2.954	-4.2	164	0.00
77		1,3,5-Trimethylbenzene	1.974	2.026	-2.6	165	0.00
78		2-Chlorotoluene	1.940	2.001	-3.1	165	0.00
79		4-Chlorotoluene	1.745	1.798	-3.0	164	0.00
80		tert-Butylbenzene	1.246	1.184	5.0	165	0.00
81		1,2,4-Trimethylbenzene	2.144	2.092	2.4	165	0.00
82		sec-Butylbenzene	2.347	2.550	-8.6	168	0.00
83		4-Isopropyltoluene	1.926	2.139	-11.1	171	0.00
84		1,3-Dichlorobenzene	1.253	1.291	-3.0	168	0.00
85		1,4-Dichlorobenzene	1.331	1.358	-2.0	167	0.00
86		Benzyl chloride	1.247	1.375	-10.3	172	0.00
87		n-Butylbenzene	1.984	2.122	-7.0	169	0.00
88		1,2-Dichlorobenzene	1.213	1.241	-2.3	168	0.00
89		1,2-Dibromo-3-Chloropropane	0.113	0.106	6.2	153	0.00
90		1,2,4-Trichlorobenzene	0.799	0.856	-7.1	171	0.00
91		Hexachlorobutadiene	0.346	0.370	-6.9	175	0.00
92		Naphthalene	1.749	1.826	-4.4	169	0.00
93		1,2,3-Trichlorobenzene	0.721	0.772	-7.1	170	0.00
94	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	150	0.04
95		Tert-Butyl alcohol	1.121	1.141	-1.8	159	0.04
96		Tert Amyl Alcohol	0.430	0.437	-1.6	149	0.02
97		1,4-Dioxane	0.111	0.121	-9.0	169	0.03

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VC823-CC818
Lab FileID: C0018754.D

```
                                        Average  % D =   6.8
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     C0018651.D 82601009.M       Thu Oct 16 09:55:57 2003   RPT1
```

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-BS	KK00440.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F19992-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.28	112	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	60-140%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-BS2	KK00441.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F19992-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.26	104	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	107%	60-140%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-MB	KK00439.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F19992-1

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.010	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-MS	KK00453.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
OP8780-MSD	KK00454.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
F19912-6	KK00460.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F19992-1

CAS No.	Compound	F19912-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.241	0.24	100	0.23	100	4	74-120/22

CAS No.	Surrogate Recoveries	MS	MSD	F19912-6	Limits
460-00-4	4-Bromofluorobenzene	101%	97%	107%	60-140%

Volatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 504.1 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F19992-1	KK00461.D	101.0
OP8780-BS	KK00440.D	104.0
OP8780-BS2	KK00441.D	107.0
OP8780-MB	KK00439.D	82.0
OP8780-MS	KK00453.D	101.0
OP8780-MSD	KK00454.D	97.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	60-140%

(a) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-CC13	Injection Date:	10/14/03
Lab File ID:	KK00456.D	Injection Time:	18:13
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT	S1 [b] RT
Check Std	7.08	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	KK00457.D	10/14/03	18:33		6.83
ZZZZZZ	KK00458.D	10/14/03	18:52		6.83
ZZZZZZ	KK00459.D	10/14/03	19:12		6.83
F19912-6	KK00460.D	10/14/03	19:32		6.83
F19992-1	KK00461.D	10/14/03	19:52		6.83
ZZZZZZ	KK00462.D	10/14/03	20:11		6.83
ZZZZZZ	KK00463.D	10/14/03	20:31		6.83
GKK13-ECC13	KK00464.D	10/14/03	20:51	7.08	6.83

Surrogate Compounds

S1 = 4-Bromofluorobenzene

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

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-CC13	Injection Date:	10/14/03
Lab File ID:	KK00447.D	Injection Time:	15:11
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT
Check Std	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	KK00448.D	10/14/03	15:34	6.83
ZZZZZZ	KK00449.D	10/14/03	15:54	6.83
ZZZZZZ	KK00450.D	10/14/03	16:14	6.83
ZZZZZZ	KK00451.D	10/14/03	16:34	6.83
ZZZZZZ	KK00452.D	10/14/03	16:54	6.83
OP8780-MS	KK00453.D	10/14/03	17:14	6.83
OP8780-MSD	KK00454.D	10/14/03	17:33	6.83
ZZZZZZ	KK00455.D	10/14/03	17:53	6.83

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-ICC13	Injection Date:	10/14/03
Lab File ID:	KK00433.D	Injection Time:	10:30
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT
Check Std	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8780-MB	KK00439.D	10/14/03	12:32	6.83
OP8780-BS	KK00440.D	10/14/03	12:52	6.83
OP8780-BS2	KK00441.D	10/14/03	13:11	6.83
ZZZZZZ	KK00444.D	10/14/03	14:11	6.83
ZZZZZZ	KK00445.D	10/14/03	14:31	0.00
ZZZZZZ	KK00446.D	10/14/03	14:51	0.00

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-ICC13
Lab FileID: KK00433.D

Response Factor Report GC-KK-LL

Method : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Tue Oct 14 12:13:55 2003
Response via : Initial Calibration

Calibration Files
.125 =KK00432.D .250 =KK00433.D .500 =KK00434.D
0.75 =KK00435.D 1.0 =KK00436.D

	Compound	.125	.250	.500	0.75	1.0	Avg		%RSD
1)	1,2-Dibromoethane	5.034	4.786	4.479	4.360	4.524	4.637	E4	5.85
2) S	4-Bromofluorobenzene	3.378	3.193	2.903	2.761	2.703	2.988	E3	9.67
3)	1,2-Dibromo-3-chlorop	1.066	1.064	1.097	1.122	1.145	1.099	E5	3.22

Signal #2

1)	1,2-Dibromoethane	4.492	4.245	3.883	3.680	3.782	4.017	E4	8.48
2) S	4-Bromofluorobenzene	4.872	4.618	4.040	3.858	3.824	4.242	E3	11.19
3)	1,2-Dibromo-3-chlorop	9.842	9.567	9.712	9.622	9.765	9.702	E4	1.13

(#) = Out of Range

504_1.M Wed Oct 15 09:55:59 2003

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00456.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD1A.CH Vial: 26
Acq On    : 10-14-03 06:13:19 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS.E

Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD2B.CH Vial: 26
Acq On    : 10-14-03 06:13:18 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.491	1.8	102	0.00
2 S	4-Bromofluorobenzene	4.000	3.896	2.6	100	0.00
3	1,2-Dibromo-3-chloropropane	0.500	0.513	-2.6	103	0.00

Signal #2

1	1,2-Dibromoethane	0.500	0.478	4.4	99	0.00
2 S	4-Bromofluorobenzene	4.000	3.747	6.3	98	0.00
3	1,2-Dibromo-3-chloropropa	0.500	0.499	0.2	100	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD1A.CH Vial: 26
Acq On    : 10-14-03 06:13:19 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS.E

Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD2B.CH Vial: 26
Acq On    : 10-14-03 06:13:18 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00456.D

```
  Signal #2

 ---------------------------------------------------------------------------

    (#) = Out of Range                SPCC's out = 0  CCC's out = 0
     KK00434.D  504_1.M          Wed Oct 15 09:56:31 2003
```

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-ECC13
Lab FileID: KK00464.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD1A.CH Vial: 34
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD2B.CH
Acq On    : 10-14-03 08:51:30 PM                    Operator: stephw
Sample    : ECC13-0.25                              Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%

      Compound                       Amount  Calc.      %Dev  Area% Dev(Min)
---------------------------------------------------------------------------
1     1,2-Dibromoethane              0.250   0.268      -7.2   104   0.00
2 S   4-Bromofluorobenzene           2.000   2.154      -7.7   101   0.00
3     1,2-Dibromo-3-chloropropane    0.250   0.247       1.2   102   0.00

Signal #2

1     1,2-Dibromoethane              0.250   0.270      -8.0   102   0.00
2 S   4-Bromofluorobenzene           2.000   2.139      -6.9    98   0.00
3     1,2-Dibromo-3-chloropropa      0.250   0.249       0.4   101   0.00
```

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD1A.CH Vial: 34
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD2B.CH
Acq On    : 10-14-03 08:51:30 PM                    Operator: stephw
Sample    : ECC13-0.25                              Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%

      Compound                       Amount  Calc.      %Dev  Area% Dev(Min)
---------------------------------------------------------------------------

Signal #2

---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    KK00433.D  504_1.M          Wed Oct 15 09:56:15 2003
```

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00447.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD2B.CH
Acq On    : 10-14-03 03:11:22 PM                    Operator: stephw
Sample    : CC13-0.25                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.257	-2.8	100	0.00
2 S	4-Bromofluorobenzene	2.000	2.090	-4.5	98	0.00
3	1,2-Dibromo-3-chloropropane	0.250	0.249	0.4	103	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.258	-3.2	98	0.00
2 S	4-Bromofluorobenzene	2.000	2.045	-2.2	94	0.00
3	1,2-Dibromo-3-chloropropa	0.250	0.253	-1.2	102	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD2B.CH
Acq On    : 10-14-03 03:11:22 PM                    Operator: stephw
Sample    : CC13-0.25                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
KK00433.D 504_1.M Wed Oct 15 09:56:15 2003

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-BS	OP32375.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.755	89	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	98%	51-125%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8776-BS	AA017861.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854

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

F19992-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	15.1	76	52-104
208-96-8	Acenaphthylene	20	14.5	73	51-103
120-12-7	Anthracene	10	8.0	80	60-112
56-55-3	Benzo(a)anthracene	10	8.1	81	64-111
50-32-8	Benzo(a)pyrene	10	8.1	81	56-118
205-99-2	Benzo(b)fluoranthene	10	8.2	82	63-117
191-24-2	Benzo(g,h,i)perylene	10	8.3	83	45-118
207-08-9	Benzo(k)fluoranthene	10	8.2	82	56-118
218-01-9	Chrysene	10	8.5	85	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.1	81	41-119
206-44-0	Fluoranthene	20	15.7	79	61-111
86-73-7	Fluorene	20	14.9	75	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.7	87	46-118
91-20-3	Naphthalene	20	13.0	65	44-105
90-12-0	1-Methylnaphthalene	20	14.2	71	47-102
91-57-6	2-Methylnaphthalene	20	14.2	71	47-101
85-01-8	Phenanthrene	20	15.1	76	55-109
129-00-0	Pyrene	20	15.7	79	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	81%	32-142%
92-94-4	p-Terphenyl	82%	30-128%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8776-BS	AA017892.D	1	10/16/03	MRE	10/14/03	OP8776	GAA855

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

F19992-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	15.1	76	52-104
208-96-8	Acenaphthylene	20	14.4	72	51-103
120-12-7	Anthracene	10	8.1	81	60-112
56-55-3	Benzo(a)anthracene	10	8.1	81	64-111
50-32-8	Benzo(a)pyrene	10	8.1	81	56-118
205-99-2	Benzo(b)fluoranthene	10	8.2	82	63-117
191-24-2	Benzo(g,h,i)perylene	10	8.1	81	45-118
207-08-9	Benzo(k)fluoranthene	10	8.2	82	56-118
218-01-9	Chrysene	10	8.6	86	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.1	81	41-119
206-44-0	Fluoranthene	20	15.7	79	61-111
86-73-7	Fluorene	20	14.8	74	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.0	80	46-118
91-20-3	Naphthalene	20	13.0	65	44-105
90-12-0	1-Methylnaphthalene	20	14.1	71	47-102
91-57-6	2-Methylnaphthalene	20	14.1	71	47-101
85-01-8	Phenanthrene	20	15.1	76	55-109
129-00-0	Pyrene	20	15.6	78	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	82%	32-142%
92-94-4	p-Terphenyl	83%	30-128%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-BS	OP32553.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C8-C40)	28.3	30.4	107	69-112

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	108%	57-127%

Blank Spike Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-BS	AA017970.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F19992-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	3330	3050	91	42-128
208-96-8	Acenaphthylene	3330	2980	89	42-127
120-12-7	Anthracene	1670	1640	98	55-124
56-55-3	Benzo(a)anthracene	1670	1670	100	59-128
50-32-8	Benzo(a)pyrene	1670	1620	97	51-127
205-99-2	Benzo(b)fluoranthene	1670	1690	101	60-130
191-24-2	Benzo(g,h,i)perylene	1670	1710	103	60-130
207-08-9	Benzo(k)fluoranthene	1670	1670	100	61-132
218-01-9	Chrysene	1670	1750	105	62-130
53-70-3	Dibenzo(a,h)anthracene	1670	1670	100	61-131
206-44-0	Fluoranthene	3330	3300	99	56-130
86-73-7	Fluorene	3330	3020	91	46-128
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1770	106	61-130
91-20-3	Naphthalene	3330	2730	82	34-130
90-12-0	1-Methylnaphthalene	3330	2920	88	37-126
91-57-6	2-Methylnaphthalene	3330	2930	88	37-126
85-01-8	Phenanthrene	3330	3100	93	49-130
129-00-0	Pyrene	3330	3260	98	56-128

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	93%	38-139%
92-94-4	p-Terphenyl	93%	46-149%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MB	OP32376.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	51-125%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MB	OP32483.D	1	10/17/03	SM	10/13/03	OP8774	GOP1088

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	96%	51-125%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8776-MB	AA017862.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854

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

F19992-1

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	82%	32-142%
92-94-4	p-Terphenyl	78%	30-128%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8776-MB	AA017893.D	1	10/16/03	MRE	10/14/03	OP8776	GAA855

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

F19992-1

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	32-142%
92-94-4	p-Terphenyl	79%	30-128%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-MB	OP32554.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	8.3	5.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	106%	57-127%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA017971.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F19992-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	96%	38-139%
92-94-4	p-Terphenyl	97%	46-149%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA017999.D	1	10/23/03	MRE	10/15/03	OP8787	GAA861

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

F19992-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	97%	38-139%
92-94-4	p-Terphenyl	98%	46-149%

Method Blank Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA018011.D	1	10/24/03	MRE	10/15/03	OP8787	GAA862

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

F19992-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	38-139%
92-94-4	p-Terphenyl	97%	46-149%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MS	OP32386.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
OP8774-MSD	OP32387.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
F20013-1	OP32385.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-1

CAS No.	Compound	F20013-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	0.189	J	1.7	1.96	104	1.78	94	10	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F20013-1	Limits
84-15-1	o-Terphenyl	103%	90%	56%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8776-MS	AA017867.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854
OP8776-MSD	AA017868.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854
F19994-2	AA017866.D	1	10/15/03	MRE	10/14/03	OP8776	GAA854

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

F19992-1

CAS No.	Compound	F19994-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		40.8	31.6	77	34.5	85	9	20-140/45
208-96-8	Acenaphthylene	ND		40.8	29.4	72	32.2	79	9	17-141/46
120-12-7	Anthracene	ND		20.4	17.3	85	18.5	91	7	48-123/23
56-55-3	Benzo(a)anthracene	ND		20.4	17.5	86	18.5	91	6	42-134/22
50-32-8	Benzo(a)pyrene	ND		20.4	17.5	86	18.5	91	6	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20.4	17.6	86	18.5	91	5	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20.4	17.8	87	18.7	92	5	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		20.4	17.4	85	18.4	90	6	58-120/22
218-01-9	Chrysene	ND		20.4	18.4	90	19.4	95	5	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20.4	17.4	85	18.3	90	5	57-120/23
206-44-0	Fluoranthene	ND		40.8	33.9	83	36.0	88	6	55-117/22
86-73-7	Fluorene	ND		40.8	31.4	77	34.1	84	8	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20.4	18.6	91	19.6	96	5	57-118/22
91-20-3	Naphthalene	ND		40.8	27.1	66	29.6	73	9	18-129/45
90-12-0	1-Methylnaphthalene	ND		40.8	29.2	72	32.0	78	9	18-131/46
91-57-6	2-Methylnaphthalene	ND		40.8	29.4	72	32.3	79	9	12-135/48
85-01-8	Phenanthrene	ND		40.8	32.2	79	34.5	85	7	39-129/27
129-00-0	Pyrene	ND		40.8	33.8	83	35.8	88	6	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F19994-2	Limits
84-15-1	o-Terphenyl	84%	90%	85%	32-142%
92-94-4	p-Terphenyl	83%	88%	71%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-MS	OP32579.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
OP8785-MSD	OP32580.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
F20049-1	OP32578.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F19992-2

CAS No.	Compound	F20049-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	14.5		30.1	42.5	93	49.4	115	15	36-132/31

CAS No.	Surrogate Recoveries	MS	MSD	F20049-1	Limits
84-15-1	o-Terphenyl	101%	98%	96%	57-127%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MS	AA017976.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
OP8787-MSD	AA017977.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
F19999-3	AA017975.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F19992-2

CAS No.	Compound	F19999-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		3740	3600	96	3450	92	4	21-149/37
208-96-8	Acenaphthylene	ND		3740	3420	91	3310	89	3	34-129/32
120-12-7	Anthracene	ND		1870	1880	101	1790	96	5	49-131/32
56-55-3	Benzo(a)anthracene	ND		1870	1800	96	1750	94	3	64-121/32
50-32-8	Benzo(a)pyrene	ND		1870	1770	95	1720	92	3	53-126/33
205-99-2	Benzo(b)fluoranthene	ND		1870	1830	98	1760	94	4	62-121/31
191-24-2	Benzo(g,h,i)perylene	ND		1870	1840	98	1780	95	3	60-124/35
207-08-9	Benzo(k)fluoranthene	ND		1870	1810	97	1790	96	1	48-139/30
218-01-9	Chrysene	ND		1870	1900	102	1850	99	3	64-126/29
53-70-3	Dibenzo(a,h)anthracene	ND		1870	1800	96	1740	93	3	63-126/25
206-44-0	Fluoranthene	ND		3740	3660	98	3510	94	4	64-120/33
86-73-7	Fluorene	ND		3740	3540	95	3380	90	5	44-127/34
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1870	1890	101	1840	98	3	59-124/32
91-20-3	Naphthalene	ND		3740	3090	83	2970	79	4	21-136/33
90-12-0	1-Methylnaphthalene	ND		3740	3340	89	3220	86	4	17-143/45
91-57-6	2-Methylnaphthalene	ND		3740	3350	90	3240	87	3	21-139/48
85-01-8	Phenanthrene	ND		3740	3580	96	3410	91	5	42-139/38
129-00-0	Pyrene	ND		3740	3610	97	3470	93	4	60-124/32

CAS No.	Surrogate Recoveries	MS	MSD	F19999-3	Limits
84-15-1	o-Terphenyl	100%	95%	97%	38-139%
92-94-4	p-Terphenyl	95%	92%	96%	46-149%

Semivolatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 8310 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F19992-1	AA017864.D	80.0	61.0
OP8776-BS	AA017861.D	81.0	82.0
OP8776-BS	AA017892.D	82.0	83.0
OP8776-MB	AA017862.D	82.0	78.0
OP8776-MB	AA017893.D	84.0	79.0
OP8776-MS	AA017867.D	84.0	83.0
OP8776-MSD	AA017868.D	90.0	88.0

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

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 8310 Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F19992-2	AA017972.D	92.0	94.0
OP8787-BS	AA017970.D	93.0	93.0
OP8787-MB	AA017971.D	96.0	97.0
OP8787-MB	AA017999.D	97.0	98.0
OP8787-MB	AA018011.D	95.0	97.0
OP8787-MS	AA017976.D	100.0	95.0
OP8787-MSD	AA017977.D	95.0	92.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	38-139%
S2 = p-Terphenyl	46-149%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: FLORIDA-PRO Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F19992-1	OP32383.D	74.0
OP8774-BS	OP32375.D	98.0
OP8774-MB	OP32376.D	95.0
OP8774-MB	OP32483.D	96.0
OP8774-MS	OP32386.D	103.0
OP8774-MSD	OP32387.D	90.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: FLORIDA-PRO Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F19992-2	OP32555.D	104.0
OP8785-BS	OP32553.D	108.0
OP8785-MB	OP32554.D	106.0
OP8785-MS	OP32579.D	101.0
OP8785-MSD	OP32580.D	98.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	57-127%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1087-CC1082	Injection Date:	10/15/03
Lab File ID:	OP32382.D	Injection Time:	14:12
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.06

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
F19992-1	OP32383.D	10/15/03	14:33	5.06
ZZZZZZ	OP32384.D	10/15/03	14:54	
F20013-1	OP32385.D	10/15/03	15:15	5.06
OP8774-MS	OP32386.D	10/15/03	15:35	5.06
OP8774-MSD	OP32387.D	10/15/03	15:56	5.06
ZZZZZZ	OP32388.D	10/15/03	16:17	5.05
ZZZZZZ	OP32389.D	10/15/03	16:38	5.05
ZZZZZZ	OP32390.D	10/15/03	16:59	5.06
ZZZZZZ	OP32391.D	10/15/03	17:20	

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA854-CC846	Injection Date:	10/15/03
Lab File ID:	AA017860.D	Injection Time:	16:42
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	6.27	8.46

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8776-BS	AA017861.D	10/15/03	17:02	6.26	8.45
OP8776-MB	AA017862.D	10/15/03	17:23	6.26	8.45
ZZZZZZ	AA017863.D	10/15/03	17:44	6.26	8.45
F19992-1	AA017864.D	10/15/03	18:05	6.26	8.45
ZZZZZZ	AA017865.D	10/15/03	18:26	6.25	8.45
F19994-2	AA017866.D	10/15/03	18:46	6.26	8.45
OP8776-MS	AA017867.D	10/15/03	19:07	6.25	8.45
OP8776-MSD	AA017868.D	10/15/03	19:28	6.26	8.45

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/20/03
Lab File ID:	OP32550.D	Injection Time:	08:24
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8785-BS	OP32553.D	10/20/03	10:03	5.04
OP8785-MB	OP32554.D	10/20/03	10:50	5.04
F19992-2	OP32555.D	10/20/03	11:13	5.04
ZZZZZZ	OP32556.D	10/20/03	11:34	5.04
ZZZZZZ	OP32557.D	10/20/03	11:55	5.04
ZZZZZZ	OP32558.D	10/20/03	12:16	5.04
ZZZZZZ	OP32559.D	10/20/03	12:37	0.00
ZZZZZZ	OP32560.D	10/20/03	12:58	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA860-CC846	Injection Date:	10/22/03
Lab File ID:	AA017969.D	Injection Time:	16:03
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	6.25	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8787-BS	AA017970.D	10/22/03	16:24	6.25	8.45
OP8787-MB	AA017971.D	10/22/03	16:45	6.25	8.45
F19992-2	AA017972.D	10/22/03	17:06	6.25	8.45
ZZZZZZ	AA017973.D	10/22/03	17:26	6.25	8.45
ZZZZZZ	AA017974.D	10/22/03	17:47	6.24	8.45
F19999-3	AA017975.D	10/22/03	18:08	6.24	8.45
OP8787-MS	AA017976.D	10/22/03	18:29	6.25	8.45
OP8787-MSD	AA017977.D	10/22/03	18:49	6.25	8.46

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1087-CC1082	Injection Date:	10/15/03
Lab File ID:	OP32370.D	Injection Time:	09:56
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.06

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8758-MB	OP32373.D	10/15/03	11:04	5.06
ZZZZZZ	OP32374.D	10/15/03	11:25	0.00
OP8774-BS	OP32375.D	10/15/03	11:46	5.06
OP8774-MB	OP32376.D	10/15/03	12:07	5.06
ZZZZZZ	OP32378.D	10/15/03	12:49	5.06
ZZZZZZ	OP32379.D	10/15/03	13:09	5.06

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA855-CC846	Injection Date:	10/16/03
Lab File ID:	AA017889.D	Injection Time:	13:25
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	6.27	6.27	8.46	8.46

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP8776-BS	AA017892.D	10/16/03	14:27	6.26		8.45	
OP8776-MB	AA017893.D	10/16/03	14:48	6.26		8.45	
ZZZZZZ	AA017894.D	10/16/03	15:52	6.24		8.45	
ZZZZZZ	AA017895.D	10/16/03	16:12	6.26		8.46	
ZZZZZZ	AA017896.D	10/16/03	16:33	6.26		8.46	
ZZZZZZ	AA017897.D	10/16/03	16:54	6.26		8.46	
ZZZZZZ	AA017898.D	10/16/03	17:15	6.26		8.45	
ZZZZZZ	AA017899.D	10/16/03	17:35	6.26		8.46	
GAA855-ECC846	AA017900.D	10/16/03	17:56	6.26	6.26	8.45	8.45

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

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

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1088-CC1082	Injection Date:	10/17/03
Lab File ID:	OP32478.D	Injection Time:	13:22
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.05

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8761-MB	OP32481.D	10/17/03	14:25	5.05
ZZZZZZ	OP32482.D	10/17/03	14:46	5.04
OP8774-MB	OP32483.D	10/17/03	15:07	5.05
ZZZZZZ	OP32484.D	10/17/03	15:28	5.05
OP8777-MB	OP32485.D	10/17/03	15:48	5.05
ZZZZZZ	OP32486.D	10/17/03	16:09	5.05
ZZZZZZ	OP32487.D	10/17/03	16:30	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/20/03
Lab File ID:	OP32573.D	Injection Time:	17:59
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP32574.D	10/20/03	18:20	5.04
ZZZZZZ	OP32577.D	10/20/03	19:22	5.04
F20049-1	OP32578.D	10/20/03	19:42	5.04
OP8785-MS	OP32579.D	10/20/03	20:03	5.04
OP8785-MSD	OP32580.D	10/20/03	20:24	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA861-CC846	Injection Date:	10/23/03
Lab File ID:	AA017998.D	Injection Time:	09:57
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	6.25	6.25	8.45	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP8787-MB	AA017999.D	10/23/03	10:18	6.25		8.45	
ZZZZZZ	AA018001.D	10/23/03	10:59		0.00		0.00
ZZZZZZ	AA018002.D	10/23/03	11:20	0.00		0.00	
ZZZZZZ	AA018003.D	10/23/03	11:41	6.24		8.45	
ZZZZZZ	AA018004.D	10/23/03	12:02	6.24		8.45	
ZZZZZZ	AA018006.D	10/23/03	12:43	0.00		0.00	
ZZZZZZ	AA018007.D	10/23/03	13:04	6.24		8.46	
GAA861-ECC846	AA018008.D	10/23/03	13:25	6.24	6.24	8.44	8.44

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

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

GC Surrogate Retention Time Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA862-CC846	Injection Date:	10/24/03
Lab File ID:	AA018010.D	Injection Time:	10:39
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	6.25	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8787-MB	AA018011.D	10/24/03	11:00	6.25	8.44
ZZZZZZ	AA018012.D	10/24/03	11:21	6.24	8.44
OP8819-BS	AA018013.D	10/24/03	11:42	6.25	8.45
OP8819-MB	AA018014.D	10/24/03	12:03	6.25	8.44
ZZZZZZ	AA018015.D	10/24/03	12:23	6.24	8.44
N50073-2	AA018016.D	10/24/03	12:44	6.24	8.45
OP8819-MS	AA018017.D	10/24/03	13:05	6.25	8.44
OP8819-MSD	AA018018.D	10/24/03	13:26	6.25	8.45

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA846-ICC846
Lab FileID: AA017703.D

Response Factor Report DAD

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Initial Calibration

Calibration Files
L1 =AA017700.D L2 =AA017701.D L3 =AA017702.D
L4 =AA017703.D L5 =AA017704.D L6 =AA017705.D

	Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)	Naphthalene	5.085	4.406	4.156	3.969	3.901	3.973	4.248	E5	10.57
2)	Acenaphthylene	1.930	1.665	1.617	1.561	1.540	1.575	1.648	E5	8.80
3)	1-Methyl Naphthalen	3.528	3.490	3.332	3.198	3.135	3.194	3.313	E5	4.99
4)	2-Methyl Naphthalen	3.412	3.562	3.407	3.267	3.212	3.273	3.355	E5	3.86
5)	Acenaphthene	2.307	2.602	2.495	2.404	2.358	2.409	2.429	E5	4.32
6)	Fluorene	1.163	1.009	0.951	0.913	0.894	0.911	0.974	E6	10.43
7)	Phenanthrene	9.727	8.507	8.042	7.723	7.558	7.716	8.212	E5	9.93
8) S	O-Terphenyl	3.530	3.085	3.028	2.909	2.853	2.923	3.055	E5	8.11
9)	Anthracene	1.104	0.977	0.967	0.937	0.918	0.942	0.974	E5	6.85

----- Quadratic regression ----- Coefficient = 0.9997
Response Ratio = 9854.20403 + 91083.39328 *A + 107.28589 *A^2

10)	Fluoranthene	8.136	7.175	6.781	6.453	6.324	6.451	6.887	E5	9.95
11)	Pyrene	1.289	1.104	1.031	0.970	0.935	0.941	1.045	E6	12.95
12) S	P-Terphenyl	1.412	1.242	1.177	1.121	1.096	1.118	1.194	E6	9.98
13)	Benzo(a)Anthracene	2.243	1.948	1.837	1.742	1.696	1.723	1.865	E6	11.10
14)	Chrysene		2.667	2.451	2.253	2.130	2.091	2.319	E6	10.35
15)	Benzo(b)Fluoranthen	1.178	1.038	0.972	0.946	0.910	0.930	0.996	E6	10.03
16)	Benzo(k)Fluoranthen	7.222	6.146	5.771	5.600	5.361	5.488	5.931	E5	11.61
17)	Benzo(a) Pyrene	1.395	1.193	1.122	1.078	1.053	1.076	1.153	E6	11.15
18)	Dibenzo(a,h)anthrac	1.085	0.932	0.867	0.826	0.809	0.823	0.890	E6	11.82
19)	Benzo(g,h,i) Peryle	7.930	6.521	6.052	5.801	5.690	5.830	6.304	E5	13.47
20)	Indeno(1,2,3-cd)pyr	6.269	5.038	4.700	4.513	4.427	4.531	4.913	E5	14.22

Signal #2

1)	Naphthalene	2.995	2.537	2.435	2.333	2.293	2.300	2.482	E5	10.81
2)	Acenaphthylene	1.817	1.632	1.557	1.532	1.512	1.478	1.588	E5	7.77
3)	1-Methyl Naphthalen	1.539	1.259	1.374	1.360	1.337	1.298	1.361	E5	7.10
4)	2-Methyl Naphthalen	2.329	1.838	1.992	1.955	1.930	1.891	1.989	E5	8.77
5)	Acenaphthene	6.791	6.891	7.872	7.979	7.870	7.475	7.480	E4	7.01
6)	Fluorene	1.315	1.119	1.047	1.016	0.999	0.998	1.082	E6	11.31
7)	Phenanthrene	3.409	2.956	2.747	2.607	2.530	2.542	2.799	E6	12.11
8) S	O-Terphenyl	6.041	5.307	5.031	4.862	4.766	4.808	5.136	E5	9.45
9)	Anthracene	7.532	6.442	5.773	5.190	4.777	4.528	5.707	E6	19.82

----- Quadratic regression ----- Coefficient = 0.9997
Response Ratio = 798433.71330 + 5749740.86363 *A + -64251.97408 *A^2

10)	Fluoranthene	7.880	6.932	6.687	6.482	6.365	6.456	6.800	E5	8.33
11)	Pyrene	7.489	6.260	5.902	5.721	5.609	5.713	6.116	E5	11.62
12) S	P-Terphenyl	7.150	6.089	5.790	5.554	5.435	5.549	5.928	E5	10.84
13)	Benzo(a)Anthracene	1.670	1.450	1.375	1.323	1.299	1.328	1.407	E6	9.89
14)	Chrysene	2.462	2.112	2.003	1.913	1.868	1.896	2.042	E6	10.97
15)	Benzo(b)Fluoranthen	1.121	0.942	0.898	0.851	0.832	0.849	0.916	E6	11.85
16)	Benzo(k)Fluoranthen	1.654	1.432	1.350	1.285	1.259	1.286	1.378	E6	10.82
17)	Benzo(a) Pyrene	1.094	0.897	0.826	0.781	0.759	0.769	0.854	E6	15.00
18)	Dibenzo(a,h)anthrac	2.720	2.351	2.170	2.034	1.960	1.961	2.199	E6	13.43
19)	Benzo(g,h,i) Peryle	1.281	1.089	1.003	0.956	0.937	0.956	1.037	E6	12.68

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA846-ICC846
Lab FileID: AA017703.D

```
20)     Indeno(1,2,3-cd)pyr 8.424 6.996 6.796 6.498 6.377 6.500 6.932 E5  11.05
---------------------------------------------------------------------------
(#) = Out of Range

          8310_32.M         Thu Oct 09 09:43:57 2003
```

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA854-CC846
Lab FileID: AA017860.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1015APAH\AA017860.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1015APAH\AA017860.D\DAD1A.CH
Acq On : 15-Oct-2003, 16:42:11 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8776,gaa854,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.094	-0.9	103	0.00
2		Acenaphthylene	10.000	10.160	-1.6	104	0.01
3		1-Methyl Naphthalene	10.000	10.443	-4.4	104	0.01
4		2-Methyl Naphthalene	10.000	10.516	-5.2	104	0.02
5		Acenaphthene	10.000	10.575	-5.7	103	0.01
6		Fluorene	10.000	10.157	-1.6	104	0.02
7		Phenanthrene	10.000	10.186	-1.9	104	0.02
8	S	O-Terphenyl	10.000	10.380	-3.8	105	0.02
9		Anthracene	5.000	5.500	-10.0	106	0.03
10		Fluoranthene	10.000	10.359	-3.6	105	0.02
11		Pyrene	10.000	10.258	-2.6	104	0.02
12	S	P-Terphenyl	10.000	10.249	-2.5	104	0.02
13		Benzo(a)Anthracene	5.000	5.116	-2.3	104	0.01
14		Chrysene	5.000	5.473	-9.5	104	0.01
15		Benzo(b)Fluoranthene	5.000	5.092	-1.8	104	0.00
16		Benzo(k)Fluoranthene	5.000	5.038	-0.8	104	0.00
17		Benzo(a) Pyrene	5.000	5.028	-0.6	103	0.00
18		Dibenzo(a,h)anthracene	5.000	5.055	-1.1	104	0.00
19		Benzo(g,h,i) Perylene	5.000	4.992	0.2	104	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	4.981	0.4	104	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.074	-0.7	103	0.00
2		Acenaphthylene	10.000	10.041	-0.4	102	0.02
3		1-Methyl Naphthalene	10.000	10.333	-3.3	102	0.02
4		2-Methyl Naphthalene	10.000	10.330	-3.3	103	0.02
5		Acenaphthene	10.000	10.529	-5.3	100	0.02
6		Fluorene	10.000	10.043	-0.4	104	0.02
7		Phenanthrene	10.000	10.183	-1.8	104	0.02
8	S	O-Terphenyl	10.000	10.202	-2.0	104	0.02
9		Anthracene	5.000	5.392	-7.8	104	0.02
10		Fluoranthene	10.000	10.336	-3.4	105	0.02
11		Pyrene	10.000	10.082	-0.8	104	0.02
12	S	P-Terphenyl	10.000	10.212	-2.1	105	0.02
13		Benzo(a)Anthracene	5.000	5.100	-2.0	104	0.01
14		Chrysene	5.000	5.105	-2.1	104	0.01
15		Benzo(b)Fluoranthene	5.000	5.040	-0.8	103	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA854-CC846
Lab FileID: AA017860.D

16	Benzo(k)Fluoranthene	5.000	5.056	-1.1	103	0.00
17	Benzo(a) Pyrene	5.000	4.939	1.2	102	0.00
18	Dibenzo(a,h)anthracene	5.000	5.097	-1.9	103	0.00
19	Benzo(g,h,i) Perylene	5.000	5.012	-0.2	104	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.039	-0.8	103	0.00

Average % D = 2.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Thu Oct 16 15:01:48 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA854-CC846
Lab FileID: AA017869.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1015APAH\AA017869.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1015APAH\AA017869.D\DAD1A.CH
Acq On : 15-Oct-2003, 19:49:07 Operator: MIKEE
Sample : CC846-20 Inst : DAD
Misc : op8776,gaa854,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.779	6.1	100	0.00
2		Acenaphthylene	20.000	18.862	5.7	100	0.00
3		1-Methyl Naphthalene	20.000	19.585	2.1	101	0.00
4		2-Methyl Naphthalene	20.000	19.787	1.1	102	0.00
5		Acenaphthene	20.000	19.983	0.1	101	0.00
6		Fluorene	20.000	19.096	4.5	102	0.00
7		Phenanthrene	20.000	19.126	4.4	102	0.00
8	S	O-Terphenyl	20.000	19.524	2.4	103	0.00
9		Anthracene	10.000	10.271	-2.7	102	0.02
10		Fluoranthene	20.000	19.306	3.5	103	0.01
11		Pyrene	20.000	18.960	5.2	102	0.00
12	S	P-Terphenyl	20.000	19.163	4.2	102	0.00
13		Benzo(a)Anthracene	10.000	9.538	4.6	102	0.00
14		Chrysene	10.000	9.933	0.7	102	0.00
15		Benzo(b)Fluoranthene	10.000	9.508	4.9	100	0.00
16		Benzo(k)Fluoranthene	10.000	9.425	5.7	100	0.00
17		Benzo(a) Pyrene	10.000	9.426	5.7	101	0.00
18		Dibenzo(a,h)anthracene	10.000	9.473	5.3	102	0.00
19		Benzo(g,h,i) Perylene	10.000	9.358	6.4	102	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	9.357	6.4	102	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.010	4.9	101	0.00
2		Acenaphthylene	20.000	18.960	5.2	98	0.00
3		1-Methyl Naphthalene	20.000	19.604	2.0	98	0.00
4		2-Methyl Naphthalene	20.000	19.504	2.5	99	0.00
5		Acenaphthene	20.000	20.089	-0.4	94	0.00
6		Fluorene	20.000	18.837	5.8	100	0.00
7		Phenanthrene	20.000	18.899	5.5	101	0.00
8	S	O-Terphenyl	20.000	19.144	4.3	101	0.00
9		Anthracene	10.000	10.213	-2.1	102	0.00
10		Fluoranthene	20.000	19.405	3.0	102	0.01
11		Pyrene	20.000	19.051	4.7	102	0.01
12	S	P-Terphenyl	20.000	19.206	4.0	102	0.00
13		Benzo(a)Anthracene	10.000	9.686	3.1	103	0.00
14		Chrysene	10.000	9.773	2.3	104	0.00
15		Benzo(b)Fluoranthene	10.000	9.444	5.6	102	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA854-CC846
Lab FileID: AA017869.D

16	Benzo(k)Fluoranthene	10.000	9.492	5.1	102	0.00
17	Benzo(a) Pyrene	10.000	9.186	8.1	101	0.00
18	Dibenzo(a,h)anthracene	10.000	9.391	6.1	102	0.00
19	Benzo(g,h,i) Perylene	10.000	9.354	6.5	101	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.494	5.1	101	0.00

Average % D = 4.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Thu Oct 16 15:01:19 2003

Initial Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1082-ICC1082
Lab FileID: OP32201.D

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Wed Oct 08 15:47:36 2003
Response via : Initial Calibration

Calibration Files
1 =OP32199.D 2 =OP32200.D 3 =OP32201.D
4 =OP32202.D 5 =OP32203.D 6 =OP32204.D 7 =OP32205.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	2.704	2.623	2.635	2.619	2.707			2.658 E4	1.66
2)H TPH (C8-C40)	2.514	2.424	2.423	2.412	2.475	2.137	2.131	2.359 E4	6.70

Average % RSD = 4.2

(#) = Out of Range

FL_PRO_F.M Thu Oct 09 08:36:25 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32382.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32382.D          Vial: 1
Acq On    : 15 Oct 2003   2:12 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8744,gop1087,890,,,1,1,water          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	61.247	-2.1	103	0.00
2 H	TPH (C8-C40)	1020.000	1021.465	-0.1	98	0.00

Average % D = 1.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Fri Oct 17 09:01:49 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32392.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32392.D          Vial: 1
Acq On    : 15 Oct 2003   5:40 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8744,gop1087,1040,,,1,1,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.198	-5.3	106	0.00
2 H	TPH (C8-C40)	1020.000	1058.985	-3.8	101	0.00

Average % D = 4.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Fri Oct 17 09:01:50 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32550.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32550.D          Vial: 1
Acq On    : 20 Oct 2003   8:24 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.549	-5.9	107	0.00
2 H	TPH (C8-C40)	1020.000	1091.480	-7.0	104	0.00

Average % D = 6.5

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:49 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32562.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32562.D          Vial: 1
Acq On    : 20 Oct 2003   1:39 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.1,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.117	-5.2	106	0.00
2 H	TPH (C8-C40)	1020.000	1085.735	-6.4	104	0.00

Average % D = 5.8

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:49 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017969.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1022PAH\AA017969.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1022PAH\AA017969.D\DAD1A.CH
Acq On : 22-Oct-2003, 16:03:47 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa860,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.524	-5.2	108	0.00
2		Acenaphthylene	10.000	10.455	-4.6	107	0.00
3		1-Methyl Naphthalene	10.000	10.931	-9.3	109	0.00
4		2-Methyl Naphthalene	10.000	11.070	-10.7	109	0.00
5		Acenaphthene	10.000	11.114	-11.1	108	0.00
6		Fluorene	10.000	10.705	-7.1	110	0.00
7		Phenanthrene	10.000	10.746	-7.5	110	0.00
8	S	O-Terphenyl	10.000	10.906	-9.1	110	0.00
9		Anthracene	5.000	5.640	-12.8	109	0.00
10		Fluoranthene	10.000	11.004	-10.0	112	0.00
11		Pyrene	10.000	10.859	-8.6	110	0.00
12	S	P-Terphenyl	10.000	10.866	-8.7	110	0.00
13		Benzo(a)Anthracene	5.000	5.408	-8.2	110	0.01
14		Chrysene	5.000	5.791	-15.8#	110	0.01
15		Benzo(b)Fluoranthene	5.000	5.381	-7.6	110	0.00
16		Benzo(k)Fluoranthene	5.000	5.339	-6.8	110	0.00
17		Benzo(a) Pyrene	5.000	5.458	-9.2	112	0.00
18		Dibenzo(a,h)anthracene	5.000	5.363	-7.3	110	0.00
19		Benzo(g,h,i) Perylene	5.000	5.411	-8.2	113	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.624	-12.5	118	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.579	-5.8	108	0.00
2		Acenaphthylene	10.000	10.714	-7.1	109	0.00
3		1-Methyl Naphthalene	10.000	11.052	-10.5	109	0.00
4		2-Methyl Naphthalene	10.000	10.996	-10.0	110	0.00
5		Acenaphthene	10.000	11.283	-12.8	107	0.00
6		Fluorene	10.000	10.638	-6.4	110	0.00
7		Phenanthrene	10.000	10.779	-7.8	110	0.00
8	S	O-Terphenyl	10.000	10.806	-8.1	110	0.00
9		Anthracene	5.000	5.732	-14.6	110	0.00
10		Fluoranthene	10.000	10.988	-9.9	112	0.00
11		Pyrene	10.000	10.668	-6.7	111	0.00
12	S	P-Terphenyl	10.000	10.794	-7.9	111	0.01
13		Benzo(a)Anthracene	5.000	5.377	-7.5	110	0.01
14		Chrysene	5.000	5.392	-7.8	110	0.01
15		Benzo(b)Fluoranthene	5.000	5.355	-7.1	109	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017969.D

16	Benzo(k)Fluoranthene	5.000	5.364	-7.3	109	0.00
17	Benzo(a) Pyrene	5.000	5.394	-7.9	112	0.00
18	Dibenzo(a,h)anthracene	5.000	5.391	-7.8	109	0.00
19	Benzo(g,h,i) Perylene	5.000	5.296	-5.9	109	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.386	-7.7	110	0.00

Average % D = 8.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Thu Oct 23 14:01:43 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017978.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1022PAH\AA017978.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1022PAH\AA017978.D\DAD1A.CH
Acq On : 22-Oct-2003, 19:10:42 Operator: MIKEE
Sample : CC846-20 Inst : DAD
Misc : op8787,gaa860,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.699	6.5	100	0.00
2		Acenaphthylene	20.000	18.781	6.1	99	-0.01
3		1-Methyl Naphthalene	20.000	19.565	2.2	101	-0.01
4		2-Methyl Naphthalene	20.000	19.817	0.9	102	-0.01
5		Acenaphthene	20.000	19.925	0.4	101	-0.01
6		Fluorene	20.000	19.171	4.1	102	0.00
7		Phenanthrene	20.000	19.188	4.1	102	0.00
8	S	O-Terphenyl	20.000	19.636	1.8	103	0.00
9		Anthracene	10.000	10.101	-1.0	100	0.00
10		Fluoranthene	20.000	19.635	1.8	105	0.00
11		Pyrene	20.000	19.009	5.0	102	0.00
12	S	P-Terphenyl	20.000	19.241	3.8	103	0.00
13		Benzo(a)Anthracene	10.000	9.530	4.7	102	0.01
14		Chrysene	10.000	9.923	0.8	102	0.02
15		Benzo(b)Fluoranthene	10.000	9.709	2.9	102	0.01
16		Benzo(k)Fluoranthene	10.000	9.590	4.1	102	0.01
17		Benzo(a) Pyrene	10.000	9.591	4.1	103	0.01
18		Dibenzo(a,h)anthracene	10.000	9.543	4.6	103	0.02
19		Benzo(g,h,i) Perylene	10.000	9.571	4.3	104	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.899	1.0	108	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.038	4.8	101	0.00
2		Acenaphthylene	20.000	19.168	4.2	99	0.00
3		1-Methyl Naphthalene	20.000	19.669	1.7	98	-0.01
4		2-Methyl Naphthalene	20.000	19.604	2.0	100	0.00
5		Acenaphthene	20.000	19.875	0.6	93	-0.01
6		Fluorene	20.000	18.990	5.1	101	0.00
7		Phenanthrene	20.000	19.013	4.9	102	0.00
8	S	O-Terphenyl	20.000	19.334	3.3	102	0.00
9		Anthracene	10.000	10.284	-2.8	102	0.00
10		Fluoranthene	20.000	19.701	1.5	103	0.00
11		Pyrene	20.000	19.141	4.3	102	0.00
12	S	P-Terphenyl	20.000	19.141	4.3	102	0.01
13		Benzo(a)Anthracene	10.000	9.548	4.5	102	0.01
14		Chrysene	10.000	9.533	4.7	102	0.02
15		Benzo(b)Fluoranthene	10.000	9.556	4.4	103	0.01

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017978.D

16	Benzo(k)Fluoranthene	10.000	9.550	4.5	102	0.01
17	Benzo(a) Pyrene	10.000	9.359	6.4	102	0.01
18	Dibenzo(a,h)anthracene	10.000	9.433	5.7	102	0.02
19	Benzo(g,h,i) Perylene	10.000	9.353	6.5	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.487	5.1	101	0.02

Average % D = 3.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Thu Oct 23 14:02:41 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA855-CC846
Lab FileID: AA017889.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1016PAH\AA017889.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1016PAH\AA017889.D\DAD1A.CH
Acq On : 16-Oct-2003, 13:25:05 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8771,gaa855,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.122	-1.2	103	0.01
2		Acenaphthylene	10.000	10.187	-1.9	104	0.02
3		1-Methyl Naphthalene	10.000	10.502	-5.0	104	0.02
4		2-Methyl Naphthalene	10.000	10.594	-5.9	104	0.02
5		Acenaphthene	10.000	10.625	-6.3	103	0.02
6		Fluorene	10.000	10.253	-2.5	105	0.02
7		Phenanthrene	10.000	10.300	-3.0	105	0.02
8	S	O-Terphenyl	10.000	10.471	-4.7	106	0.02
9		Anthracene	5.000	5.534	-10.7	107	0.02
10		Fluoranthene	10.000	10.497	-5.0	107	0.02
11		Pyrene	10.000	10.400	-4.0	105	0.02
12	S	P-Terphenyl	10.000	10.342	-3.4	105	0.02
13		Benzo(a)Anthracene	5.000	5.165	-3.3	105	0.02
14		Chrysene	5.000	5.542	-10.8	105	0.02
15		Benzo(b)Fluoranthene	5.000	5.142	-2.8	105	0.00
16		Benzo(k)Fluoranthene	5.000	5.099	-2.0	105	0.00
17		Benzo(a) Pyrene	5.000	5.139	-2.8	106	0.00
18		Dibenzo(a,h)anthracene	5.000	5.116	-2.3	105	0.00
19		Benzo(g,h,i) Perylene	5.000	5.066	-1.3	106	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.066	-1.3	106	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.146	-1.5	103	0.01
2		Acenaphthylene	10.000	10.238	-2.4	104	0.02
3		1-Methyl Naphthalene	10.000	10.594	-5.9	105	0.02
4		2-Methyl Naphthalene	10.000	10.507	-5.1	105	0.02
5		Acenaphthene	10.000	10.669	-6.7	101	0.02
6		Fluorene	10.000	10.155	-1.5	105	0.02
7		Phenanthrene	10.000	10.322	-3.2	105	0.02
8	S	O-Terphenyl	10.000	10.350	-3.5	106	0.02
9		Anthracene	5.000	5.476	-9.5	105	0.02
10		Fluoranthene	10.000	10.505	-5.1	107	0.02
11		Pyrene	10.000	10.218	-2.2	106	0.02
12	S	P-Terphenyl	10.000	10.281	-2.8	105	0.02
13		Benzo(a)Anthracene	5.000	5.132	-2.6	105	0.02
14		Chrysene	5.000	5.151	-3.0	105	0.02
15		Benzo(b)Fluoranthene	5.000	5.119	-2.4	104	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA855-CC846
Lab FileID: AA017889.D

16	Benzo(k)Fluoranthene	5.000	5.130	-2.6	105	0.00
17	Benzo(a) Pyrene	5.000	5.065	-1.3	105	0.00
18	Dibenzo(a,h)anthracene	5.000	5.169	-3.4	105	0.00
19	Benzo(g,h,i) Perylene	5.000	5.063	-1.3	105	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.000	0.0	102	0.00

Average % D = 3.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Fri Oct 17 10:06:03 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA855-ECC846
Lab FileID: AA017900.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1016PAH\AA017900.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1016PAH\AA017900.D\DAD1A.CH
Acq On : 16-Oct-2003, 17:56:45 Operator: MIKEE
Sample : ECC846-20 Inst : DAD
Misc : op8771,gaa855,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.666	6.7	100	0.00
2		Acenaphthylene	20.000	18.755	6.2	99	0.00
3		1-Methyl Naphthalene	20.000	19.441	2.8	101	0.00
4		2-Methyl Naphthalene	20.000	19.672	1.6	101	0.00
5		Acenaphthene	20.000	19.775	1.1	100	0.00
6		Fluorene	20.000	19.022	4.9	101	0.00
7		Phenanthrene	20.000	19.052	4.7	101	0.00
8	S	O-Terphenyl	20.000	19.459	2.7	102	0.00
9		Anthracene	10.000	10.162	-1.6	101	0.02
10		Fluoranthene	20.000	19.285	3.6	103	0.01
11		Pyrene	20.000	18.903	5.5	102	0.01
12	S	P-Terphenyl	20.000	19.133	4.3	102	0.01
13		Benzo(a)Anthracene	10.000	9.506	4.9	102	0.01
14		Chrysene	10.000	9.903	1.0	102	0.01
15		Benzo(b)Fluoranthene	10.000	9.690	3.1	102	0.00
16		Benzo(k)Fluoranthene	10.000	9.675	3.2	102	0.01
17		Benzo(a) Pyrene	10.000	9.521	4.8	102	0.01
18		Dibenzo(a,h)anthracene	10.000	9.522	4.8	103	0.02
19		Benzo(g,h,i) Perylene	10.000	9.568	4.3	104	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.922	0.8	108	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.945	5.3	101	0.00
2		Acenaphthylene	20.000	18.990	5.1	98	0.00
3		1-Methyl Naphthalene	20.000	19.507	2.5	98	0.00
4		2-Methyl Naphthalene	20.000	19.438	2.8	99	0.00
5		Acenaphthene	20.000	19.798	1.0	93	0.00
6		Fluorene	20.000	18.780	6.1	100	0.00
7		Phenanthrene	20.000	18.856	5.7	101	0.00
8	S	O-Terphenyl	20.000	19.123	4.4	101	0.00
9		Anthracene	10.000	10.210	-2.1	102	0.01
10		Fluoranthene	20.000	19.456	2.7	102	0.01
11		Pyrene	20.000	19.000	5.0	102	0.01
12	S	P-Terphenyl	20.000	19.113	4.4	102	0.01
13		Benzo(a)Anthracene	10.000	9.588	4.1	102	0.01
14		Chrysene	10.000	9.629	3.7	103	0.01
15		Benzo(b)Fluoranthene	10.000	9.388	6.1	101	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA855-ECC846
Lab FileID: AA017900.D

16	Benzo(k)Fluoranthene	10.000	9.432	5.7	101	0.01
17	Benzo(a) Pyrene	10.000	9.176	8.2	100	0.01
18	Dibenzo(a,h)anthracene	10.000	9.353	6.5	101	0.02
19	Benzo(g,h,i) Perylene	10.000	9.309	6.9	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.414	5.9	100	0.02

Average % D = 4.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Fri Oct 17 10:06:24 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32370.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32370.D          Vial: 1
Acq On    : 15 Oct 2003   9:56 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8758,gop1087,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	61.118	-1.9	103	0.00
2 H	TPH (C8-C40)	1020.000	1020.219	-0.0	97	0.00

Average % D = 0.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Fri Oct 17 09:01:48 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1088-CC1082
Lab FileID: OP32478.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1017PRO\OP32478.D          Vial: 1
Acq On    : 17 Oct 2003   1:22 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8761,gop1088,1000,,,1,1,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:51 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  61.539      -2.6  103   0.00
 2 H    TPH (C8-C40)                1020.000 1045.336      -2.5  100   0.00
---------------------------------------------------------------------------

                                          Average  % D =   2.5
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Sat Oct 18 11:00:27 2003
```

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1088-CC1082
Lab FileID: OP32489.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1017PRO\OP32489.D          Vial: 1
Acq On    : 17 Oct 2003   5:12 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8777,gop1088,30.3,,,1,5,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:51 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.951	-8.3	109	0.00
2 H	TPH (C8-C40)	1020.000	1110.305	-8.9	106	0.00

Average % D = 8.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Sat Oct 18 11:00:28 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32573.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32573.D          Vial: 1
Acq On    : 20 Oct 2003   5:59 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.1,,,1,5,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.953	-8.3	109	0.00
2 H	TPH (C8-C40)	1020.000	1086.529	-6.5	104	0.00

Average % D = 7.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:50 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32581.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32581.D          Vial: 1
Acq On    : 20 Oct 2003   8:45 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.531	-7.6	108	0.00
2 H	TPH (C8-C40)	1020.000	1106.123	-8.4	106	0.00

Average % D = 8.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:50 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-CC846
Lab FileID: AA017998.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1023PAH\AA017998.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1023PAH\AA017998.D\DAD1A.CH
Acq On : 23-Oct-2003, 09:57:35 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa861,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.467	-4.7	107	0.00
2		Acenaphthylene	10.000	10.470	-4.7	107	0.00
3		1-Methyl Naphthalene	10.000	10.909	-9.1	108	0.00
4		2-Methyl Naphthalene	10.000	11.027	-10.3	109	0.00
5		Acenaphthene	10.000	11.095	-11.0	108	0.00
6		Fluorene	10.000	10.727	-7.3	110	0.00
7		Phenanthrene	10.000	10.775	-7.8	110	0.00
8	S	O-Terphenyl	10.000	10.933	-9.3	110	0.00
9		Anthracene	5.000	5.628	-12.6	109	0.00
10		Fluoranthene	10.000	11.083	-10.8	113	0.00
11		Pyrene	10.000	10.900	-9.0	110	0.00
12	S	P-Terphenyl	10.000	10.840	-8.4	110	0.00
13		Benzo(a)Anthracene	5.000	5.392	-7.8	109	0.00
14		Chrysene	5.000	5.779	-15.6#	109	0.00
15		Benzo(b)Fluoranthene	5.000	5.403	-8.1	111	0.00
16		Benzo(k)Fluoranthene	5.000	5.358	-7.2	110	0.00
17		Benzo(a) Pyrene	5.000	5.257	-5.1	108	0.00
18		Dibenzo(a,h)anthracene	5.000	5.396	-7.9	111	0.00
19		Benzo(g,h,i) Perylene	5.000	5.386	-7.7	112	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.527	-10.5	116	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.705	-7.1	109	0.00
2		Acenaphthylene	10.000	10.720	-7.2	109	0.00
3		1-Methyl Naphthalene	10.000	10.903	-9.0	108	0.00
4		2-Methyl Naphthalene	10.000	10.932	-9.3	109	0.00
5		Acenaphthene	10.000	11.085	-10.9	105	0.00
6		Fluorene	10.000	10.679	-6.8	110	0.00
7		Phenanthrene	10.000	10.816	-8.2	110	0.00
8	S	O-Terphenyl	10.000	10.850	-8.5	111	0.00
9		Anthracene	5.000	5.735	-14.7	110	0.00
10		Fluoranthene	10.000	11.058	-10.6	112	0.00
11		Pyrene	10.000	10.725	-7.2	111	0.00
12	S	P-Terphenyl	10.000	10.733	-7.3	110	0.00
13		Benzo(a)Anthracene	5.000	5.366	-7.3	110	0.00
14		Chrysene	5.000	5.395	-7.9	110	0.00
15		Benzo(b)Fluoranthene	5.000	5.383	-7.7	110	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-CC846
Lab FileID: AA017998.D

16	Benzo(k)Fluoranthene	5.000	5.381	-7.6	110	0.00
17	Benzo(a) Pyrene	5.000	5.194	-3.9	107	0.00
18	Dibenzo(a,h)anthracene	5.000	5.419	-8.4	110	0.00
19	Benzo(g,h,i) Perylene	5.000	5.301	-6.0	110	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.339	-6.8	109	0.00

Average % D = 8.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Fri Oct 24 08:42:08 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-ECC846
Lab FileID: AA018008.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1023PAH\AA018008.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1023PAH\AA018008.D\DAD1A.CH
Acq On : 23-Oct-2003, 13:25:17 Operator: MIKEE
Sample : ECC846-20 Inst : DAD
Misc : op8787,gaa861,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.871	5.6	101	0.00
2		Acenaphthylene	20.000	18.890	5.5	100	-0.01
3		1-Methyl Naphthalene	20.000	19.653	1.7	102	-0.01
4		2-Methyl Naphthalene	20.000	19.908	0.5	102	-0.01
5		Acenaphthene	20.000	19.940	0.3	101	-0.01
6		Fluorene	20.000	19.329	3.4	103	-0.01
7		Phenanthrene	20.000	19.393	3.0	103	0.00
8	S	O-Terphenyl	20.000	19.783	1.1	104	0.00
9		Anthracene	10.000	10.215	-2.1	101	0.00
10		Fluoranthene	20.000	19.830	0.9	106	0.00
11		Pyrene	20.000	19.231	3.8	104	0.00
12	S	P-Terphenyl	20.000	19.396	3.0	103	0.00
13		Benzo(a)Anthracene	10.000	9.579	4.2	103	0.00
14		Chrysene	10.000	9.935	0.6	102	0.00
15		Benzo(b)Fluoranthene	10.000	9.816	1.8	103	0.00
16		Benzo(k)Fluoranthene	10.000	9.661	3.4	102	0.00
17		Benzo(a) Pyrene	10.000	9.357	6.4	100	0.00
18		Dibenzo(a,h)anthracene	10.000	9.674	3.3	104	0.00
19		Benzo(g,h,i) Perylene	10.000	9.602	4.0	104	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	10.058	-0.6	110	-0.01

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.221	3.9	102	0.00
2		Acenaphthylene	20.000	19.226	3.9	100	0.00
3		1-Methyl Naphthalene	20.000	19.631	1.8	98	-0.01
4		2-Methyl Naphthalene	20.000	19.672	1.6	100	0.00
5		Acenaphthene	20.000	19.815	0.9	93	-0.01
6		Fluorene	20.000	19.154	4.2	102	-0.01
7		Phenanthrene	20.000	19.240	3.8	103	0.00
8	S	O-Terphenyl	20.000	19.495	2.5	103	0.00
9		Anthracene	10.000	10.406	-4.1	103	0.00
10		Fluoranthene	20.000	19.885	0.6	104	0.00
11		Pyrene	20.000	19.307	3.5	103	0.00
12	S	P-Terphenyl	20.000	19.297	3.5	103	0.00
13		Benzo(a)Anthracene	10.000	9.640	3.6	103	0.00
14		Chrysene	10.000	9.601	4.0	103	0.00
15		Benzo(b)Fluoranthene	10.000	9.431	5.7	101	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-ECC846
Lab FileID: AA018008.D

16	Benzo(k)Fluoranthene	10.000	9.654	3.5	103	0.00
17	Benzo(a) Pyrene	10.000	9.185	8.1	101	0.00
18	Dibenzo(a,h)anthracene	10.000	9.578	4.2	104	0.00
19	Benzo(g,h,i) Perylene	10.000	9.373	6.3	102	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.536	4.6	102	-0.01

Average % D = 3.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Fri Oct 24 08:35:22 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018010.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1024PAH\AA018010.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1024PAH\AA018010.D\DAD1A.CH
Acq On : 24-Oct-2003, 10:39:57 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa862,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.501	-5.0	107	0.00
2		Acenaphthylene	10.000	10.609	-6.1	108	0.00
3		1-Methyl Naphthalene	10.000	10.937	-9.4	109	0.00
4		2-Methyl Naphthalene	10.000	11.040	-10.4	109	0.00
5		Acenaphthene	10.000	11.072	-10.7	108	0.00
6		Fluorene	10.000	10.715	-7.1	110	0.00
7		Phenanthrene	10.000	10.768	-7.7	110	0.00
8	S	O-Terphenyl	10.000	10.914	-9.1	110	0.00
9		Anthracene	5.000	5.660	-13.2	109	0.00
10		Fluoranthene	10.000	11.059	-10.6	112	0.00
11		Pyrene	10.000	10.867	-8.7	110	0.00
12	S	P-Terphenyl	10.000	10.812	-8.1	110	0.00
13		Benzo(a)Anthracene	5.000	5.372	-7.4	109	0.00
14		Chrysene	5.000	5.747	-14.9	109	0.00
15		Benzo(b)Fluoranthene	5.000	5.399	-8.0	111	0.00
16		Benzo(k)Fluoranthene	5.000	5.357	-7.1	110	0.00
17		Benzo(a) Pyrene	5.000	5.274	-5.5	108	0.00
18		Dibenzo(a,h)anthracene	5.000	5.361	-7.2	110	0.00
19		Benzo(g,h,i) Perylene	5.000	5.387	-7.7	112	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.579	-11.6	117	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.706	-7.1	109	0.00
2		Acenaphthylene	10.000	10.701	-7.0	109	0.00
3		1-Methyl Naphthalene	10.000	10.949	-9.5	108	0.00
4		2-Methyl Naphthalene	10.000	10.968	-9.7	110	0.00
5		Acenaphthene	10.000	11.089	-10.9	105	0.00
6		Fluorene	10.000	10.652	-6.5	110	0.00
7		Phenanthrene	10.000	10.805	-8.0	110	0.00
8	S	O-Terphenyl	10.000	10.781	-7.8	110	0.00
9		Anthracene	5.000	5.733	-14.7	110	0.00
10		Fluoranthene	10.000	11.023	-10.2	112	0.00
11		Pyrene	10.000	10.654	-6.5	110	0.00
12	S	P-Terphenyl	10.000	10.759	-7.6	110	0.00
13		Benzo(a)Anthracene	5.000	5.364	-7.3	110	0.00
14		Chrysene	5.000	5.389	-7.8	110	0.00
15		Benzo(b)Fluoranthene	5.000	5.385	-7.7	110	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018010.D

16	Benzo(k)Fluoranthene	5.000	5.386	-7.7	110	0.00
17	Benzo(a) Pyrene	5.000	5.237	-4.7	108	0.00
18	Dibenzo(a,h)anthracene	5.000	5.412	-8.2	110	0.00
19	Benzo(g,h,i) Perylene	5.000	5.317	-6.3	110	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.331	-6.6	109	0.00

Average % D = 8.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Fri Oct 24 15:31:55 2003

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018019.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1024PAH\AA018019.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1024PAH\AA018019.D\DAD1A.CH
Acq On : 24-Oct-2003, 13:46:53 Operator: MIKEE
Sample : CC846-20 Inst : DAD
Misc : op8819,gaa862,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.159	4.2	103	-0.01
2		Acenaphthylene	20.000	19.101	4.5	101	-0.01
3		1-Methyl Naphthalene	20.000	19.760	1.2	102	-0.01
4		2-Methyl Naphthalene	20.000	20.020	-0.1	103	-0.01
5		Acenaphthene	20.000	20.128	-0.6	102	-0.01
6		Fluorene	20.000	19.399	3.0	103	-0.01
7		Phenanthrene	20.000	19.419	2.9	103	0.00
8	S	O-Terphenyl	20.000	19.862	0.7	104	0.00
9		Anthracene	10.000	10.253	-2.5	102	0.00
10		Fluoranthene	20.000	19.846	0.8	106	0.00
11		Pyrene	20.000	19.222	3.9	104	0.00
12	S	P-Terphenyl	20.000	19.463	2.7	104	0.01
13		Benzo(a)Anthracene	10.000	9.657	3.4	103	0.00
14		Chrysene	10.000	10.059	-0.6	104	0.01
15		Benzo(b)Fluoranthene	10.000	9.782	2.2	103	0.00
16		Benzo(k)Fluoranthene	10.000	9.893	1.1	105	0.00
17		Benzo(a) Pyrene	10.000	9.407	5.9	101	0.00
18		Dibenzo(a,h)anthracene	10.000	9.650	3.5	104	0.00
19		Benzo(g,h,i) Perylene	10.000	9.605	3.9	104	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	10.008	-0.1	109	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.981	5.1	101	-0.01
2		Acenaphthylene	20.000	19.320	3.4	100	0.00
3		1-Methyl Naphthalene	20.000	19.835	0.8	99	-0.01
4		2-Methyl Naphthalene	20.000	19.816	0.9	101	0.00
5		Acenaphthene	20.000	20.126	-0.6	94	-0.01
6		Fluorene	20.000	19.166	4.2	102	0.00
7		Phenanthrene	20.000	19.233	3.8	103	0.00
8	S	O-Terphenyl	20.000	19.547	2.3	103	0.00
9		Anthracene	10.000	10.418	-4.2	104	0.00
10		Fluoranthene	20.000	19.960	0.2	105	0.00
11		Pyrene	20.000	19.349	3.3	103	0.00
12	S	P-Terphenyl	20.000	19.314	3.4	103	0.01
13		Benzo(a)Anthracene	10.000	9.676	3.2	103	0.00
14		Chrysene	10.000	9.647	3.5	103	0.01
15		Benzo(b)Fluoranthene	10.000	9.627	3.7	104	0.00

Continuing Calibration Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018019.D

16	Benzo(k)Fluoranthene	10.000	9.652	3.5	103	0.00
17	Benzo(a) Pyrene	10.000	9.226	7.7	101	0.00
18	Dibenzo(a,h)anthracene	10.000	9.560	4.4	103	0.00
19	Benzo(g,h,i) Perylene	10.000	9.407	5.9	102	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.550	4.5	102	0.00

Average % D = 2.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Fri Oct 24 15:32:18 2003

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:21	MA3521-ICV1	1		
10:28	MA3521-ICB1	1		
10:31	MA3521-CRI1	1		
10:34	MA3521-ICSA1	1		
10:37	MA3521-ICSAB1	1		
10:43	MA3521-CCV1	1		
10:48	MA3521-CCB1	1		
10:51	MP5940-MB1	1		
10:55	MP5940-B1	1		
10:59	F19987-1	1		(sample used for QC only; not part of login F19992)
11:03	MP5940-D1	1		
11:06	MP5940-SD1	5		
11:09	MP5940-S1	1		
11:13	MP5940-S2	1		
11:17	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:28	MA3521-CCV2	1		
11:33	MA3521-CCB2	1		
11:36	ZZZZZZ	1		
11:40	ZZZZZZ	1		
11:43	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:57	ZZZZZZ	1		
12:01	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:11	MA3521-CCV3	1		
12:15	MA3521-CCB3	1		
12:19	ZZZZZZ	1		
12:22	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:26	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:33	ZZZZZZ	1		
12:36	ZZZZZZ	1		
12:39	MP5941-MB1	1		
12:43	MP5941-B1	1		
12:47	F19987-8	1		(sample used for QC only; not part of login F19992)
12:51	MP5941-D1	1		
12:54	MA3521-CCV4	1		
12:59	MA3521-CCB4	1		
13:02	MP5941-SD1	5		
13:05	MP5941-S1	1		
13:09	MP5941-S2	1		
13:13	ZZZZZZ	1		
13:17	ZZZZZZ	1		
13:20	ZZZZZZ	1		
13:24	ZZZZZZ	1		
13:27	ZZZZZZ	1		
13:31	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:37	MA3521-CCV5	1		
13:42	MA3521-CCB5	1		
13:45	ZZZZZZ	1		
13:49	ZZZZZZ	1		
13:52	ZZZZZZ	1		
13:56	ZZZZZZ	1		
13:59	ZZZZZZ	1		
14:03	ZZZZZZ	1		
14:06	MA3521-CCV6	1		
14:10	MA3521-CCB6	1		
14:17	MP5945-MB1	1		
14:20	MP5945-B1	1		
14:24	F20002-1	1		(sample used for QC only; not part of login F19992)

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	14:28	MP5945-D1	1		
	14:31	MP5945-SD1	5		
	14:35	MP5945-S1	1		
	14:38	MP5945-S2	1		
	14:43	ZZZZZZ	1		
	14:46	ZZZZZZ	1		
	14:49	ZZZZZZ	1		
	14:53	MA3521-CCV7	1		
	14:57	MA3521-CCB7	1		
	15:01	ZZZZZZ	1		
	15:04	ZZZZZZ	1		
	15:08	ZZZZZZ	1		
	15:11	F19992-1	1		
---------->	Last reportable sample/prep for job F19992				
	15:15	ZZZZZZ	1		
	15:18	ZZZZZZ	1		
	15:22	ZZZZZZ	1		
	15:25	ZZZZZZ	1		
	15:28	ZZZZZZ	1		
	15:32	ZZZZZZ	1		
	15:35	MA3521-CCV8	1		
	15:40	MA3521-CCB8	1		
---------->	Last reportable CCB for job F19992				
	15:43	ZZZZZZ	1		
	15:48	MA3521-CRI2	1		
	15:51	MA3521-CCV9	1		
	15:55	MA3521-CCB9	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
10:21	MA3521-ICV1	9117
10:28	MA3521-ICB1	9339 R
10:31	MA3521-CRI1	9257
10:34	MA3521-ICSA1	8113
10:37	MA3521-ICSAB1	7380
10:43	MA3521-CCV1	9000
10:48	MA3521-CCB1	9211
10:51	MP5940-MB1	9312
10:55	MP5940-B1	8920
10:59	F19987-1	9570
11:03	MP5940-D1	9462
11:06	MP5940-SD1	9418
11:09	MP5940-S1	9640
11:13	MP5940-S2	9598
11:17	ZZZZZZ	9897
11:21	ZZZZZZ	9278
11:25	ZZZZZZ	9509
11:28	MA3521-CCV2	9038
11:33	MA3521-CCB2	9349
11:36	ZZZZZZ	9316
11:40	ZZZZZZ	8936
11:43	ZZZZZZ	9472
11:47	ZZZZZZ	9632
11:50	ZZZZZZ	9554
11:54	ZZZZZZ	9404
11:57	ZZZZZZ	9288
12:01	ZZZZZZ	9394
12:04	ZZZZZZ	9335
12:07	ZZZZZZ	9187
12:11	MA3521-CCV3	9004
12:15	MA3521-CCB3	9458
12:19	ZZZZZZ	9479
12:22	ZZZZZZ	9036
12:26	ZZZZZZ	9319

INTERNAL STANDARD SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
12:29	ZZZZZZ	9229
12:33	ZZZZZZ	9337
12:36	ZZZZZZ	9564
12:39	MP5941-MB1	9426
12:43	MP5941-B1	9255
12:47	F19987-8	9313
12:51	MP5941-D1	9548
12:54	MA3521-CCV4	9045
12:59	MA3521-CCB4	9305
13:02	MP5941-SD1	9483
13:05	MP5941-S1	9221
13:09	MP5941-S2	9300
13:13	ZZZZZZ	9286
13:17	ZZZZZZ	9248
13:20	ZZZZZZ	9088
13:24	ZZZZZZ	9399
13:27	ZZZZZZ	10487
13:31	ZZZZZZ	9348
13:34	ZZZZZZ	9131
13:37	MA3521-CCV5	8937
13:42	MA3521-CCB5	9124
13:45	ZZZZZZ	9515
13:49	ZZZZZZ	9960
13:52	ZZZZZZ	9188
13:56	ZZZZZZ	10681
13:59	ZZZZZZ	9009
14:03	ZZZZZZ	9165
14:06	MA3521-CCV6	9173
14:10	MA3521-CCB6	9435
14:17	MP5945-MB1	9452
14:20	MP5945-B1	9206
14:24	F20002-1	9381
14:28	MP5945-D1	9308
14:31	MP5945-SD1	9468

INTERNAL STANDARD SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
14:35	MP5945-S1	9182
14:38	MP5945-S2	9160
14:43	ZZZZZZ	9411
14:46	ZZZZZZ	9323
14:49	ZZZZZZ	9067
14:53	MA3521-CCV7	9254
14:57	MA3521-CCB7	9522
15:01	ZZZZZZ	9511
15:04	ZZZZZZ	9339
15:08	ZZZZZZ	9246
15:11	F19992-1	9208
15:15	ZZZZZZ	9333
15:18	ZZZZZZ	10122
15:22	ZZZZZZ	9515
15:25	ZZZZZZ	9482
15:28	ZZZZZZ	9577
15:32	ZZZZZZ	9700
15:35	MA3521-CCV8	8969
15:40	MA3521-CCB8	9298
15:43	ZZZZZZ	9421
15:48	MA3521-CRI2	9296
15:51	MA3521-CCV9	9102
15:55	MA3521-CCB9	30678

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6	anr							
Antimony	5.0	1.5								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26								
Cadmium	5.0	.26	anr							
Calcium	1000	3.8								
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44								
Iron	300	7.1	anr							
Lead	5.0	1.2	0.30	<5.0	3.2	<5.0	0.27	<5.0	0.63	<5.0
Magnesium	5000	9.9								
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1								
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47								
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6	anr							
Antimony	5.0	1.5								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26								
Cadmium	5.0	.26	anr							
Calcium	1000	3.8								
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44								
Iron	300	7.1	anr							
Lead	5.0	1.2	0.94	<5.0	3.8	<5.0	0.93	<5.0	1.2	<5.0
Magnesium	5000	9.9								
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1								
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47								
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	CCB raw	final
Aluminum	200	6.6	anr	
Antimony	5.0	1.5		
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26		
Cadmium	5.0	.26	anr	
Calcium	1000	3.8		
Chromium	10	.43	anr	
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	2.8	<5.0
Magnesium	5000	9.9		
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1		
Potassium	5000	14		
Selenium	10	2	anr	
Silver	10	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	ICV True	ICV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1920	96.0	2000	1950	97.5	2000	1920	96.0
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1950	97.5	2000	1950	97.5	2000	1930	96.5
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1960	98.0	2000	1990	99.5	2000	1930	96.5
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 70 to 130 % Recovery Run ID: MA3521 Units: ug/l

Metal	CRI True	CRIA True	CRI Results	% Rec
Aluminum	400		anr	
Antimony	10			
Arsenic	20		anr	
Barium	400		anr	
Beryllium	10			
Cadmium	10		anr	
Calcium	2000			
Chromium	20		anr	
Cobalt	100			
Copper	50			
Iron	600		anr	
Lead	10		10.4	104.0
Magnesium	10000			
Manganese	30		anr	
Molybdenum	100			
Nickel	80			
Potassium	10000			
Selenium	10		anr	
Silver	20		anr	
Sodium	10000		anr	
Thallium	20			
Tin	100			
Vanadium	100			
Zinc	40		anr	

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 80 to 120 % Recovery Run ID: MA3521 Units: ug/l

Metal	ICSA True	ICSAB True	ICSA Results	% Rec	ICSAB Results	% Rec
Aluminum	500000	500000	511000	102.2	482000	96.4
Antimony		1000			956	95.6
Arsenic		1000	2.6		966	96.6
Barium		500	1.4		499	99.8
Beryllium		500	-0.84		504	100.8
Cadmium		1000	1.3		981	98.1
Calcium	500000	500000	476000	95.2	469000	93.8
Chromium		500	1.4		463	92.6
Cobalt		500	-0.31		466	93.2
Copper		500	-4.9		478	95.6
Iron	200000	200000	199000	99.5	189000	94.5
Lead		1000	-4.6		943	94.3
Magnesium	500000	500000	517000	103.4	513000	102.6
Manganese		500	-0.74		473	94.6
Molybdenum		1000	-4.2		900	90.0
Nickel		1000	2.7		943	94.3
Potassium					-200	
Selenium		1000	6.8		949	94.9
Silver		1000	0.060		1070	107.0
Sodium			73.5		650	
Thallium		1000			892	89.2
Tin		1000	-6.0		940	94.0
Vanadium		500	13.8		507	101.4
Zinc		1000	-5.5		973	97.3

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Arsenic	10	2.8		
Barium	200	.49		
Beryllium	5.0	.26		
Cadmium	5.0	.26		
Calcium	1000	3.8		
Chromium	10	.43		
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	0.52	<5.0
Magnesium	5000	9.9		
Manganese	15	.16		
Molybdenum	50	.75		
Nickel	40	1.1		
Selenium	10	2		
Silver	10	.55		
Sodium	5000	150	anr	
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59		

Associated samples MP5945: F19992-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			10/15/03					10/15/03	
Metal	F20002-1 Original	DUP	RPD	QC Limits	F20002-1 Original	MS	Spikelot MPFLICP	% Rec	QC Limits
Aluminum									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron	anr								
Lead	1.6	1.3	20.7 (a)	0-10	1.6	1030	1000	102.8	84-118
Magnesium									
Manganese									
Molybdenum									
Nickel									
Selenium									
Silver									
Sodium	anr								
Tin									
Vanadium									
Zinc									

Associated samples MP5945: F19992-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	F20002-1 Original	MSD	Spikelot MPFLICP	% Rec	MSD RPD	QC Limit
Aluminum						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	anr					
Lead	1.6	1050	1000	104.8	1.9	
Magnesium						
Manganese						
Molybdenum						
Nickel						
Selenium						
Silver						
Sodium	anr					
Tin						
Vanadium						
Zinc						

Associated samples MP5945: F19992-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	BSP Result	Spikelot MPFLICP	% Rec	QC Limits
Aluminum				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	1040	1000	104.0	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Selenium				
Silver				
Sodium	anr			
Tin				
Vanadium				
Zinc				

Associated samples MP5945: F19992-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F19992
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	F20002-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	1.63	0.00	100.0(a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Selenium				
Silver				
Sodium	anr			
Tin				
Vanadium				
Zinc				

Associated samples MP5945: F19992-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Instrument Detection Limits

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Instrument ID: TJATRACE1 Effective Date: 04/14/02

Analyte	IDL ug/l
Aluminum	6.56
Antimony	1.52
Arsenic	2.83
Barium	.49
Beryllium	.26
Cadmium	.26
Calcium	3.82
Chromium	.43
Cobalt	.5
Copper	.44
Iron	7.11
Lead	1.22
Magnesium	9.88
Manganese	.16
Molybdenum	.75
Nickel	1.08
Potassium	13.85
Selenium	1.98
Silver	.55
Sodium	145.01
Thallium	1.49
Tin	2.18
Vanadium	.47
Zinc	.59

The above applies to the following instrument runs:
MA3521

Instrument Linear Ranges

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Instrument ID: TJATRACE1 Effective Date: 10/03/03

Analyte	Linear Range ug/l
Aluminum	1000000
Antimony	100000
Arsenic	50000
Barium	100000
Beryllium	50000
Cadmium	50000
Calcium	500000
Chromium	100000
Cobalt	100000
Copper	100000
Iron	1000000
Lead	100000
Magnesium	1000000
Manganese	50000
Molybdenum	100000
Nickel	100000
Potassium	1000000
Selenium	100000
Silver	1000
Sodium	250000
Thallium	100000
Tin	100000
Vanadium	100000
Zinc	100000

The above applies to the following instrument runs:
MA3521

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F19992
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: F19992-2 Analyzed: 17-OCT-03 by LE Method: EPA 160.3 M
ClientID: CF-AN05-SB05

Wet Weight (Total)	6.55	g
Tare Weight	.97	g
Dry Weight (Total)	5.93	g
Solids, Percent	88.9	%

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 2346 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N0013	NASCF-NASJAX PIPELINE	PAUL CALLIGAN	813 806 0202	ACCUTEST Sue Bell
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Merrin W. Dale		MERV DALE	904 636 6125	4405 Vineland Rd STE C-15
		CARRIER/WAYBILL NUMBER		CITY, STATE
		Fedex 8427 1834 5415		ORLANDO, FL

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

DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	SW846 8260B *	SW846 8310 *	EPA 504.1 *	Total Pb SW846 6010B	FL-PRO	SW846 8260B **	SW846 8310 **	FL-PRO **	COMMENTS
		F19992															
CONTAINER TYPE PLASTIC (P) or GLASS (G)									G	G	G	P	G	G	G	G	
PRESERVATIVE USED									HCl	None	None	HNO_3	H_2SO_4	CH_3OH/H_2O	None	none	
10/8	0135	CF-AN05-TMW07				GW	G	11	3	2	3	1	2				Cool to 4°C
10/8	0200	CF-AN05-SB05	SB05	2.5	3	SO	G	5						3	1	1	

* See work release # N0013-WR380 (SS) for list of Analytes with methods.

** See work release N0013-WR380 for list of soil Analytes/methods

1. RELINQUISHED BY Merrin W. Dale	DATE 10/8/03	TIME 1900	1. RECEIVED BY Fedex	DATE	TIME
2. RELINQUISHED BY Fedex	DATE	TIME	2. RECEIVED BY Priyam Mohammed	DATE 10/9/03	TIME 0900
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

APPENDIX G

FIXED-BASE LABORATORY REPORT FOR CF-AN16

Southeast ACCUTEST Laboratories

10/29/03

Technical Report for

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013

CT0# 72 N0013-WR380

Accutest Job Number: F20036

Report to:

Total number of pages in report: 155

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Tetra Tech, NUS

Job No: F20036

NASCF-NASJAX Pipeline N0013
Project No: CT0# 72 N0013-WR380

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F20036-1	10/09/03	22:35 MD	10/11/03	SO	Soil	CF-AN16-SB05
F20036-2	10/10/03	02:37 MD	10/11/03	AQ	Ground Water	CF-AN16-TMW05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	CF-AN16-SB05		
Lab Sample ID:	F20036-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/11/03
Method:	SW846 8260B	Percent Solids:	91.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022617.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

	Initial Weight
Run #1	3.70 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.4	2.9	ug/kg	
108-88-3	Toluene	ND	7.4	2.9	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	2.9	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	2.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	96%		79-121%
460-00-4	4-Bromofluorobenzene	108%		77-133%
17060-07-0	1,2-Dichloroethane-D4	102%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN16-SB05		
Lab Sample ID:	F20036-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/11/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	91.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017986.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	ND	72	72	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	72	72	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	72	72	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	72	18	ug/kg	
218-01-9	Chrysene	ND	360	90	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	ND	360	90	ug/kg	
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	72	72	ug/kg	
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	ND	360	90	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	90	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	ND	360	90	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		38-139%
92-94-4	p-Terphenyl	101%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN16-SB05		
Lab Sample ID:	F20036-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/11/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	91.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32572.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	79.8	45	31	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B018180.D	1	10/22/03	RA	n/a	n/a	VB798
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	1.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.99	1.0	0.50	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
Method:	SW846 8260B	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
1330-20-7	Xylene (total)	1.1	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		78-125%
2037-26-5	Toluene-D8	108%		87-113%
460-00-4	4-Bromofluorobenzene	113%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
Method:	EPA 504.1 EPA 504	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK00462.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
Run #2							

	Initial Volume	Final Volume
Run #1	38.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.018	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
Method:	EPA 8310 SW846 3510C	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE018779.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.3	1.1	ug/l	
120-12-7	Anthracene	ND	2.2	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.22	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.22	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.22	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.22	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.22	0.11	ug/l	
218-01-9	Chrysene	ND	2.2	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.22	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.2	0.54	ug/l	
86-73-7	Fluorene	ND	2.2	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.22	0.11	ug/l	
91-20-3	Naphthalene	ND	2.2	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	0.54	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	0.54	ug/l	
85-01-8	Phenanthrene	ND	2.2	1.1	ug/l	
129-00-0	Pyrene	ND	2.2	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		32-142%
92-94-4	p-Terphenyl	53%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
Method:	FLORIDA-PRO SW846 3510C	Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	OP32484.D	1	10/17/03	SM	10/13/03	OP8774	GOP1088
Run #2	OP32613.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	49%	80%	51-125%

(a) Confirmed ND by re-extraction and reanalysis beyond holdtime.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	CF-AN16-TMW05		
Lab Sample ID:	F20036-2	Date Sampled:	10/10/03
Matrix:	AQ - Ground Water	Date Received:	10/11/03
		Percent Solids:	n/a
Project:	NASCF-NASJAX Pipeline N0013		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	10.7	5.0	1.2	ug/l	1	10/15/03	10/15/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB798-BS	B018160.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.5	98	76-123
75-27-4	Bromodichloromethane	25	24.5	98	72-122
75-25-2	Bromoform	25	24.4	98	59-124
108-90-7	Chlorobenzene	25	24.1	96	78-115
75-00-3	Chloroethane	25	33.2	133	65-141
67-66-3	Chloroform	25	24.5	98	74-123
110-75-8	2-Chloroethyl vinyl ether	125	204	163*	24-148
56-23-5	Carbon tetrachloride	25	26.9	108	68-137
75-34-3	1,1-Dichloroethane	25	25.6	102	73-125
75-35-4	1,1-Dichloroethylene	25	30.8	123	64-136
107-06-2	1,2-Dichloroethane	25	25.0	100	66-118
78-87-5	1,2-Dichloropropane	25	25.1	100	75-129
124-48-1	Dibromochloromethane	25	25.7	103	72-117
156-59-2	cis-1,2-Dichloroethylene	25	24.8	99	79-127
10061-01-5	cis-1,3-Dichloropropene	25	22.5	90	71-117
541-73-1	m-Dichlorobenzene	25	23.9	96	74-117
95-50-1	o-Dichlorobenzene	25	23.3	93	73-115
106-46-7	p-Dichlorobenzene	25	23.8	95	74-117
156-60-5	trans-1,2-Dichloroethylene	25	27.1	108	67-125
10061-02-6	trans-1,3-Dichloropropene	25	24.4	98	65-113
100-41-4	Ethylbenzene	25	25.2	101	76-117
74-83-9	Methyl bromide	25	31.2	125	45-137
74-87-3	Methyl chloride	25	30.3	121	47-149
75-09-2	Methylene chloride	25	26.8	107	63-126
1634-04-4	Methyl Tert Butyl Ether	25	22.3	89	68-125
71-55-6	1,1,1-Trichloroethane	25	26.4	106	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	24.5	98	69-114
79-00-5	1,1,2-Trichloroethane	25	24.3	97	74-115
127-18-4	Tetrachloroethylene	25	23.6	94	75-124
108-88-3	Toluene	25	25.0	100	76-118
79-01-6	Trichloroethylene	25	22.2	89	75-122
75-01-4	Vinyl chloride	25	32.6	130	62-142
1330-20-7	Xylene (total)	75	77.3	103	78-120

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB798-BS	B018160.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	110%	78-125%
2037-26-5	Toluene-D8	103%	87-113%
460-00-4	4-Bromofluorobenzene	100%	84-117%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH827-BS	H022609.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F20036-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	52.1	104	73-123
100-41-4	Ethylbenzene	50	51.5	103	73-116
1634-04-4	Methyl Tert Butyl Ether	50	55.6	111	66-131
108-88-3	Toluene	50	48.2	96	72-116
1330-20-7	Xylene (total)	150	156	104	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	94%	79-121%
460-00-4	4-Bromofluorobenzene	100%	77-133%
17060-07-0	1,2-Dichloroethane-D4	93%	72-133%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB798-MB	B018161.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	0.50	ug/l	
75-25-2	Bromoform	ND	2.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.30	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.0	ug/l	

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB798-MB	B018161.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	86-115%
17060-07-0	1,2-Dichloroethane-D4	108%	78-125%
2037-26-5	Toluene-D8	107%	87-113%
460-00-4	4-Bromofluorobenzene	114%	84-117%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH827-MB	H022610.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F20036-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	15	4.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	103%	79-121%
460-00-4	4-Bromofluorobenzene	101%	77-133%
17060-07-0	1,2-Dichloroethane-D4	93%	72-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F19992-2MS	H022619.D	1	10/13/03	NAF	n/a	n/a	VH827
F19992-2MSD	H022620.D	1	10/13/03	NAF	n/a	n/a	VH827
F19992-2	H022611.D	1	10/13/03	NAF	n/a	n/a	VH827

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

F20036-1

CAS No.	Compound	F19992-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		57.3	63.5	111	65.3	114	3	64-125/21
100-41-4	Ethylbenzene	ND		57.3	64.8	113	56.9	99	13	58-123/22
1634-04-4	Methyl Tert Butyl Ether	ND		57.3	58.4	102	58.4	102	0	48-119/23
108-88-3	Toluene	ND		57.3	59.1	103	60.9	106	3	60-128/24
1330-20-7	Xylene (total)	ND		172	196	114	169	98	15	57-127/27

CAS No.	Surrogate Recoveries	MS	MSD	F19992-2	Limits
1868-53-7	Dibromofluoromethane	102%	102%	94%	70-130%
2037-26-5	Toluene-D8	96%	97%	98%	79-121%
460-00-4	4-Bromofluorobenzene	96%	98%	112%	77-133%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	90%	72-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F20138-1MS	B018169.D	1	10/22/03	RA	n/a	n/a	VB798
F20138-1MSD	B018170.D	1	10/22/03	RA	n/a	n/a	VB798
F20138-1	B018162.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Compound	F20138-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U		25	25.3	101	24.8	99	2	71-127/8
75-27-4	Bromodichloromethane	2.0 U		25	24.0	96	23.6	94	2	70-121/10
75-25-2	Bromoform	2.0 U		25	22.7	91	22.7	91	0	50-124/18
108-90-7	Chlorobenzene	2.0 U		25	24.9	100	24.2	97	3	77-113/6
75-00-3	Chloroethane	2.0 U		25	31.6	126	31.0	124	2	57-155/19
67-66-3	Chloroform	2.0 U		25	25.3	101	24.9	100	2	72-125/11
110-75-8	2-Chloroethyl vinyl ether	5.0 U		125	ND	0*	ND	0*	nc	10-158/37
56-23-5	Carbon tetrachloride	2.0 U		25	25.5	102	24.9	100	2	61-140/13
75-34-3	1,1-Dichloroethane	2.0 U		25	26.2	105	24.9	100	5	71-129/11
75-35-4	1,1-Dichloroethylene	2.0 U		25	31.1	124	29.5	118	5	60-141/14
107-06-2	1,2-Dichloroethane	2.0 U		25	26.0	104	25.7	103	1	64-121/9
78-87-5	1,2-Dichloropropane	2.0 U		25	25.5	102	25.5	102	0	73-131/8
124-48-1	Dibromochloromethane	2.0 U		25	24.9	100	24.7	99	1	65-118/12
156-59-2	cis-1,2-Dichloroethylene	2.0 U		25	25.8	103	25.1	100	3	75-131/12
10061-01-5	cis-1,3-Dichloropropene	2.0 U		25	20.6	82	20.9	84	1	62-115/13
541-73-1	m-Dichlorobenzene	2.0 U		25	24.5	98	23.8	95	3	72-115/7
95-50-1	o-Dichlorobenzene	2.0 U		25	24.5	98	23.3	93	5	72-113/8
106-46-7	p-Dichlorobenzene	2.0 U		25	23.9	96	23.7	95	1	72-116/7
156-60-5	trans-1,2-Dichloroethylene	2.0 U		25	27.2	109	27.1	108	0	65-127/12
10061-02-6	trans-1,3-Dichloropropene	2.0 U		25	22.7	91	22.8	91	0	51-115/13
100-41-4	Ethylbenzene	2.0 U		25	25.8	103	25.2	101	2	72-119/7
74-83-9	Methyl bromide	2.0 U		25	30.3	121	29.5	118	3	44-140/19
74-87-3	Methyl chloride	2.0 U		25	29.2	117	29.3	117	0	43-148/23
75-09-2	Methylene chloride	5.0 U		25	27.3	109	26.8	107	2	61-131/11
1634-04-4	Methyl Tert Butyl Ether	2.0 U		25	23.8	95	23.3	93	2	65-125/12
71-55-6	1,1,1-Trichloroethane	2.0 U		25	26.7	107	25.8	103	3	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U		25	26.9	108	26.6	106	1	62-120/10
79-00-5	1,1,2-Trichloroethane	2.0 U		25	26.3	105	25.5	102	3	71-117/10
127-18-4	Tetrachloroethylene	2.0 U		25	24.4	98	23.6	94	3	74-123/11
108-88-3	Toluene	2.0 U		25	25.6	102	25.0	100	2	73-119/10
79-01-6	Trichloroethylene	2.0 U		25	22.7	91	22.5	90	1	71-124/9
75-01-4	Vinyl chloride	1.0 U		25	31.4	126	31.2	125	1	53-149/22
1330-20-7	Xylene (total)	6.0 U		75	80.1	107	77.4	103	3	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F20138-1MS	B018169.D	1	10/22/03	RA	n/a	n/a	VB798
F20138-1MSD	B018170.D	1	10/22/03	RA	n/a	n/a	VB798
F20138-1	B018162.D	1	10/22/03	RA	n/a	n/a	VB798

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

F20036-2

CAS No.	Surrogate Recoveries	MS	MSD	F20138-1	Limits
1868-53-7	Dibromofluoromethane	101%	101%	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	112%	112%	109%	78-125%
2037-26-5	Toluene-D8	104%	104%	107%	87-113%
460-00-4	4-Bromofluorobenzene	101%	100%	113%	84-117%

Instrument Performance Check (BFB)

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VH827-BFB	Injection Date:	10/13/03
Lab File ID:	H022607.D	Injection Time:	08:08
Instrument ID:	GCMSH		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18787	21.4		Pass
75	30.0 - 60.0% of mass 95	42131	48.0		Pass
95	Base peak, 100% relative abundance	87739	100.0		Pass
96	5.0 - 9.0% of mass 95	5669	6.5		Pass
173	Less than 2.0% of mass 174	0	0.0	(0.0) [a]	Pass
174	50.0 - 100.0% of mass 95	52208	59.5		Pass
175	5.0 - 9.0% of mass 174	3922	4.5	(7.5) [a]	Pass
176	95.0 - 101.0% of mass 174	51392	58.6	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	3528	4.0	(6.9) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VH827-CC807	H022608.D	10/13/03	08:23	00:15	Continuing cal 40
VH827-BS	H022609.D	10/13/03	08:58	00:50	Blank Spike
VH827-MB	H022610.D	10/13/03	09:29	01:21	Method Blank
F19992-2	H022611.D	10/13/03	10:06	01:58	(used for QC only; not part of job F20036)
ZZZZZZ	H022612.D	10/13/03	10:36	02:28	(unrelated sample)
ZZZZZZ	H022613.D	10/13/03	11:07	02:59	(unrelated sample)
F20036-1	H022617.D	10/13/03	13:12	05:04	CF-AN16-SB05
F19992-2MS	H022619.D	10/13/03	14:14	06:06	Matrix Spike
F19992-2MSD	H022620.D	10/13/03	14:44	06:36	Matrix Spike Duplicate
ZZZZZZ	H022621.D	10/13/03	15:15	07:07	(unrelated sample)
ZZZZZZ	H022622.D	10/13/03	15:46	07:38	(unrelated sample)
ZZZZZZ	H022626.D	10/13/03	17:50	09:42	(unrelated sample)
ZZZZZZ	H022627.D	10/13/03	18:21	10:13	(unrelated sample)
ZZZZZZ	H022628.D	10/13/03	18:52	10:44	(unrelated sample)
ZZZZZZ	H022629.D	10/13/03	19:23	11:15	(unrelated sample)
ZZZZZZ	H022630.D	10/13/03	19:53	11:45	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB798-BFB
Lab File ID: B018158.D
Instrument ID: GCMSB
Injection Date: 10/22/03
Injection Time: 09:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14495	21.3		Pass
75	30.0 - 60.0% of mass 95	36400	53.4		Pass
95	Base peak, 100% relative abundance	68109	100.0		Pass
96	5.0 - 9.0% of mass 95	5257	7.7		Pass
173	Less than 2.0% of mass 174	213	0.31	(0.38) [a]	Pass
174	50.0 - 100.0% of mass 95	56749	83.3		Pass
175	5.0 - 9.0% of mass 174	4208	6.2	(7.4) [a]	Pass
176	95.0 - 101.0% of mass 174	54661	80.3	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3900	5.7	(7.1) [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
VB798-CC793	B018159.D	10/22/03	09:28	00:16	Continuing cal 40
VB798-BS	B018160.D	10/22/03	10:00	00:48	Blank Spike
VB798-MB	B018161.D	10/22/03	10:27	01:15	Method Blank
F20138-1	B018162.D	10/22/03	10:53	01:41	(used for QC only; not part of job F20036)
ZZZZZZ	B018163.D	10/22/03	11:20	02:08	(unrelated sample)
ZZZZZZ	B018164.D	10/22/03	11:48	02:36	(unrelated sample)
ZZZZZZ	B018165.D	10/22/03	12:15	03:03	(unrelated sample)
ZZZZZZ	B018166.D	10/22/03	12:42	03:30	(unrelated sample)
ZZZZZZ	B018167.D	10/22/03	13:09	03:57	(unrelated sample)
ZZZZZZ	B018168.D	10/22/03	13:36	04:24	(unrelated sample)
F20138-1MS	B018169.D	10/22/03	14:04	04:52	Matrix Spike
F20138-1MSD	B018170.D	10/22/03	14:31	05:19	Matrix Spike Duplicate
ZZZZZZ	B018171.D	10/22/03	14:58	05:46	(unrelated sample)
ZZZZZZ	B018172.D	10/22/03	15:25	06:13	(unrelated sample)
ZZZZZZ	B018173.D	10/22/03	15:52	06:40	(unrelated sample)
ZZZZZZ	B018174.D	10/22/03	16:19	07:07	(unrelated sample)
ZZZZZZ	B018175.D	10/22/03	16:46	07:34	(unrelated sample)
ZZZZZZ	B018176.D	10/22/03	17:13	08:01	(unrelated sample)
ZZZZZZ	B018177.D	10/22/03	17:42	08:30	(unrelated sample)
ZZZZZZ	B018178.D	10/22/03	18:11	08:59	(unrelated sample)
ZZZZZZ	B018179.D	10/22/03	18:38	09:26	(unrelated sample)
F20036-2	B018180.D	10/22/03	19:05	09:53	CF-AN16-TMW05

Instrument Performance Check (BFB)

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample:	VH807-BFB	Injection Date:	09/09/03
Lab File ID:	H022184.D	Injection Time:	12:33
Instrument ID:	GCMSH		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16100	22.7		Pass
75	30.0 - 60.0% of mass 95	36256	51.0		Pass
95	Base peak, 100% relative abundance	71080	100.0		Pass
96	5.0 - 9.0% of mass 95	4562	6.4		Pass
173	Less than 2.0% of mass 174	0	0.0	(0.0) [a]	Pass
174	50.0 - 100.0% of mass 95	44459	62.5		Pass
175	5.0 - 9.0% of mass 174	3130	4.4	(7.0) [a]	Pass
176	95.0 - 101.0% of mass 174	42597	59.9	(95.8) [a]	Pass
177	5.0 - 9.0% of mass 176	2785	3.9	(6.5) [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
VH807-IC807	H022185.D	09/09/03	12:49	00:16	Initial cal 5
VH807-IC807	H022186.D	09/09/03	13:19	00:46	Initial cal 10
VH807-IC807	H022187.D	09/09/03	13:49	01:16	Initial cal 20
VH807-ICC807	H022188.D	09/09/03	14:20	01:47	Initial cal 40
VH807-IC807	H022189.D	09/09/03	14:50	02:17	Initial cal 100
VH807-IC807	H022190.D	09/09/03	15:20	02:47	Initial cal 200

Instrument Performance Check (BFB)

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB793-BFB
Lab File ID: B018034.D
Instrument ID: GCMSB
Injection Date: 10/15/03
Injection Time: 09:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	24728	19.4		Pass
75	30.0 - 60.0% of mass 95	66882	52.5		Pass
95	Base peak, 100% relative abundance	127482	100.0		Pass
96	5.0 - 9.0% of mass 95	8862	7.0		Pass
173	Less than 2.0% of mass 174	137	0.11	(0.12) [a]	Pass
174	50.0 - 100.0% of mass 95	110797	86.9		Pass
175	5.0 - 9.0% of mass 174	8035	6.3	(7.3) [a]	Pass
176	95.0 - 101.0% of mass 174	108128	84.8	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	7437	5.8	(6.9) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VB793-IC793	B018035.D	10/15/03	10:52	01:24	Initial cal 1
VB793-IC793	B018036.D	10/15/03	11:19	01:51	Initial cal 5
VB793-IC793	B018037.D	10/15/03	11:46	02:18	Initial cal 20
VB793-ICC793	B018038.D	10/15/03	12:13	02:45	Initial cal 40
VB793-IC793	B018039.D	10/15/03	12:41	03:13	Initial cal 70
VB793-IC793	B018040.D	10/15/03	13:07	03:39	Initial cal 100

Volatile Internal Standard Area Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	VH827-CC807	Injection Date:	10/13/03
Lab File ID:	H022608.D	Injection Time:	08:23
Instrument ID:	GCMSH	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	583180	10.02	461871	13.13	180876	15.54	129761	7.29
Upper Limit [a]	1166360	10.52	923742	13.63	361752	16.04	259522	7.79
Lower Limit [b]	291590	9.52	230936	12.63	90438	15.04	64881	6.79

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VH827-BS	539467	10.02	421376	13.13	163703	15.53	107625	7.30
VH827-MB	512149	10.02	359837	13.12	137469	15.53	84705	7.30
F19992-2	474098	10.02	348346	13.13	122553	15.53	50805*	7.31
ZZZZZZ	486623	10.03	346577	13.13	117014	15.54	57410*	7.30
ZZZZZZ	449019	10.03	252724	13.13	60089*	15.54	80927	7.30
F20036-1	423261	10.02	319266	13.13	119629	15.53	58361*	7.32
F19992-2MS	440945	10.03	342895	13.13	131546	15.54	50534*	7.30
F19992-2MSD	441720	10.03	340392	13.14	125992	15.54	47714*	7.31
ZZZZZZ	404837	10.03	252817	13.13	95497	15.54	83716	7.32
ZZZZZZ	395038	10.02	241286	13.13	81680*	15.54	92114	7.31
ZZZZZZ	376766	10.03	313622	13.13	147192	15.54	74727	7.30
ZZZZZZ	423433	10.02	344326	13.13	167729	15.54	94756	7.31
ZZZZZZ	485775	10.02	393314	13.13	183584	15.54	95257	7.32
ZZZZZZ	449470	10.03	377141	13.12	173220	15.53	90324	7.31
ZZZZZZ	457820	10.03	376793	13.13	172111	15.54	106266	7.30

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: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	VB798-CC793	Injection Date:	10/22/03
Lab File ID:	B018159.D	Injection Time:	09:28
Instrument ID:	GCMSB	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1179264	9.56	905246	12.78	523877	15.32	98318	6.87
Upper Limit [a]	2358528	10.06	1810492	13.28	1047754	15.82	196636	7.37
Lower Limit [b]	589632	9.06	452623	12.28	261939	14.82	49159	6.37

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VB798-BS	1260321	9.56	957844	12.78	533344	15.32	111720	6.87
VB798-MB	1200478	9.56	845197	12.78	374341	15.32	103408	6.89
F20138-1	1129090	9.56	782234	12.78	349385	15.32	102608	6.89
ZZZZZZ	1064041	9.56	739277	12.78	332779	15.32	84235	6.89
ZZZZZZ	1018210	9.56	714750	12.78	313668	15.32	77463	6.89
ZZZZZZ	1202703	9.56	931627	12.78	561993	15.32	86272	6.88
ZZZZZZ	1502678	9.56	1054928	12.78	479639	15.32	110915	6.89
ZZZZZZ	1290632	9.56	907802	12.78	420612	15.32	94267	6.89
ZZZZZZ	1194988	9.56	858440	12.78	410661	15.32	100090	6.89
F20138-1MS	1258129	9.56	935916	12.78	519570	15.32	119857	6.87
F20138-1MSD	1279495	9.56	961515	12.78	536395	15.32	119314	6.88
ZZZZZZ	1230674	9.56	849892	12.78	376369	15.32	81018	6.89
ZZZZZZ	1147090	9.56	806265	12.78	374749	15.32	83136	6.89
ZZZZZZ	1132295	9.56	800933	12.78	422587	15.32	93911	6.89
ZZZZZZ	1147662	9.56	816953	12.78	411707	15.32	89655	6.89
ZZZZZZ	1225523	9.56	940033	12.78	539287	15.32	99347	6.88
ZZZZZZ	1450467	9.56	1022913	12.78	474322	15.32	112295	6.89
ZZZZZZ	1274748	9.56	880409	12.78	392782	15.32	84217	6.89
ZZZZZZ	1184287	9.56	828941	12.78	457636	15.32	88020	6.88
ZZZZZZ	1164700	9.56	804991	12.78	355497	15.32	76067	6.89
F20036-2	1078689	9.56	746675	12.78	331415	15.32	79054	6.89

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: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

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
F20036-2	B018180.D	99.0	109.0	108.0	113.0
F20138-1MS	B018169.D	101.0	112.0	104.0	101.0
F20138-1MSD	B018170.D	101.0	112.0	104.0	100.0
VB798-BS	B018160.D	101.0	110.0	103.0	100.0
VB798-MB	B018161.D	100.0	108.0	107.0	114.0

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

Volatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: SW846 8260B Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
F20036-1	H022617.D	101.0	96.0	108.0	102.0
F19992-2MS	H022619.D	102.0	96.0	96.0	95.0
F19992-2MSD	H022620.D	102.0	97.0	98.0	94.0
VH827-BS	H022609.D	96.0	94.0	100.0	93.0
VH827-MB	H022610.D	94.0	103.0	101.0	93.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	79-121%
S3 = 4-Bromofluorobenzene	77-133%
S4 = 1,2-Dichloroethane-D4	72-133%

Initial Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH807-ICC807
Lab FileID: H022188.D

Response Factor Report MSVOA3

Method : C:\HPCHEM\1\METHODS\090903S.M (RTE Integrator)
Title : SWA 5035/8260B
Last Update : Tue Sep 09 15:14:31 2003
Response via : Initial Calibration

Calibration Files
1 =H022185.D 2 =H022186.D 3 =H022187.D
4 =H022188.D 5 =H022189.D 6 =H022190.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	0.244	0.245	0.260	0.257	0.244	0.219	0.245	5.93
3)	P	Chloromethane	0.427	0.432	0.445	0.436	0.420	0.388	0.425	4.63
4)	C	Vinyl Chloride	0.317	0.334	0.346	0.334	0.324	0.293	0.325	5.69
5)		Bromomethane	0.160	0.168	0.181	0.175	0.157		0.168	5.78
6)		Chloroethane	0.163	0.191	0.197	0.187	0.183	0.158	0.180	8.80
7)		Trichlorofluorometh		0.237	0.265	0.263	0.256	0.226	0.250	6.82
8)		1,2-Dichloro-1,1,2-	0.445	0.434	0.421	0.402	0.392	0.363	0.409	7.31
9)		Ethyl Ether	0.353	0.365	0.381	0.377	0.383	0.370	0.371	3.03
10)		Acrolein	0.027	0.029	0.030	0.029	0.034	0.034	0.031	9.06
11)		Freon 113	0.264	0.268	0.271	0.250	0.245	0.221	0.253	7.38
12)	C	1,1-Dichloroethene	0.558	0.542	0.552	0.542	0.540	0.507	0.540	3.32
13)		Acetone	0.201	0.166	0.164	0.152	0.167	0.165	0.169	9.63
14)		Iodomethane	0.406	0.386	0.415	0.398	0.396	0.381	0.397	3.15
15)		Carbon Disulfide	0.967	0.975	0.965	0.936	0.921	0.861	0.937	4.58
16)		Methyl acetate	0.390	0.356	0.392	0.353	0.384	0.380	0.376	4.54
17)		Methylene Chloride	0.638	0.585	0.572	0.552	0.552	0.532	0.572	6.51
18)		Acrylonitrile	0.139	0.131	0.125	0.130	0.147	0.147	0.136	6.75
19)		Methyl Tert Butyl E	1.041	1.012	1.031	1.015	1.064	1.016	1.030	1.94
20)		trans-1,2-Dichloroe	0.630	0.612	0.608	0.595	0.590	0.557	0.599	4.13
21)		Hexane	0.552	0.526	0.506	0.481	0.493	0.461	0.503	6.48
22)		Vinyl acetate	1.317	1.295	1.006	1.175	1.245	1.160	1.200	9.47
23)	P	1,1-Dichloroethane	0.717	0.710	0.726	0.709	0.691	0.632	0.698	4.86
24)		Di-isopropyl ether	1.596	1.593	1.585	1.588	1.587	1.477	1.571	2.94
25)		Ethyl tert-butyl Et	1.253	1.276	1.282	1.289	1.332	1.282	1.286	2.02
26)		2-Butanone	0.257	0.234	0.237	0.225	0.262	0.265	0.247	6.75
27)		cis-1,2-Dichloroeth	0.360	0.366	0.373	0.368	0.359	0.333	0.360	3.87
28)		2,2-Dichloropropane	0.367	0.386	0.392	0.369	0.347	0.315	0.363	7.72
29)		Bromochloromethane	0.151	0.158	0.168	0.157	0.163	0.152	0.158	4.08
30)	C	Chloroform	0.665	0.678	0.671	0.652	0.629	0.587	0.647	5.24
31)		Tetrahydrofuran	0.150	0.136	0.131	0.132	0.153	0.154	0.143	7.67
32)	S	Dibromofluoromethan	0.249	0.254	0.250	0.248	0.251	0.241	0.249	1.75
33)		1,1,1-Trichloroetha	0.450	0.447	0.457	0.437	0.428	0.392	0.435	5.44
34)		Cyclohexane	0.660	0.672	0.672	0.650	0.649	0.614	0.653	3.33
35)		1,1-Dichloropropene	0.492	0.488	0.488	0.478	0.463	0.424	0.472	5.50
36)		Carbon Tetrachlorid	0.378	0.390	0.384	0.378	0.360	0.329	0.370	6.04
37)	S	1,2-Dichloroethane-	0.384	0.384	0.392	0.373	0.367	0.362	0.377	3.02
38)		1,2-Dichloroethane	0.599	0.598	0.600	0.593	0.576	0.530	0.583	4.67
39)		Benzene	1.518	1.464	1.454	1.422	1.357	1.212	1.405	7.69
40)		Tert-Amyl Methyl Et	1.061	1.036	1.055	1.054	1.073	0.996	1.046	2.59
41)		Trichloroethene	0.350	0.344	0.349	0.350	0.346	0.316	0.343	3.83
42)		Methylcyclohexane	0.551	0.571	0.538	0.527	0.530	0.467	0.531	6.64
43)	C	1,2-Dichloropropane	0.402	0.403	0.403	0.395	0.394	0.361	0.393	4.11
44)		Dibromomethane	0.212	0.212	0.206	0.206	0.211	0.200	0.208	2.27
45)		Bromodichloromethan	0.481	0.488	0.496	0.496	0.509	0.472	0.490	2.64
46)		2-Nitropropane	0.135	0.126	0.128	0.130	0.150	0.142	0.135	6.92

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VH807-ICC807
Lab FileID: H022188.D

47)		2-Chloroethyl vinyl	0.059	0.057	0.059	0.061	0.069	0.066	0.062	7.52
48)		cis-1,3-Dichloropro	0.576	0.616	0.610	0.615	0.650	0.611	0.613	3.84
49)		4-Methyl-2-pentanon	0.509	0.481	0.476	0.472	0.537	0.502	0.496	5.02
50)	I	Chlorobenzene-d5	----------ISTD----------							
51)	S	Toluene-d8	1.354	1.334	1.546	1.333	1.351	1.579	1.416	8.05
52)	C	Toluene	2.037	1.913	2.198	1.832	1.783	1.903	1.944	7.78
53)		trans-1,3-Dichlorop	0.686	0.692	0.818	0.737	0.770	0.862	0.761	9.22
54)		1,1,2-Trichloroetha	0.349	0.351	0.405	0.342	0.352	0.400	0.366	7.65
55)		1,3-Dichloropropane	0.785	0.764	0.859	0.745	0.754	0.671	0.763	7.98
56)		2-hexanone	0.460	0.409	0.491	0.428	0.501	0.478	0.461	7.89
57)		Tetrachloroethene	0.451	0.420	0.468	0.397	0.390	0.342	0.411	11.09
58)		Dibromochloromethan	0.379	0.376	0.443	0.394	0.418	0.394	0.401	6.40
59)		1,2-Dibromoethane	0.356	0.331	0.418	0.367	0.388	0.371	0.372	7.89
60)		1-Chlorohexane	0.582	0.577	0.642	0.564	0.564	0.519	0.575	6.93
61)	P	Chlorobenzene	1.154	1.132	1.091	1.092	1.065	0.971	1.084	5.90
62)		1,1,1,2-Tetrachloro	0.373	0.391	0.386	0.382	0.371	0.326	0.371	6.38
63)	C	Ethylbenzene	2.076	2.018	1.991	1.973	1.880	1.634	1.929	8.18
64)		m,p-Xylene	1.733	1.657	1.658	1.631	1.517	1.298	1.582	9.83
65)		o-Xylene	1.688	1.716	1.683	1.672	1.588	1.383	1.622	7.68
66)		Styrene	1.146	1.117	1.159	1.188	1.140	1.004	1.126	5.69
67)	P	Bromoform	0.215	0.234	0.247	0.253	0.277	0.278	0.251	9.75
68)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
69)		Isopropylbenzene	3.927	3.722	3.611	4.288	3.565	3.171	3.714	10.09
70)		Cyclohexanone	0.037	0.036	0.034	0.041	0.044	0.049	0.040	13.80
71)	S	4-Bromofluorobenzen	1.295	1.296	1.240	1.482	1.271	1.271	1.309	6.65
72)	P	1,1,2,2-Tetrachloro	1.248	1.180	1.140	1.359	1.220	1.180	1.221	6.31
73)		trans-1,4-Dichloro-		0.345	0.339	0.441	0.417	0.419	0.392	11.88
74)		1,2,3-Trichloroprop	0.340	0.298	0.283	0.344	0.314	0.297	0.313	7.87
75)		Bromobenzene	0.953	0.898	0.870	1.036	0.841	0.745	0.891	11.16
76)		n-Propylbenzene		5.068	4.774	5.623	4.561	3.947	4.795	12.92
77)		2-Chlorotoluene	3.783	3.665	3.523	4.115	3.231	2.784	3.517	13.15
78)		1,3,5-Trimethylbenz	3.527	3.408	3.245	3.825	3.033	2.581	3.270	13.15
79)		4-Chlorotoluene	3.576	3.376	3.131	3.815	3.122	2.882	3.317	10.27
80)		tert-Butylbenzene	2.659	2.542	2.428	2.880	2.375	2.131	2.502	10.24
81)		1,2,4-Trimethylbenz	3.509	3.476	3.272	3.957	3.243	2.883	3.390	10.52
82)		sec-Butylbenzene	4.156	3.973	3.830	4.581	3.792	3.372	3.951	10.22
83)		4-Isopropyltoluene	3.126	3.052	2.864	3.448	2.915	2.554	2.993	9.96
84)		1,3-Dichlorobenzene	1.849	1.720	1.664	1.703	1.620	1.472	1.671	7.44
85)		1,4-Dichlorobenzene	1.864	1.758	1.630	1.672	1.620	1.471	1.669	8.00
86)		Benzyl chloride	1.731	1.667	1.716	1.789	1.997	1.937	1.806	7.30
87)		n-Butylbenzene	3.215	3.063	2.919	3.043	3.057	2.765	3.010	5.07
88)		1,2-Dichlorobenzene	1.682	1.589	1.563	1.574	1.554	1.423	1.564	5.32
89)		1,2-Dibromo-3-Chlor		0.180	0.183	0.196	0.225	0.226	0.202	11.07
90)		1,2,4-Trichlorobenz	0.768	0.828	0.888	0.908	0.791	0.866	0.842	6.59
91)		Hexachlorobutadiene	0.478	0.450	0.513	0.510	0.435	0.470	0.476	6.62
92)		Naphthalene	1.670	1.603	1.965	2.066	1.924	2.245	1.912	12.64
93)		1,2,3-Trichlorobenz	0.712	0.683	0.800	0.804	0.716	0.792	0.751	7.11
94)	I	Tert Butyl Alcohol-d1	----------ISTD----------							
95)		Tert Butyl Alcohol	1.367	1.292	1.296	1.360	1.379	1.344	1.340	2.78
96)		Tert Amyl Alcohol	0.913	0.939	0.970	1.019	1.130	1.136	1.018	9.44
97)		1,4-Dioxane		0.092	0.099	0.098	0.104	0.101	0.099	4.64

(#) = Out of Range

090903S.M Wed Sep 10 15:59:09 2003 RPT1

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH827-CC807
Lab FileID: H022608.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\101303\H022608.D Vial: 1
Acq On : 13 Oct 2003 8:23 am Operator: NancyF
Sample : CC807-40 Inst : MSVOA3
Misc : ms2613,vh827,5.00,,,,, Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\090903S.M (RTE Integrator)
Title : SWA 5035/8260B
Last Update : Wed Sep 10 16:52:33 2003
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	112	0.01
2		Dichlorodifluoromethane	0.245	0.282	-15.1	123	0.03
3	P	Chloromethane	0.425	0.466	-9.6	120	0.04
4	C	Vinyl Chloride	0.325	0.349	-7.4	117	0.04
5		Bromomethane	0.168	0.167	0.6	107	0.05
6		Chloroethane	0.180	0.167	7.2	100	0.05
7		Trichlorofluoromethane	0.250	0.314	-25.6#	134	-0.03
8		1,2-Dichloro-1,1,2-trifluor	0.409	0.433	-5.9	121	-0.05
9		Ethyl Ether	0.371	0.359	3.2	107	0.02
10		Acrolein	0.031	0.029	6.5	113	0.02
11		Freon 113	0.253	0.280	-10.7	126	0.04
12	C	1,1-Dichloroethene	0.540	0.544	-0.7	113	-0.03
13		Acetone	0.169	0.166	1.8	123	0.02
14		Iodomethane	0.397	0.406	-2.3	114	-0.05
15		Carbon Disulfide	0.937	1.168	-24.7#	140	-0.02
16		Methyl acetate	0.376	0.388	-3.2	123	0.01
17		Methylene Chloride	0.572	0.570	0.3	116	0.01
18		Acrylonitrile	0.136	0.130	4.4	112	0.01
19		Methyl Tert Butyl Ether	1.030	1.099	-6.7	122	0.02
20		trans-1,2-Dichloroethene	0.599	0.632	-5.5	119	0.02
21		Hexane	0.503	0.660	-31.2#	154	0.02
22		Vinyl acetate	1.200	1.142	4.8	109	0.01
23	P	1,1-Dichloroethane	0.698	0.734	-5.2	116	0.01
24		Di-isopropyl ether	1.571	1.760	-12.0	125	0.02
25		Ethyl tert-butyl Ether	1.286	1.435	-11.6	125	0.01
26		2-Butanone	0.247	0.260	-5.3	130	0.02
27		cis-1,2-Dichloroethene	0.360	0.365	-1.4	112	0.01
28		2,2-Dichloropropane	0.363	0.394	-8.5	120	0.01
29		Bromochloromethane	0.158	0.160	-1.3	114	0.01
30	C	Chloroform	0.647	0.638	1.4	110	0.02
31		Tetrahydrofuran	0.143	0.157	-9.8	134	0.01
32	S	Dibromofluoromethane	0.249	0.242	2.8	110	0.01
33		1,1,1-Trichloroethane	0.435	0.450	-3.4	116	0.02
34		Cyclohexane	0.653	0.804	-23.1#	139	0.01
35		1,1-Dichloropropene	0.472	0.516	-9.3	121	0.01
36		Carbon Tetrachloride	0.370	0.373	-0.8	111	0.01
37	S	1,2-Dichloroethane-d4	0.377	0.375	0.5	113	0.01
38		1,2-Dichloroethane	0.583	0.550	5.7	104	0.01
39		Benzene	1.405	1.458	-3.8	115	0.01
40		Tert-Amyl Methyl Ether	1.046	1.148	-9.8	122	0.01
41		Trichloroethene	0.343	0.357	-4.1	115	0.01
42		Methylcyclohexane	0.531	0.660	-24.3#	141	0.01

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VH827-CC807
Lab FileID: H022608.D

43	C	1,2-Dichloropropane	0.393	0.408	-3.8	116	0.00
44		Dibromomethane	0.208	0.201	3.4	109	0.01
45		Bromodichloromethane	0.490	0.482	1.6	109	0.01
46		2-Nitropropane	0.135	0.140	-3.7	121	0.00
47		2-Chloroethyl vinyl ether	0.062	0.101	-62.9#	187	0.00
48		cis-1,3-Dichloropropene	0.613	0.643	-4.9	118	0.00
49		4-Methyl-2-pentanone	0.496	0.535	-7.9	127	0.01
50	I	Chlorobenzene-d5	1.000	1.000	0.0	116	0.01
51	S	Toluene-d8	1.416	1.306	7.8	114	0.00
52	C	Toluene	1.944	1.836	5.6	116	0.01
53		trans-1,3-Dichloropropene	0.761	0.721	5.3	113	0.01
54		1,1,2-Trichloroethane	0.366	0.329	10.1	112	0.01
55		1,3-Dichloropropane	0.763	0.716	6.2	111	0.01
56		2-hexanone	0.461	0.476	-3.3	129	0.01
57		Tetrachloroethene	0.411	0.409	0.5	120	0.00
58		Dibromochloromethane	0.401	0.367	8.5	108	0.00
59		1,2-Dibromoethane	0.372	0.355	4.6	112	0.00
60		1-Chlorohexane	0.575	0.663	-15.3	136	0.00
61	P	Chlorobenzene	1.084	1.076	0.7	114	0.00
62		1,1,1,2-Tetrachloroethane	0.371	0.362	2.4	110	0.00
63	C	Ethylbenzene	1.929	2.039	-5.7	120	0.00
64		m,p-Xylene	1.582	1.642	-3.8	117	0.01
65		o-Xylene	1.622	1.661	-2.4	115	0.00
66		Styrene	1.126	1.160	-3.0	113	0.01
67	P	Bromoform	0.251	0.239	4.8	109	0.00
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.01
69		Isopropylbenzene	3.714	4.535	-22.1#	122	0.00
70		Cyclohexanone	0.040	0.040	0.0	112	0.00
71	S	4-Bromofluorobenzene	1.309	1.296	1.0	101	0.00
72	P	1,1,2,2-Tetrachloroethane	1.221	1.173	3.9	99	0.00
73		trans-1,4-Dichloro-2-Butene	0.392	0.389	0.8	102	0.00
74		1,2,3-Trichloropropane	0.313	0.297	5.1	99	0.00
75		Bromobenzene	0.891	0.845	5.2	94	0.00
76		n-Propylbenzene	4.795	5.045	-5.2	103	0.00
77		2-Chlorotoluene	3.517	3.506	0.3	98	0.00
78		1,3,5-Trimethylbenzene	3.270	3.349	-2.4	101	0.01
79		4-Chlorotoluene	3.317	3.303	0.4	100	0.00
80		tert-Butylbenzene	2.502	2.539	-1.5	102	0.01
81		1,2,4-Trimethylbenzene	3.390	3.476	-2.5	101	0.00
82		sec-Butylbenzene	3.951	4.204	-6.4	106	0.00
83		4-Isopropyltoluene	2.993	3.202	-7.0	107	0.01
84		1,3-Dichlorobenzene	1.671	1.657	0.8	112	0.00
85		1,4-Dichlorobenzene	1.669	1.668	0.1	115	0.00
86		Benzyl chloride	1.806	2.058	-14.0	133	0.00
87		n-Butylbenzene	3.010	3.421	-13.7	130	0.00
88		1,2-Dichlorobenzene	1.564	1.550	0.9	113	0.00
89		1,2-Dibromo-3-Chloropropane	0.202	0.198	2.0	116	0.00
90		1,2,4-Trichlorobenzene	0.842	0.984	-16.9	125	0.00
91		Hexachlorobutadiene	0.476	0.583	-22.5#	132	0.00
92		Naphthalene	1.912	2.231	-16.7	124	0.00
93		1,2,3-Trichlorobenzene	0.751	0.870	-15.8	125	0.00
94	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	143	0.01
95		Tert Butyl Alcohol	1.340	1.303	2.8	137	0.02
96		Tert Amyl Alcohol	1.018	1.114	-9.4	157	0.02
97		1,4-Dioxane	0.099	0.084	15.2	124	0.01

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VH827-CC807
Lab FileID: H022608.D

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                                        Average  % D =   7.5
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    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     H022188.D  090903S.M        Tue Oct 14 09:59:14 2003   RPT1
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Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB793-ICC793
Lab FileID: B018038.D

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\82601015.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Wed Oct 15 13:44:02 2003
Response via : Initial Calibration

Calibration Files
1 =B018035.D 2 =B018036.D 3 =B018037.D
4 =B018038.D 5 =B018039.D 6 =B018040.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet	0.488	0.487	0.465	0.453	0.428	0.409	0.455	7.00
3)	P	Chloromethane		0.388	0.378	0.364	0.356	0.338	0.365	5.33
4)	C	Vinyl Chloride		0.394	0.380	0.362	0.345	0.327	0.362	7.39
5)		Bromomethane		0.297	0.284	0.277	0.267	0.252	0.275	6.20
6)		Chloroethane		0.193	0.197	0.191	0.181	0.173	0.187	5.41
7)		Trichlorofluorometh	0.621	0.520	0.539	0.539	0.533	0.520	0.545	7.00
8)		Ethyl Ether	0.222	0.227	0.212	0.216	0.207	0.198	0.214	4.84
9)		1,2-Dichloro-1,1,2-	0.416	0.412	0.381	0.363	0.351	0.337	0.377	8.64
10)		Acrolein	0.019	0.016	0.016	0.015	0.014	0.014	0.016	12.04
11)		Freon 113		0.359	0.319	0.327	0.328	0.308	0.328	5.74
12)	C	1,1-Dichloroethene		0.537	0.467	0.451	0.446	0.447	0.469	8.19
13)		Acetone		0.132	0.113	0.114	0.106	0.099	0.113	11.16
14)		Iodomethane	0.465	0.461	0.435	0.447	0.461	0.465	0.456	2.68
15)		Carbon Disulfide	1.089	0.950	0.925	0.924	0.930	0.924	0.957	6.85
16)		Methyl acetate	0.183	0.174	0.163	0.173	0.166	0.155	0.169	5.95
17)		Methylene Chloride	0.436	0.399	0.375	0.362	0.350	0.342	0.377	9.24
18)		Methyl Tert Butyl E		0.486	0.548	0.622	0.658	0.657	0.594	12.67
19)		trans-1,2-Dichloroe	0.391	0.415	0.401	0.395	0.396	0.389	0.398	2.32
20)		Acrylonitrile	0.046	0.063	0.065	0.063	0.062	0.060	0.060	11.61
21)		Hexane	0.332	0.314	0.326	0.321	0.326	0.315	0.322	2.19
22)		Di-isopropyl ether	0.723	0.839	0.874	0.867	0.857	0.827	0.831	6.73
23)		Vinyl acetate		0.402	0.396	0.397	0.377	0.332	0.381	7.66
24)	P	1,1-Dichloroethane	0.518	0.535	0.500	0.493	0.490	0.482	0.503	3.94
25)		ETBE	0.275	0.360	0.411	0.482	0.547	0.541	0.436	24.66
		----- Quadratic regression ----- Coefficient = 0.9980								
		Response Ratio = -0.01749 + 0.49683 *A + 0.02919 *A^2								
26)		2-Butanone		0.098	0.104	0.113	0.109	0.102	0.105	5.53
27)		2,2-Dichloropropane	0.106	0.142	0.158	0.185	0.223	0.224	0.173	26.97
		----- Quadratic regression ----- Coefficient = 0.9973								
		Response Ratio = -0.00671 + 0.18641 *A + 0.02212 *A^2								
28)		cis-1,2-Dichloroeth	0.268	0.279	0.284	0.287	0.288	0.288	0.282	2.66
29)		Bromochloromethane	0.138	0.143	0.139	0.143	0.145	0.144	0.142	2.17
30)		Tetrahydrofuran	0.066	0.058	0.057	0.064	0.062	0.056	0.061	7.08
31)	C	Chloroform	0.558	0.574	0.559	0.555	0.555	0.543	0.557	1.80
32)	S	Dibromofluoromethan	0.294	0.292	0.292	0.289	0.289	0.288	0.291	0.75
33)		1,1,1-Trichloroetha	0.448	0.476	0.482	0.487	0.502	0.497	0.482	3.94
34)		Cyclohexane	0.367	0.419	0.434	0.430	0.433	0.421	0.417	6.09
35)		Carbon Tetrachlorid	0.365	0.396	0.419	0.424	0.449	0.452	0.418	7.88
36)		1,1-Dichloropropene	0.333	0.346	0.358	0.359	0.368	0.363	0.354	3.63
37)	S	1,2-Dichloroethane-	0.382	0.389	0.393	0.394	0.373	0.361	0.382	3.39
38)		TAME	0.299	0.352	0.393	0.452	0.512	0.504	0.419	20.37
		----- Quadratic regression ----- Coefficient = 0.9980								
		Response Ratio = -0.01493 + 0.46718 *A + 0.02513 *A^2								

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VB793-ICC793
Lab FileID: B018038.D

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 39)     Benzene              1.110 1.097 1.045 1.048 1.057 1.037 1.066   2.85
 40)     1,2-Dichloroethane   0.442 0.463 0.442 0.447 0.441 0.429 0.444   2.52
 41)     Trichloroethene      0.290 0.288 0.289 0.294 0.303 0.310 0.296   3.01
 42)     Methylcyclohexane    0.359 0.352 0.395 0.402 0.413 0.408 0.388   6.72
 43) C   1,2-Dichloropropane 0.246 0.281 0.272 0.274 0.274 0.266 0.269   4.49
 44)     Dibromomethane       0.177 0.191 0.189 0.196 0.192 0.189 0.189   3.36
 45)     Bromodichloromethan 0.396 0.395 0.408 0.425 0.432 0.432 0.414   4.12
 46)     2-Chloroethyl vinyl 0.012 0.016 0.022 0.025 0.027 0.027 0.021  29.16
          ----- Quadratic regression -----  Coefficient =  0.9989
               Response Ratio = -0.00488 + 0.02650 *A + 0.00008 *A^2

 47)     2-Nitropropane       0.047 0.058 0.062 0.068 0.067 0.063 0.061  12.50
 48)     cis-1,3-Dichloropro 0.258 0.293 0.373 0.420 0.441 0.445 0.372  21.36
          ----- Quadratic regression -----  Coefficient =  0.9996
               Response Ratio = -0.01115 + 0.42155 *A + 0.01527 *A^2

 49)     4-Methyl-2-pentanon 0.181 0.216 0.225 0.238 0.226 0.208 0.216   9.17

 50) I   Chlorobenzene-d5       ----------------ISTD---------------------
 51) S   Toluene-d8           1.284 1.302 1.276 1.265 1.256 1.267 1.275   1.29
 52) C   Toluene              1.501 1.494 1.446 1.433 1.457 1.447 1.463   1.90
 53)     trans-1,3-Dichlorop 0.238 0.297 0.384 0.446 0.485 0.497 0.391  26.88
          ----- Quadratic regression -----  Coefficient =  0.9994
               Response Ratio = -0.01346 + 0.43799 *A + 0.03407 *A^2

 54)     1,1,2-Trichloroetha 0.259 0.269 0.260 0.270 0.266 0.259 0.264   1.88
 55)     Tetrachloroethene    0.398 0.374 0.370 0.378 0.393 0.399 0.385   3.30
 56)     2-hexanone           0.171 0.178 0.197 0.218 0.208 0.192 0.194   9.20
 57)     1,3-Dichloropropane 0.504 0.555 0.529 0.540 0.532 0.521 0.530   3.29
 58)     Dibromochloromethan 0.338 0.313 0.339 0.371 0.385 0.392 0.356   8.72
 59)     1,2-Dibromoethane    0.263 0.305 0.309 0.325 0.328 0.323 0.309   7.83
 60)     1-Chlorohexane       0.341 0.372 0.419 0.443 0.458 0.461 0.416  11.78
 61) P   Chlorobenzene        1.002 0.987 0.929 0.941 0.947 0.944 0.958   3.02
 62) C   Ethylbenzene         1.598 1.667 1.677 1.701 1.741 1.740 1.687   3.17
 63)     1,1,1,2-Tetrachloro 0.383 0.371 0.363 0.372 0.382 0.390 0.377   2.61
 64)     m,p-Xylene           1.237 1.340 1.339 1.367 1.410 1.407 1.350   4.70
 65)     o-Xylene             1.115 1.271 1.376 1.423 1.463 1.454 1.350   9.98
 66)     Styrene                    0.877 0.971 1.008 1.047 1.063 0.993   7.47
 67) P   Bromoform            0.201 0.181 0.209 0.245 0.267 0.277 0.230  16.85
             ----- Linear regression -----  Coefficient =  0.9973
               Response Ratio = -0.01546 + 0.28019 *A


 68) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
 69)     Isopropylbenzene     2.467 2.558 2.625 2.679 2.716 2.731 2.629   3.87
 70)     Cyclohexanone        0.043 0.021 0.015 0.015 0.015 0.015 0.021  54.69
          ----- Quadratic regression -----  Coefficient =  0.9997
               Response Ratio = 0.00225 + 0.01507 *A + -0.00005 *A^2

 71) S   4-Bromofluorobenzen 1.087 1.058 1.002 0.994 0.978 0.978 1.016   4.48
 72) P   1,1,2,2-Tetrachloro        0.793 0.719 0.728 0.695 0.660 0.719   6.85
 73)     trans-1,4-Dichloro- 0.053 0.032 0.053 0.076 0.087 0.102 0.067  38.31
          ----- Quadratic regression -----  Coefficient =  0.9994
               Response Ratio = -0.00173 + 0.05506 *A + 0.02391 *A^2

 74)     n-Propylbenzene      3.756 3.579 3.542 3.582 3.621 3.575 3.609   2.11
 75)     Bromobenzene         0.907 0.884 0.812 0.818 0.825 0.840 0.848   4.60
 76)     1,2,3-Trichloroprop 0.222 0.234 0.216 0.225 0.216 0.213 0.221   3.51
 77)     1,3,5-Trimethylbenz 2.332 2.298 2.352 2.395 2.455 2.449 2.380   2.69
```

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: VB793-ICC793
Lab FileID: B018038.D

78)	2-Chlorotoluene	2.765	2.740	2.552	2.539	2.563	2.544	2.617	4.03
79)	4-Chlorotoluene	2.251	2.195	2.181	2.235	2.242	2.238	2.224	1.28
80)	tert-Butylbenzene	1.479	1.463	1.493	1.524	1.541	1.518	1.503	1.99
81)	1,2,4-Trimethylbenz	2.252	2.353	2.397	2.442	2.472	2.456	2.396	3.45
82)	sec-Butylbenzene	2.863	2.729	2.744	2.786	2.820	2.786	2.788	1.76
83)	4-Isopropyltoluene	2.166	2.151	2.247	2.305	2.353	2.361	2.264	4.03
84)	1,3-Dichlorobenzene	1.542	1.430	1.403	1.415	1.441	1.444	1.446	3.44
85)	1,4-Dichlorobenzene	1.688	1.519	1.445	1.455	1.485	1.481	1.512	5.95
86)	Benzyl Chloride	1.051	0.958	1.078	1.255	1.293	1.295	1.155	12.48
87)	n-Butylbenzene	2.146	2.003	2.151	2.207	2.248	2.203	2.160	3.98
88)	1,2-Dichlorobenzene	1.540	1.402	1.334	1.396	1.390	1.389	1.409	4.90
89)	1,2-Dibromo-3-Chlor	0.151	0.120	0.108	0.122	0.123	0.121	0.124	11.60
90)	1,2,4-Trichlorobenz	1.008	0.676	0.749	0.806	0.859	0.868	0.828	13.77
91)	Hexachlorobutadiene		0.452	0.431	0.440	0.449	0.444	0.443	1.84
92)	Naphthalene		1.320	1.372	1.629	1.703	1.688	1.542	11.82
93)	1,2,3-Trichlorobenz		0.646	0.667	0.738	0.765	0.773	0.718	8.05
94) I	Tert Butyl alcohol-d1 ----------ISTD----------								
95)	Tert-Butyl Alcohol	1.102	1.097	1.107	1.116	1.169	1.170	1.127	3.00
96)	Tert amyl alcohol	0.025	0.221	0.261	0.275	0.324	0.339	0.241	47.47

----- Linear regression ----- Coefficient = 0.9952
Response Ratio = -0.04650 + 0.34270 *A

97)	1,4-Dioxane	0.072	0.095	0.131	0.126	0.139	0.141	0.118	23.68

----- Linear regression ----- Coefficient = 0.9987
Response Ratio = -0.01993 + 0.14229 *A

(#) = Out of Range

82601015.M Thu Oct 16 08:53:18 2003 RPT1

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB798-CC793
Lab FileID: B018159.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\102203\B018159.D Vial: 1
Acq On : 22 Oct 2003 9:28 am Operator: RachidA
Sample : CC793-40 Inst : MSVOA4
Misc : ms2641,vb798,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\82601015.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Wed Oct 15 13:44:02 2003
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)
1	I	Fluorobenzene	1.000	1.000	0.0	91	0.00
2		Dichlorodifluoromethane	0.455	0.267	41.3#	54	0.00
3	P	Chloromethane	0.365	0.345	5.5	87	0.00
4	C	Vinyl Chloride	0.362	0.314	13.3	79	0.00
5		Bromomethane	0.275	0.280	-1.8	92	0.00
6		Chloroethane	0.187	0.199	-6.4	95	0.00
7		Trichlorofluoromethane	0.545	0.555	-1.8	94	0.00
8		Ethyl Ether	0.214	0.241	-12.6	102	0.00
9		1,2-Dichloro-1,1,2-trifluor	0.377	0.440	-16.7	111	0.00
10		Acrolein	0.016	0.017	-6.3	104	0.00
11		Freon 113	0.328	0.361	-10.1	101	0.00
12	C	1,1-Dichloroethene	0.469	0.486	-3.6	99	0.00
13		Acetone	0.113	0.088	22.1#	71	0.00
14		Iodomethane	0.456	0.431	5.5	88	0.00
15		Carbon Disulfide	0.957	0.935	2.3	93	0.00
16		Methyl acetate	0.169	0.177	-4.7	94	0.00
17		Methylene Chloride	0.377	0.402	-6.6	101	0.00
18		Methyl Tert Butyl Ether	0.594	0.596	-0.3	88	0.00
19		trans-1,2-Dichloroethene	0.398	0.415	-4.3	96	0.00
20		Acrylonitrile	0.060	0.064	-6.7	92	0.00
21		Hexane	0.322	0.337	-4.7	96	0.00
22		Di-isopropyl ether	0.831	0.934	-12.4	98	0.00
23		Vinyl acetate	0.381	0.479	-25.7#	110	0.00
24	P	1,1-Dichloroethane	0.503	0.521	-3.6	97	0.00
25		ETBE	0.436	0.490	-12.4	93	0.00
26		2-Butanone	0.105	0.096	8.6	78	0.00
27		2,2-Dichloropropane	0.173	0.243	-40.5#	120	0.00
28		cis-1,2-Dichloroethene	0.282	0.277	1.8	89	0.00
29		Bromochloromethane	0.142	0.132	7.0	84	0.00
30		Tetrahydrofuran	0.061	0.061	0.0	86	0.00
31	C	Chloroform	0.557	0.552	0.9	91	0.00
32	S	Dibromofluoromethane	0.291	0.297	-2.1	94	0.00
33		1,1,1-Trichloroethane	0.482	0.503	-4.4	95	0.00
34		Cyclohexane	0.417	0.433	-3.8	92	0.00
35		Carbon Tetrachloride	0.418	0.456	-9.1	98	0.00
36		1,1-Dichloropropene	0.354	0.357	-0.8	91	0.00
37	S	1,2-Dichloroethane-d4	0.382	0.441	-15.4	102	0.00
38		TAME	0.419	0.427	-1.9	87	0.00
39		Benzene	1.066	1.048	1.7	91	0.00
40		1,2-Dichloroethane	0.444	0.465	-4.7	95	0.00
41		Trichloroethene	0.296	0.271	8.4	84	0.00
42		Methylcyclohexane	0.388	0.386	0.5	88	0.00

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB798-CC793
Lab FileID: B018159.D

43	C	1,2-Dichloropropane	0.269	0.270	-0.4	90	0.00
44		Dibromomethane	0.189	0.183	3.2	85	0.00
45		Bromodichloromethane	0.414	0.431	-4.1	93	0.00
46		2-Chloroethyl vinyl ether	0.021	0.020	4.8	72	0.00
47		2-Nitropropane	0.061	0.073	-19.7	98	0.00
48		cis-1,3-Dichloropropene	0.372	0.427	-14.8	93	0.00
49		4-Methyl-2-pentanone	0.216	0.230	-6.5	88	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	86	0.00
51	S	Toluene-d8	1.275	1.333	-4.5	91	0.00
52	C	Toluene	1.463	1.485	-1.5	89	0.00
53		trans-1,3-Dichloropropene	0.391	0.503	-28.6#	97	0.00
54		1,1,2-Trichloroethane	0.264	0.269	-1.9	86	0.00
55		Tetrachloroethene	0.385	0.356	7.5	81	0.00
56		2-hexanone	0.194	0.200	-3.1	79	0.00
57		1,3-Dichloropropane	0.530	0.552	-4.2	88	0.00
58		Dibromochloromethane	0.356	0.400	-12.4	93	0.00
59		1,2-Dibromoethane	0.309	0.308	0.3	81	0.00
60		1-Chlorohexane	0.416	0.442	-6.3	86	0.00
61	P	Chlorobenzene	0.958	0.944	1.5	86	0.00
62	C	Ethylbenzene	1.687	1.750	-3.7	89	0.00
63		1,1,1,2-Tetrachloroethane	0.377	0.388	-2.9	90	0.00
64		m,p-Xylene	1.350	1.447	-7.2	91	0.00
65		o-Xylene	1.350	1.472	-9.0	89	0.00
66		Styrene	0.993	1.029	-3.6	88	0.00
67	P	Bromoform	0.230	0.272	-18.3	95	0.00
68	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	87	0.00
69		Isopropylbenzene	2.629	2.679	-1.9	87	0.00
70		Cyclohexanone	0.021	0.014	33.3#	79	0.00
71	S	4-Bromofluorobenzene	1.016	1.008	0.8	88	0.00
72	P	1,1,2,2-Tetrachloroethane	0.719	0.711	1.1	85	0.00
73		trans-1,4-Dichloro-2-Butene	0.067	0.169	-152.2#	195	0.00
74		n-Propylbenzene	3.609	3.697	-2.4	90	0.00
75		Bromobenzene	0.848	0.795	6.2	85	0.00
76		1,2,3-Trichloropropane	0.221	0.214	3.2	83	0.00
77		1,3,5-Trimethylbenzene	2.380	2.468	-3.7	90	0.00
78		2-Chlorotoluene	2.617	2.687	-2.7	92	0.00
79		4-Chlorotoluene	2.224	2.273	-2.2	89	0.00
80		tert-Butylbenzene	1.503	1.582	-5.3	91	0.00
81		1,2,4-Trimethylbenzene	2.396	2.500	-4.3	89	0.00
82		sec-Butylbenzene	2.788	2.813	-0.9	88	0.00
83		4-Isopropyltoluene	2.264	2.320	-2.5	88	0.00
84		1,3-Dichlorobenzene	1.446	1.406	2.8	87	0.00
85		1,4-Dichlorobenzene	1.512	1.476	2.4	89	0.00
86		Benzyl Chloride	1.155	1.282	-11.0	89	0.00
87		n-Butylbenzene	2.160	2.305	-6.7	91	0.00
88		1,2-Dichlorobenzene	1.409	1.361	3.4	85	0.00
89		1,2-Dibromo-3-Chloropropane	0.124	0.120	3.2	86	0.00
90		1,2,4-Trichlorobenzene	0.828	0.757	8.6	82	0.00
91		Hexachlorobutadiene	0.443	0.424	4.3	84	0.00
92		Naphthalene	1.542	1.390	9.9	74	0.00
93		1,2,3-Trichlorobenzene	0.718	0.674	6.1	80	0.00
94	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	79	0.00
95		Tert-Butyl Alcohol	1.127	1.223	-8.5	86	0.00
96		Tert amyl alcohol	0.241	0.294	-22.0#	84	0.00
97		1,4-Dioxane	0.118	0.103	12.7	64	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: VB798-CC793
Lab FileID: B018159.D

```
                                        Average  % D =   9.0
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     B018038.D  82601015.M       Thu Oct 23 14:02:37 2003   RPT1
```

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-BS	KK00440.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F20036-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.28	112	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	60-140%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-BS2	KK00441.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F20036-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.26	104	80-120

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	107%	60-140%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-MB	KK00439.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F20036-2

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.010	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8780-MS	KK00453.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
OP8780-MSD	KK00454.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13
F19912-6	KK00460.D	1	10/14/03	SKW	10/14/03	OP8780	GKK13

The QC reported here applies to the following samples: Method: EPA 504.1

F20036-2

CAS No.	Compound	F19912-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.241	0.24	100	0.23	100	4	74-120/22

CAS No.	Surrogate Recoveries	MS	MSD	F19912-6	Limits
460-00-4	4-Bromofluorobenzene	101%	97%	107%	60-140%

Volatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 504.1 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F20036-2	KK00462.D	102.0
OP8780-BS	KK00440.D	104.0
OP8780-BS2	KK00441.D	107.0
OP8780-MB	KK00439.D	82.0
OP8780-MS	KK00453.D	101.0
OP8780-MSD	KK00454.D	97.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	60-140%

(a) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-CC13	Injection Date:	10/14/03
Lab File ID:	KK00456.D	Injection Time:	18:13
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT	S1 [b] RT
Check Std	7.08	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	KK00457.D	10/14/03	18:33		6.83
ZZZZZZ	KK00458.D	10/14/03	18:52		6.83
ZZZZZZ	KK00459.D	10/14/03	19:12		6.83
F19912-6	KK00460.D	10/14/03	19:32		6.83
ZZZZZZ	KK00461.D	10/14/03	19:52		6.83
F20036-2	KK00462.D	10/14/03	20:11		6.83
ZZZZZZ	KK00463.D	10/14/03	20:31		6.83
GKK13-ECC13	KK00464.D	10/14/03	20:51	7.08	6.83

Surrogate Compounds

S1 = 4-Bromofluorobenzene

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

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-CC13	Injection Date:	10/14/03
Lab File ID:	KK00447.D	Injection Time:	15:11
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT
Check Std	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	KK00448.D	10/14/03	15:34	6.83
ZZZZZZ	KK00449.D	10/14/03	15:54	6.83
ZZZZZZ	KK00450.D	10/14/03	16:14	6.83
ZZZZZZ	KK00451.D	10/14/03	16:34	6.83
ZZZZZZ	KK00452.D	10/14/03	16:54	6.83
OP8780-MS	KK00453.D	10/14/03	17:14	6.83
OP8780-MSD	KK00454.D	10/14/03	17:33	6.83
ZZZZZZ	KK00455.D	10/14/03	17:53	6.83

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GKK13-ICC13	Injection Date:	10/14/03
Lab File ID:	KK00433.D	Injection Time:	10:30
Instrument ID:	GCKK	Method:	EPA 504.1

	S1 [a] RT
Check Std	6.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8780-MB	KK00439.D	10/14/03	12:32	6.83
OP8780-BS	KK00440.D	10/14/03	12:52	6.83
OP8780-BS2	KK00441.D	10/14/03	13:11	6.83
ZZZZZZ	KK00444.D	10/14/03	14:11	6.83
ZZZZZZ	KK00445.D	10/14/03	14:31	0.00
ZZZZZZ	KK00446.D	10/14/03	14:51	0.00

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

Initial Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-ICC13
Lab FileID: KK00433.D

Response Factor Report GC-KK-LL

Method : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Tue Oct 14 12:13:55 2003
Response via : Initial Calibration

Calibration Files
.125 =KK00432.D .250 =KK00433.D .500 =KK00434.D
0.75 =KK00435.D 1.0 =KK00436.D

	Compound	.125	.250	.500	0.75	1.0	Avg		%RSD
1)	1,2-Dibromoethane	5.034	4.786	4.479	4.360	4.524	4.637	E4	5.85
2) S	4-Bromofluorobenzene	3.378	3.193	2.903	2.761	2.703	2.988	E3	9.67
3)	1,2-Dibromo-3-chlorop	1.066	1.064	1.097	1.122	1.145	1.099	E5	3.22

Signal #2

1)	1,2-Dibromoethane	4.492	4.245	3.883	3.680	3.782	4.017	E4	8.48
2) S	4-Bromofluorobenzene	4.872	4.618	4.040	3.858	3.824	4.242	E3	11.19
3)	1,2-Dibromo-3-chlorop	9.842	9.567	9.712	9.622	9.765	9.702	E4	1.13

(#) = Out of Range

504_1.M Wed Oct 15 09:55:59 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00456.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD1A.CH Vial: 26
Acq On    : 10-14-03 06:13:19 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS.E

Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD2B.CH Vial: 26
Acq On    : 10-14-03 06:13:18 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.491	1.8	102	0.00
2 S	4-Bromofluorobenzene	4.000	3.896	2.6	100	0.00
3	1,2-Dibromo-3-chloropropane	0.500	0.513	-2.6	103	0.00

Signal #2

1	1,2-Dibromoethane	0.500	0.478	4.4	99	0.00
2 S	4-Bromofluorobenzene	4.000	3.747	6.3	98	0.00
3	1,2-Dibromo-3-chloropropa	0.500	0.499	0.2	100	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD1A.CH Vial: 26
Acq On    : 10-14-03 06:13:19 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS.E

Data File : C:\MSDCHEM\1\DATA\1014EDB\KK00456.D\ECD2B.CH Vial: 26
Acq On    : 10-14-03 06:13:18 PM                    Operator: stephw
Sample    : CC13-0.50                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile   : EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00456.D

```
  Signal #2

 ---------------------------------------------------------------------------

    (#) = Out of Range                SPCC's out = 0  CCC's out = 0
     KK00434.D  504_1.M          Wed Oct 15 09:56:31 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-ECC13
Lab FileID: KK00464.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD1A.CH Vial: 34
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD2B.CH
Acq On    : 10-14-03 08:51:30 PM                    Operator: stephw
Sample    : ECC13-0.25                              Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.268	-7.2	104	0.00
2 S	4-Bromofluorobenzene	2.000	2.154	-7.7	101	0.00
3	1,2-Dibromo-3-chloropropane	0.250	0.247	1.2	102	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.270	-8.0	102	0.00
2 S	4-Bromofluorobenzene	2.000	2.139	-6.9	98	0.00
3	1,2-Dibromo-3-chloropropa	0.250	0.249	0.4	101	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD1A.CH Vial: 34
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00464.D\ECD2B.CH
Acq On    : 10-14-03 08:51:30 PM                    Operator: stephw
Sample    : ECC13-0.25                              Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
KK00433.D 504_1.M Wed Oct 15 09:56:15 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GKK13-CC13
Lab FileID: KK00447.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD2B.CH
Acq On    : 10-14-03 03:11:22 PM                    Operator: stephw
Sample    : CC13-0.25                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.257	-2.8	100	0.00
2 S	4-Bromofluorobenzene	2.000	2.090	-4.5	98	0.00
3	1,2-Dibromo-3-chloropropane	0.250	0.249	0.4	103	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.258	-3.2	98	0.00
2 S	4-Bromofluorobenzene	2.000	2.045	-2.2	94	0.00
3	1,2-Dibromo-3-chloropropa	0.250	0.253	-1.2	102	0.00

Evaluate Continuing Calibration Report - Not Founds

```
Signal #1 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\1014EDB\KK00447.D\ECD2B.CH
Acq On    : 10-14-03 03:11:22 PM                    Operator: stephw
Sample    : CC13-0.25                               Inst    : GC-KK-LL
Misc      : op8780,gkk13,35,,,2,20,soil             Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Tue Oct 14 12:13:55 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
KK00433.D 504_1.M Wed Oct 15 09:56:15 2003

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-BS	OP32375.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.755	89	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	98%	51-125%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-BS	OP32553.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C8-C40)	28.3	30.4	107	69-112

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	108%	57-127%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-BS	AA017970.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F20036-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	3330	3050	91	42-128
208-96-8	Acenaphthylene	3330	2980	89	42-127
120-12-7	Anthracene	1670	1640	98	55-124
56-55-3	Benzo(a)anthracene	1670	1670	100	59-128
50-32-8	Benzo(a)pyrene	1670	1620	97	51-127
205-99-2	Benzo(b)fluoranthene	1670	1690	101	60-130
191-24-2	Benzo(g,h,i)perylene	1670	1710	103	60-130
207-08-9	Benzo(k)fluoranthene	1670	1670	100	61-132
218-01-9	Chrysene	1670	1750	105	62-130
53-70-3	Dibenzo(a,h)anthracene	1670	1670	100	61-131
206-44-0	Fluoranthene	3330	3300	99	56-130
86-73-7	Fluorene	3330	3020	91	46-128
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1770	106	61-130
91-20-3	Naphthalene	3330	2730	82	34-130
90-12-0	1-Methylnaphthalene	3330	2920	88	37-126
91-57-6	2-Methylnaphthalene	3330	2930	88	37-126
85-01-8	Phenanthrene	3330	3100	93	49-130
129-00-0	Pyrene	3330	3260	98	56-128

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	93%	38-139%
92-94-4	p-Terphenyl	93%	46-149%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8794-BS	EE018777.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784

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

F20036-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	14.3	72	52-104
208-96-8	Acenaphthylene	20	14.4	72	51-103
120-12-7	Anthracene	10	8.1	81	60-112
56-55-3	Benzo(a)anthracene	10	8.1	81	64-111
50-32-8	Benzo(a)pyrene	10	8.0	80	56-118
205-99-2	Benzo(b)fluoranthene	10	8.2	82	63-117
191-24-2	Benzo(g,h,i)perylene	10	8.3	83	45-118
207-08-9	Benzo(k)fluoranthene	10	8.2	82	56-118
218-01-9	Chrysene	10	8.3	83	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.2	82	41-119
206-44-0	Fluoranthene	20	15.8	79	61-111
86-73-7	Fluorene	20	14.7	74	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.3	83	46-118
91-20-3	Naphthalene	20	13.1	66	44-105
90-12-0	1-Methylnaphthalene	20	13.7	69	47-102
91-57-6	2-Methylnaphthalene	20	13.6	68	47-101
85-01-8	Phenanthrene	20	15.4	77	55-109
129-00-0	Pyrene	20	15.6	78	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	81%	32-142%
92-94-4	p-Terphenyl	83%	30-128%

Blank Spike Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8820-BS	OP32596.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	102%	51-125%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MB	OP32376.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	51-125%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MB	OP32483.D	1	10/17/03	SM	10/13/03	OP8774	GOP1088

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	96%	51-125%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-MB	OP32554.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	8.3	5.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	106%	57-127%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA017971.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F20036-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	96%	38-139%
92-94-4	p-Terphenyl	97%	46-149%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA017999.D	1	10/23/03	MRE	10/15/03	OP8787	GAA861

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

F20036-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	97%	38-139%
92-94-4	p-Terphenyl	98%	46-149%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MB	AA018011.D	1	10/24/03	MRE	10/15/03	OP8787	GAA862

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

F20036-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	670	170	ug/kg	
208-96-8	Acenaphthylene	ND	670	170	ug/kg	
120-12-7	Anthracene	ND	330	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	67	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	67	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	67	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	67	17	ug/kg	
218-01-9	Chrysene	ND	330	83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	67	17	ug/kg	
206-44-0	Fluoranthene	ND	330	83	ug/kg	
86-73-7	Fluorene	ND	330	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	67	17	ug/kg	
91-20-3	Naphthalene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	330	83	ug/kg	
91-57-6	2-Methylnaphthalene	ND	330	83	ug/kg	
85-01-8	Phenanthrene	ND	330	170	ug/kg	
129-00-0	Pyrene	ND	330	83	ug/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	38-139%
92-94-4	p-Terphenyl	97%	46-149%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8794-MB	EE018778.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784

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

F20036-2

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	87%	32-142%
92-94-4	p-Terphenyl	85%	30-128%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8794-MB	EE018807.D	1	10/27/03	MRE	10/16/03	OP8794	GEE785

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

F20036-2

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

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	32-142%
92-94-4	p-Terphenyl	87%	30-128%

Method Blank Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8820-MB	OP32597.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	Result	RL	MDL	Units	Q

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	94%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8774-MS	OP32386.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
OP8774-MSD	OP32387.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087
F20013-1	OP32385.D	1	10/15/03	SM	10/13/03	OP8774	GOP1087

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	F20013-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	0.189	J	1.7	1.96	104	1.78	94	10	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F20013-1	Limits
84-15-1	o-Terphenyl	103%	90%	56%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8785-MS	OP32579.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
OP8785-MSD	OP32580.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
F20049-1	OP32578.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-1

CAS No.	Compound	F20049-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	14.5		30.1	42.5	93	49.4	115	15	36-132/31

CAS No.	Surrogate Recoveries	MS	MSD	F20049-1	Limits
84-15-1	o-Terphenyl	101%	98%	96%	57-127%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8787-MS	AA017976.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
OP8787-MSD	AA017977.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
F19999-3	AA017975.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860

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

F20036-1

CAS No.	Compound	F19999-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		3740	3600	96	3450	92	4	21-149/37
208-96-8	Acenaphthylene	ND		3740	3420	91	3310	89	3	34-129/32
120-12-7	Anthracene	ND		1870	1880	101	1790	96	5	49-131/32
56-55-3	Benzo(a)anthracene	ND		1870	1800	96	1750	94	3	64-121/32
50-32-8	Benzo(a)pyrene	ND		1870	1770	95	1720	92	3	53-126/33
205-99-2	Benzo(b)fluoranthene	ND		1870	1830	98	1760	94	4	62-121/31
191-24-2	Benzo(g,h,i)perylene	ND		1870	1840	98	1780	95	3	60-124/35
207-08-9	Benzo(k)fluoranthene	ND		1870	1810	97	1790	96	1	48-139/30
218-01-9	Chrysene	ND		1870	1900	102	1850	99	3	64-126/29
53-70-3	Dibenzo(a,h)anthracene	ND		1870	1800	96	1740	93	3	63-126/25
206-44-0	Fluoranthene	ND		3740	3660	98	3510	94	4	64-120/33
86-73-7	Fluorene	ND		3740	3540	95	3380	90	5	44-127/34
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1870	1890	101	1840	98	3	59-124/32
91-20-3	Naphthalene	ND		3740	3090	83	2970	79	4	21-136/33
90-12-0	1-Methylnaphthalene	ND		3740	3340	89	3220	86	4	17-143/45
91-57-6	2-Methylnaphthalene	ND		3740	3350	90	3240	87	3	21-139/48
85-01-8	Phenanthrene	ND		3740	3580	96	3410	91	5	42-139/38
129-00-0	Pyrene	ND		3740	3610	97	3470	93	4	60-124/32

CAS No.	Surrogate Recoveries	MS	MSD	F19999-3	Limits
84-15-1	o-Terphenyl	100%	95%	97%	38-139%
92-94-4	p-Terphenyl	95%	92%	96%	46-149%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8794-MS	EE018784.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784
OP8794-MSD	EE018785.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784
F20055-4	EE018783.D	1	10/24/03	MRE	10/16/03	OP8794	GEE784

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

F20036-2

CAS No.	Compound	F20055-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		40	30.6	77	27.8	70	10	20-140/45
208-96-8	Acenaphthylene	ND		40	30.9	77	28.3	71	9	17-141/46
120-12-7	Anthracene	ND		20	17.2	86	16.1	81	7	48-123/23
56-55-3	Benzo(a)anthracene	ND		20	17.3	87	16.0	80	8	42-134/22
50-32-8	Benzo(a)pyrene	ND		20	17.0	85	15.3	77	11	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20	17.5	88	16.1	81	8	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20	17.7	89	16.2	81	9	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		20	17.5	88	16.1	81	8	58-120/22
218-01-9	Chrysene	ND		20	17.7	89	16.3	82	8	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20	17.5	88	16.2	81	8	57-120/23
206-44-0	Fluoranthene	ND		40	33.7	84	31.5	79	7	55-117/22
86-73-7	Fluorene	ND		40	31.5	79	29.6	74	6	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20	17.8	89	16.3	82	9	57-118/22
91-20-3	Naphthalene	ND		40	27.7	69	25.8	65	7	18-129/45
90-12-0	1-Methylnaphthalene	ND		40	29.0	73	26.8	67	8	18-131/46
91-57-6	2-Methylnaphthalene	ND		40	28.9	72	26.9	67	7	12-135/48
85-01-8	Phenanthrene	ND		40	32.8	82	30.7	77	7	39-129/27
129-00-0	Pyrene	ND		40	33.3	83	31.2	78	7	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F20055-4	Limits
84-15-1	o-Terphenyl	82%	78%	84%	32-142%
92-94-4	p-Terphenyl	84%	78%	71%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8820-MS	OP32608.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090
OP8820-MSD	OP32609.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090
F20132-1	OP32607.D	1	10/21/03	SM	10/20/03	OP8820	GOP1090

The QC reported here applies to the following samples: Method: FLORIDA-PRO

F20036-2

CAS No.	Compound	F20132-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	F20132-1	Limits
84-15-1	o-Terphenyl	97%	92%	94%	51-125%

Semivolatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 8310 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F20036-2	EE018779.D	72.0	53.0
OP8794-BS	EE018777.D	81.0	83.0
OP8794-MB	EE018778.D	87.0	85.0
OP8794-MB	EE018807.D	90.0	87.0
OP8794-MS	EE018784.D	82.0	84.0
OP8794-MSD	EE018785.D	78.0	78.0

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

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: EPA 8310 Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F20036-1	AA017986.D	101.0	101.0
OP8787-BS	AA017970.D	93.0	93.0
OP8787-MB	AA017971.D	96.0	97.0
OP8787-MB	AA017999.D	97.0	98.0
OP8787-MB	AA018011.D	95.0	97.0
OP8787-MS	AA017976.D	100.0	95.0
OP8787-MSD	AA017977.D	95.0	92.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	38-139%
S2 = p-Terphenyl	46-149%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: FLORIDA-PRO Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F20036-2	OP32613.D	80.0
F20036-2	OP32484.D	49.0*
OP8774-BS	OP32375.D	98.0
OP8774-MB	OP32376.D	95.0
OP8774-MB	OP32483.D	96.0
OP8774-MS	OP32386.D	103.0
OP8774-MSD	OP32387.D	90.0
OP8820-BS	OP32596.D	102.0
OP8820-MB	OP32597.D	94.0
OP8820-MS	OP32608.D	97.0
OP8820-MSD	OP32609.D	92.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Method: FLORIDA-PRO Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
F20036-1	OP32572.D	104.0
OP8785-BS	OP32553.D	108.0
OP8785-MB	OP32554.D	106.0
OP8785-MS	OP32579.D	101.0
OP8785-MSD	OP32580.D	98.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	57-127%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1088-CC1082	Injection Date:	10/17/03
Lab File ID:	OP32478.D	Injection Time:	13:22
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.05

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8761-MB	OP32481.D	10/17/03	14:25	5.05
ZZZZZZ	OP32482.D	10/17/03	14:46	5.04
OP8774-MB	OP32483.D	10/17/03	15:07	5.05
F20036-2	OP32484.D	10/17/03	15:28	5.05
OP8777-MB	OP32485.D	10/17/03	15:48	5.05
ZZZZZZ	OP32486.D	10/17/03	16:09	5.05
ZZZZZZ	OP32487.D	10/17/03	16:30	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/20/03
Lab File ID:	OP32562.D	Injection Time:	13:39
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP32563.D	10/20/03	14:05	5.04
ZZZZZZ	OP32565.D	10/20/03	14:54	5.04
ZZZZZZ	OP32568.D	10/20/03	16:15	5.04
ZZZZZZ	OP32569.D	10/20/03	16:36	5.04
ZZZZZZ	OP32571.D	10/20/03	17:17	5.04
F20036-1	OP32572.D	10/20/03	17:38	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/21/03
Lab File ID:	OP32603.D	Injection Time:	04:22
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP32606.D	10/21/03	05:24	5.04
F20132-1	OP32607.D	10/21/03	05:45	5.04
OP8820-MS	OP32608.D	10/21/03	06:06	5.04
OP8820-MSD	OP32609.D	10/21/03	06:26	5.04
ZZZZZZ	OP32610.D	10/21/03	06:47	5.04
F20036-2	OP32613.D	10/21/03	07:49	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA860-CC846	Injection Date:	10/22/03
Lab File ID:	AA017978.D	Injection Time:	19:10
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	6.24	6.24	8.45	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
ZZZZZZ	AA017979.D	10/22/03	19:31	6.24		8.45	
ZZZZZZ	AA017980.D	10/22/03	19:52	6.24		8.45	
ZZZZZZ	AA017981.D	10/22/03	20:13	6.24		8.44	
ZZZZZZ	AA017982.D	10/22/03	20:33	6.24		8.44	
ZZZZZZ	AA017984.D	10/22/03	21:15	6.25		8.45	
ZZZZZZ	AA017985.D	10/22/03	21:36		6.24		8.45
F20036-1	AA017986.D	10/22/03	21:57	6.24		8.45	

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

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

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GEE784-CC770	Injection Date:	10/24/03
Lab File ID:	EE018776.D	Injection Time:	11:22
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	7.74	10.29

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8794-BS	EE018777.D	10/24/03	11:43	7.74	10.28
OP8794-MB	EE018778.D	10/24/03	12:05	7.75	10.30
F20036-2	EE018779.D	10/24/03	12:26	7.74	10.29
ZZZZZZ	EE018780.D	10/24/03	12:47	7.74	10.28
ZZZZZZ	EE018781.D	10/24/03	13:08	7.75	10.30
ZZZZZZ	EE018782.D	10/24/03	13:29	7.75	10.30
F20055-4	EE018783.D	10/24/03	13:51	7.75	10.31
OP8794-MS	EE018784.D	10/24/03	14:12	7.76	10.31
OP8794-MSD	EE018785.D	10/24/03	14:33	7.74	10.30

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1087-CC1082	Injection Date:	10/15/03
Lab File ID:	OP32370.D	Injection Time:	09:56
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.06

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8758-MB	OP32373.D	10/15/03	11:04	5.06
ZZZZZZ	OP32374.D	10/15/03	11:25	0.00
OP8774-BS	OP32375.D	10/15/03	11:46	5.06
OP8774-MB	OP32376.D	10/15/03	12:07	5.06
ZZZZZZ	OP32378.D	10/15/03	12:49	5.06
ZZZZZZ	OP32379.D	10/15/03	13:09	5.06

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1087-CC1082	Injection Date:	10/15/03
Lab File ID:	OP32382.D	Injection Time:	14:12
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.06

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP32383.D	10/15/03	14:33	5.06
ZZZZZZ	OP32384.D	10/15/03	14:54	
F20013-1	OP32385.D	10/15/03	15:15	5.06
OP8774-MS	OP32386.D	10/15/03	15:35	5.06
OP8774-MSD	OP32387.D	10/15/03	15:56	5.06
ZZZZZZ	OP32388.D	10/15/03	16:17	5.05
ZZZZZZ	OP32389.D	10/15/03	16:38	5.05
ZZZZZZ	OP32390.D	10/15/03	16:59	5.06
ZZZZZZ	OP32391.D	10/15/03	17:20	

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/20/03
Lab File ID:	OP32550.D	Injection Time:	08:24
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8785-BS	OP32553.D	10/20/03	10:03	5.04
OP8785-MB	OP32554.D	10/20/03	10:50	5.04
ZZZZZZ	OP32555.D	10/20/03	11:13	5.04
ZZZZZZ	OP32556.D	10/20/03	11:34	5.04
ZZZZZZ	OP32557.D	10/20/03	11:55	5.04
ZZZZZZ	OP32558.D	10/20/03	12:16	5.04
ZZZZZZ	OP32559.D	10/20/03	12:37	0.00
ZZZZZZ	OP32560.D	10/20/03	12:58	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/20/03
Lab File ID:	OP32573.D	Injection Time:	17:59
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
ZZZZZZ	OP32574.D	10/20/03	18:20	5.04
ZZZZZZ	OP32577.D	10/20/03	19:22	5.04
F20049-1	OP32578.D	10/20/03	19:42	5.04
OP8785-MS	OP32579.D	10/20/03	20:03	5.04
OP8785-MSD	OP32580.D	10/20/03	20:24	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GOP1090-CC1082	Injection Date:	10/21/03
Lab File ID:	OP32592.D	Injection Time:	00:33
Instrument ID:	GCOP	Method:	FLORIDA-PRO

	S1 [a] RT
Check Std	5.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP8820-BS	OP32596.D	10/21/03	01:56	5.04
OP8820-MB	OP32597.D	10/21/03	02:17	5.04
ZZZZZZ	OP32598.D	10/21/03	02:38	5.04
ZZZZZZ	OP32599.D	10/21/03	02:58	5.04
ZZZZZZ	OP32600.D	10/21/03	03:19	5.04
ZZZZZZ	OP32601.D	10/21/03	03:40	5.04
ZZZZZZ	OP32602.D	10/21/03	04:01	5.04

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA860-CC846	Injection Date:	10/22/03
Lab File ID:	AA017969.D	Injection Time:	16:03
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	6.25	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8787-BS	AA017970.D	10/22/03	16:24	6.25	8.45
OP8787-MB	AA017971.D	10/22/03	16:45	6.25	8.45
ZZZZZZ	AA017972.D	10/22/03	17:06	6.25	8.45
ZZZZZZ	AA017973.D	10/22/03	17:26	6.25	8.45
ZZZZZZ	AA017974.D	10/22/03	17:47	6.24	8.45
F19999-3	AA017975.D	10/22/03	18:08	6.24	8.45
OP8787-MS	AA017976.D	10/22/03	18:29	6.25	8.45
OP8787-MSD	AA017977.D	10/22/03	18:49	6.25	8.46

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA861-CC846	Injection Date:	10/23/03
Lab File ID:	AA017998.D	Injection Time:	09:57
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	6.25	6.25	8.45	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP8787-MB	AA017999.D	10/23/03	10:18	6.25		8.45	
ZZZZZZ	AA018001.D	10/23/03	10:59		0.00		0.00
ZZZZZZ	AA018002.D	10/23/03	11:20	0.00		0.00	
ZZZZZZ	AA018003.D	10/23/03	11:41	6.24		8.45	
ZZZZZZ	AA018004.D	10/23/03	12:02	6.24		8.45	
ZZZZZZ	AA018006.D	10/23/03	12:43	0.00		0.00	
ZZZZZZ	AA018007.D	10/23/03	13:04	6.24		8.46	
GAA861-ECC846	AA018008.D	10/23/03	13:25	6.24	6.24	8.44	8.44

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

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

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GAA862-CC846	Injection Date:	10/24/03
Lab File ID:	AA018010.D	Injection Time:	10:39
Instrument ID:	GCAA	Method:	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	6.25	8.45

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP8787-MB	AA018011.D	10/24/03	11:00	6.25	8.44
ZZZZZZ	AA018012.D	10/24/03	11:21	6.24	8.44
OP8819-BS	AA018013.D	10/24/03	11:42	6.25	8.45
OP8819-MB	AA018014.D	10/24/03	12:03	6.25	8.44
ZZZZZZ	AA018015.D	10/24/03	12:23	6.24	8.44
N50073-2	AA018016.D	10/24/03	12:44	6.24	8.45
OP8819-MS	AA018017.D	10/24/03	13:05	6.25	8.44
OP8819-MSD	AA018018.D	10/24/03	13:26	6.25	8.45

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Check Std:	GEE785-CC770	Injection Date:	10/27/03
Lab File ID:	EE018806.D	Injection Time:	11:56
Instrument ID:	GCEE	Method:	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	7.74	7.74	10.28	10.28

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP8794-MB	EE018807.D	10/27/03	12:17	7.77		10.31	
ZZZZZZ	EE018808.D	10/27/03	12:38	0.00		0.00	
ZZZZZZ	EE018809.D	10/27/03	12:59	0.00		0.00	
ZZZZZZ	EE018810.D	10/27/03	13:21	7.78		10.32	
ZZZZZZ	EE018811.D	10/27/03	13:42	7.78		10.32	
ZZZZZZ	EE018812.D	10/27/03	14:03	7.77		10.31	
ZZZZZZ	EE018813.D	10/27/03	14:24	7.78		10.31	
GEE785-ECC770	EE018814.D	10/27/03	14:45	7.78	7.78	10.30	10.30

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

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

Initial Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1082-ICC1082
Lab FileID: OP32201.D

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Wed Oct 08 15:47:36 2003
Response via : Initial Calibration

Calibration Files
1 =OP32199.D 2 =OP32200.D 3 =OP32201.D
4 =OP32202.D 5 =OP32203.D 6 =OP32204.D 7 =OP32205.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	2.704	2.623	2.635	2.619	2.707			2.658 E4	1.66
2)H TPH (C8-C40)	2.514	2.424	2.423	2.412	2.475	2.137	2.131	2.359 E4	6.70

Average % RSD = 4.2

(#) = Out of Range

FL_PRO_F.M Thu Oct 09 08:36:25 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1088-CC1082
Lab FileID: OP32478.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1017PRO\OP32478.D          Vial: 1
Acq On    : 17 Oct 2003   1:22 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8761,gop1088,1000,,,1,1,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:51 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  61.539      -2.6  103   0.00
 2 H    TPH (C8-C40)                1020.000 1045.336      -2.5  100   0.00
---------------------------------------------------------------------------

                                          Average  % D =   2.5
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Sat Oct 18 11:00:27 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1088-CC1082
Lab FileID: OP32489.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1017PRO\OP32489.D          Vial: 1
Acq On    : 17 Oct 2003   5:12 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8777,gop1088,30.3,,,1,5,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:51 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.951	-8.3	109	0.00
2 H	TPH (C8-C40)	1020.000	1110.305	-8.9	106	0.00

Average % D = 8.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Sat Oct 18 11:00:28 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32562.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32562.D          Vial: 1
Acq On    : 20 Oct 2003   1:39 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.1,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.117	-5.2	106	0.00
2 H	TPH (C8-C40)	1020.000	1085.735	-6.4	104	0.00

Average % D = 5.8

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:49 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32573.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32573.D          Vial: 1
Acq On    : 20 Oct 2003   5:59 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.1,,,1,5,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.953	-8.3	109	0.00
2 H	TPH (C8-C40)	1020.000	1086.529	-6.5	104	0.00

Average % D = 7.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:50 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32603.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32603.D          Vial: 1
Acq On    : 21 Oct 2003   4:22 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8820,gop1090,1000,,,1,1,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  66.106     -10.2  111   0.00
 2 H    TPH (C8-C40)                1020.000 1094.895      -7.3  105   0.00
---------------------------------------------------------------------------

                                          Average  % D =   8.8
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Wed Oct 22 07:54:52 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32614.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32614.D          Vial: 1
Acq On    : 21 Oct 2003   8:10 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8820,gop1090,1000,,,1,4,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:51 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  63.268      -5.4  106   0.00
 2 H    TPH (C8-C40)                1020.000 1041.155      -2.1   99   0.00
---------------------------------------------------------------------------

                                          Average  % D =   3.8
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Wed Oct 22 15:57:44 2003
```

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013
Sample: GAA846-ICC846
Lab FileID: AA017703.D

Response Factor Report DAD

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Initial Calibration

Calibration Files
L1 =AA017700.D L2 =AA017701.D L3 =AA017702.D
L4 =AA017703.D L5 =AA017704.D L6 =AA017705.D

	Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)	Naphthalene	5.085	4.406	4.156	3.969	3.901	3.973	4.248	E5	10.57
2)	Acenaphthylene	1.930	1.665	1.617	1.561	1.540	1.575	1.648	E5	8.80
3)	1-Methyl Naphthalen	3.528	3.490	3.332	3.198	3.135	3.194	3.313	E5	4.99
4)	2-Methyl Naphthalen	3.412	3.562	3.407	3.267	3.212	3.273	3.355	E5	3.86
5)	Acenaphthene	2.307	2.602	2.495	2.404	2.358	2.409	2.429	E5	4.32
6)	Fluorene	1.163	1.009	0.951	0.913	0.894	0.911	0.974	E6	10.43
7)	Phenanthrene	9.727	8.507	8.042	7.723	7.558	7.716	8.212	E5	9.93
8) S	O-Terphenyl	3.530	3.085	3.028	2.909	2.853	2.923	3.055	E5	8.11
9)	Anthracene	1.104	0.977	0.967	0.937	0.918	0.942	0.974	E5	6.85

----- Quadratic regression ----- Coefficient = 0.9997
Response Ratio = 9854.20403 + 91083.39328 *A + 107.28589 *A^2

10)	Fluoranthene	8.136	7.175	6.781	6.453	6.324	6.451	6.887	E5	9.95
11)	Pyrene	1.289	1.104	1.031	0.970	0.935	0.941	1.045	E6	12.95
12) S	P-Terphenyl	1.412	1.242	1.177	1.121	1.096	1.118	1.194	E6	9.98
13)	Benzo(a)Anthracene	2.243	1.948	1.837	1.742	1.696	1.723	1.865	E6	11.10
14)	Chrysene		2.667	2.451	2.253	2.130	2.091	2.319	E6	10.35
15)	Benzo(b)Fluoranthen	1.178	1.038	0.972	0.946	0.910	0.930	0.996	E6	10.03
16)	Benzo(k)Fluoranthen	7.222	6.146	5.771	5.600	5.361	5.488	5.931	E5	11.61
17)	Benzo(a) Pyrene	1.395	1.193	1.122	1.078	1.053	1.076	1.153	E6	11.15
18)	Dibenzo(a,h)anthrac	1.085	0.932	0.867	0.826	0.809	0.823	0.890	E6	11.82
19)	Benzo(g,h,i) Peryle	7.930	6.521	6.052	5.801	5.690	5.830	6.304	E5	13.47
20)	Indeno(1,2,3-cd)pyr	6.269	5.038	4.700	4.513	4.427	4.531	4.913	E5	14.22

Signal #2

1)	Naphthalene	2.995	2.537	2.435	2.333	2.293	2.300	2.482	E5	10.81
2)	Acenaphthylene	1.817	1.632	1.557	1.532	1.512	1.478	1.588	E5	7.77
3)	1-Methyl Naphthalen	1.539	1.259	1.374	1.360	1.337	1.298	1.361	E5	7.10
4)	2-Methyl Naphthalen	2.329	1.838	1.992	1.955	1.930	1.891	1.989	E5	8.77
5)	Acenaphthene	6.791	6.891	7.872	7.979	7.870	7.475	7.480	E4	7.01
6)	Fluorene	1.315	1.119	1.047	1.016	0.999	0.998	1.082	E6	11.31
7)	Phenanthrene	3.409	2.956	2.747	2.607	2.530	2.542	2.799	E6	12.11
8) S	O-Terphenyl	6.041	5.307	5.031	4.862	4.766	4.808	5.136	E5	9.45
9)	Anthracene	7.532	6.442	5.773	5.190	4.777	4.528	5.707	E6	19.82

----- Quadratic regression ----- Coefficient = 0.9997
Response Ratio = 798433.71330 + 5749740.86363 *A + -64251.97408 *A^2

10)	Fluoranthene	7.880	6.932	6.687	6.482	6.365	6.456	6.800	E5	8.33
11)	Pyrene	7.489	6.260	5.902	5.721	5.609	5.713	6.116	E5	11.62
12) S	P-Terphenyl	7.150	6.089	5.790	5.554	5.435	5.549	5.928	E5	10.84
13)	Benzo(a)Anthracene	1.670	1.450	1.375	1.323	1.299	1.328	1.407	E6	9.89
14)	Chrysene	2.462	2.112	2.003	1.913	1.868	1.896	2.042	E6	10.97
15)	Benzo(b)Fluoranthen	1.121	0.942	0.898	0.851	0.832	0.849	0.916	E6	11.85
16)	Benzo(k)Fluoranthen	1.654	1.432	1.350	1.285	1.259	1.286	1.378	E6	10.82
17)	Benzo(a) Pyrene	1.094	0.897	0.826	0.781	0.759	0.769	0.854	E6	15.00
18)	Dibenzo(a,h)anthrac	2.720	2.351	2.170	2.034	1.960	1.961	2.199	E6	13.43
19)	Benzo(g,h,i) Peryle	1.281	1.089	1.003	0.956	0.937	0.956	1.037	E6	12.68

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA846-ICC846
Lab FileID: AA017703.D

```
20)     Indeno(1,2,3-cd)pyr 8.424 6.996 6.796 6.498 6.377 6.500 6.932 E5  11.05
---------------------------------------------------------------------------
(#) = Out of Range

          8310_32.M         Thu Oct 09 09:43:57 2003
```

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017978.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1022PAH\AA017978.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1022PAH\AA017978.D\DAD1A.CH
Acq On : 22-Oct-2003, 19:10:42 Operator: MIKEE
Sample : CC846-20 Inst : DAD
Misc : op8787,gaa860,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.699	6.5	100	0.00
2		Acenaphthylene	20.000	18.781	6.1	99	-0.01
3		1-Methyl Naphthalene	20.000	19.565	2.2	101	-0.01
4		2-Methyl Naphthalene	20.000	19.817	0.9	102	-0.01
5		Acenaphthene	20.000	19.925	0.4	101	-0.01
6		Fluorene	20.000	19.171	4.1	102	0.00
7		Phenanthrene	20.000	19.188	4.1	102	0.00
8	S	O-Terphenyl	20.000	19.636	1.8	103	0.00
9		Anthracene	10.000	10.101	-1.0	100	0.00
10		Fluoranthene	20.000	19.635	1.8	105	0.00
11		Pyrene	20.000	19.009	5.0	102	0.00
12	S	P-Terphenyl	20.000	19.241	3.8	103	0.00
13		Benzo(a)Anthracene	10.000	9.530	4.7	102	0.01
14		Chrysene	10.000	9.923	0.8	102	0.02
15		Benzo(b)Fluoranthene	10.000	9.709	2.9	102	0.01
16		Benzo(k)Fluoranthene	10.000	9.590	4.1	102	0.01
17		Benzo(a) Pyrene	10.000	9.591	4.1	103	0.01
18		Dibenzo(a,h)anthracene	10.000	9.543	4.6	103	0.02
19		Benzo(g,h,i) Perylene	10.000	9.571	4.3	104	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.899	1.0	108	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.038	4.8	101	0.00
2		Acenaphthylene	20.000	19.168	4.2	99	0.00
3		1-Methyl Naphthalene	20.000	19.669	1.7	98	-0.01
4		2-Methyl Naphthalene	20.000	19.604	2.0	100	0.00
5		Acenaphthene	20.000	19.875	0.6	93	-0.01
6		Fluorene	20.000	18.990	5.1	101	0.00
7		Phenanthrene	20.000	19.013	4.9	102	0.00
8	S	O-Terphenyl	20.000	19.334	3.3	102	0.00
9		Anthracene	10.000	10.284	-2.8	102	0.00
10		Fluoranthene	20.000	19.701	1.5	103	0.00
11		Pyrene	20.000	19.141	4.3	102	0.00
12	S	P-Terphenyl	20.000	19.141	4.3	102	0.01
13		Benzo(a)Anthracene	10.000	9.548	4.5	102	0.01
14		Chrysene	10.000	9.533	4.7	102	0.02
15		Benzo(b)Fluoranthene	10.000	9.556	4.4	103	0.01

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017978.D

16	Benzo(k)Fluoranthene	10.000	9.550	4.5	102	0.01
17	Benzo(a) Pyrene	10.000	9.359	6.4	102	0.01
18	Dibenzo(a,h)anthracene	10.000	9.433	5.7	102	0.02
19	Benzo(g,h,i) Perylene	10.000	9.353	6.5	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.487	5.1	101	0.02

Average % D = 3.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Thu Oct 23 14:02:41 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017987.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1022PAH\AA017987.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1022PAH\AA017987.D\DAD1A.CH
Acq On : 22-Oct-2003, 22:17:46 Operator: MIKEE
Sample : CC846-20 Inst : DAD
Misc : op8787,gaa860,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.928	5.4	101	-0.02
2		Acenaphthylene	20.000	18.713	6.4	99	-0.01
3		1-Methyl Naphthalene	20.000	19.495	2.5	101	-0.01
4		2-Methyl Naphthalene	20.000	19.728	1.4	101	-0.01
5		Acenaphthene	20.000	19.768	1.2	100	-0.01
6		Fluorene	20.000	19.069	4.7	102	-0.01
7		Phenanthrene	20.000	19.127	4.4	102	0.00
8	S	O-Terphenyl	20.000	19.555	2.2	103	0.00
9		Anthracene	10.000	10.001	-0.0	99	0.00
10		Fluoranthene	20.000	19.578	2.1	104	0.00
11		Pyrene	20.000	18.980	5.1	102	0.00
12	S	P-Terphenyl	20.000	19.111	4.4	102	0.01
13		Benzo(a)Anthracene	10.000	9.436	5.6	101	0.01
14		Chrysene	10.000	9.787	2.1	101	0.02
15		Benzo(b)Fluoranthene	10.000	9.711	2.9	102	0.01
16		Benzo(k)Fluoranthene	10.000	9.746	2.5	103	0.02
17		Benzo(a) Pyrene	10.000	9.443	5.6	101	0.02
18		Dibenzo(a,h)anthracene	10.000	9.512	4.9	103	0.02
19		Benzo(g,h,i) Perylene	10.000	9.526	4.7	104	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.822	1.8	107	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.018	4.9	101	-0.01
2		Acenaphthylene	20.000	19.034	4.8	99	-0.01
3		1-Methyl Naphthalene	20.000	19.528	2.4	98	-0.01
4		2-Methyl Naphthalene	20.000	19.516	2.4	99	0.00
5		Acenaphthene	20.000	19.642	1.8	92	-0.01
6		Fluorene	20.000	18.945	5.3	101	-0.01
7		Phenanthrene	20.000	18.984	5.1	102	0.00
8	S	O-Terphenyl	20.000	19.225	3.9	102	0.00
9		Anthracene	10.000	10.241	-2.4	102	0.00
10		Fluoranthene	20.000	19.527	2.4	102	0.00
11		Pyrene	20.000	18.987	5.1	101	0.00
12	S	P-Terphenyl	20.000	19.051	4.7	102	0.01
13		Benzo(a)Anthracene	10.000	9.500	5.0	101	0.01
14		Chrysene	10.000	9.462	5.4	101	0.02
15		Benzo(b)Fluoranthene	10.000	9.556	4.4	103	0.01

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017987.D

16	Benzo(k)Fluoranthene	10.000	9.545	4.6	102	0.02
17	Benzo(a) Pyrene	10.000	9.252	7.5	101	0.02
18	Dibenzo(a,h)anthracene	10.000	9.413	5.9	102	0.02
19	Benzo(g,h,i) Perylene	10.000	9.314	6.9	101	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.353	6.5	100	0.03

Average % D = 4.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Thu Oct 23 14:02:42 2003

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE770-ICC770
Lab FileID: EE018430.D

Response Factor Report G1315A

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 10:49:05 2003
Response via : Initial Calibration

Calibration Files
L1 =EE018427.D L2 =EE018428.D L3 =EE018429.D
L4 =EE018430.D L5 =EE018431.D L6 =EE018432.D

	Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)	Naphthalene	7.935	7.193	6.916	6.512	6.359	6.492	6.901	E5	8.61
2)	Acenaphthylene	3.049	2.795	2.708	2.542	2.478	2.532	2.684	E5	8.01
3)	1-Methyl Naphthalen	6.603	5.985	5.740	5.380	5.255	5.383	5.725	E5	8.89
4)	2-Methyl Naphthalen	6.717	6.060	5.816	5.461	5.322	5.464	5.807	E5	8.99
5)	Acenaphthene	4.894	4.474	4.290	4.029	3.935	4.050	4.279	E5	8.43
6)	Fluorene	1.881	1.683	1.614	1.513	1.477	1.526	1.616	E6	9.29
7)	Phenanthrene	1.625	1.456	1.395	1.306	1.276	1.312	1.395	E6	9.40
8) S	O-Terphenyl	6.269	5.382	5.268	4.936	4.825	4.977	5.276	E5	10.05
9)	Anthracene	2.295	1.890	1.700	1.521	1.443	1.469	1.720	E5	19.09

----- Quadratic regression ----- Coefficient = 0.9987
Response Ratio = 41971.16245 + 152040.53253 *A + -435.98509 *A^2

10)	Fluoranthene	1.386	1.214	1.163	1.111	1.086	1.112	1.179	E6	9.44
11)	Pyrene	2.170	1.937	1.845	1.721	1.667	1.691	1.839	E6	10.45
12) S	P-Terphenyl	2.283	2.062	2.022	1.898	1.857	1.913	2.006	E6	7.81
13)	Benzo(a)Anthracene	3.376	3.021	2.930	2.743	2.683	2.757	2.918	E6	8.84
14)	Chrysene	4.193	3.739	3.622	3.359	3.251	3.304	3.578	E6	9.97
15)	Benzo(b)Fluoranthen	1.479	1.320	1.278	1.196	1.176	1.210	1.277	E6	8.86
16)	Benzo(k)Fluoranthen	8.195	7.276	7.052	6.610	6.471	6.671	7.046	E5	9.05
17)	Benzo(a) Pyrene	1.557	1.400	1.327	1.270	1.243	1.280	1.346	E6	8.69
18)	Dibenzo(a,h)anthrac	1.130	1.013	0.976	0.917	0.899	0.928	0.977	E6	8.76
19)	Benzo(g,h,i) Peryle	7.722	6.911	6.815	6.385	6.269	6.451	6.759	E5	7.91
20)	Indeno(1,2,3-cd)pyr	5.918	5.281	5.198	4.879	4.780	4.930	5.164	E5	8.06

Signal #2

1)	Naphthalene	4.785	4.239	4.088	3.840	3.747	3.818	4.086	E5	9.54
2)	Acenaphthylene	3.138	2.871	2.777	2.590	2.524	2.571	2.745	E5	8.54
3)	1-Methyl Naphthalen	2.958	2.640	2.513	2.360	2.304	2.350	2.521	E5	9.83
4)	2-Methyl Naphthalen	4.432	3.704	3.529	3.349	3.269	3.335	3.603	E5	12.11
5)	Acenaphthene	1.603	1.541	1.466	1.414	1.385	1.407	1.469	E5	5.85
6)	Fluorene	2.113	1.891	1.813	1.714	1.678	1.720	1.821	E6	8.94
7)	Phenanthrene	5.551	4.940	4.729	4.434	4.308	4.360	4.720	E6	10.03
8) S	O-Terphenyl	1.031	0.885	0.879	0.848	0.834	0.856	0.889	E6	8.12
9)	Anthracene	1.204	1.064	1.001	0.916	0.857	0.826	0.978	E7	14.50

----- Quadratic regression ----- Coefficient = 0.9997
Response Ratio = 1024263.44318 + 9938398.88803 *A + -88593.66708 *A^2

10)	Fluoranthene	1.337	1.171	1.131	1.114	1.097	1.125	1.163	E6	7.65
11)	Pyrene	1.230	1.098	1.062	1.002	0.993	1.021	1.068	E6	8.29
12) S	P-Terphenyl	1.119	1.016	0.987	0.932	0.910	0.937	0.984	E6	7.85
13)	Benzo(a)Anthracene	2.479	2.211	2.148	2.024	1.982	2.040	2.147	E6	8.53
14)	Chrysene	3.417	3.059	2.984	2.791	2.724	2.794	2.961	E6	8.68
15)	Benzo(b)Fluoranthen	1.349	1.196	1.155	1.085	1.061	1.090	1.156	E6	9.27
16)	Benzo(k)Fluoranthen	1.926	1.719	1.670	1.566	1.532	1.577	1.665	E6	8.75
17)	Benzo(a) Pyrene	1.276	1.142	1.103	1.033	1.009	1.034	1.099	E6	9.09
18)	Dibenzo(a,h)anthrac	2.997	2.652	2.542	2.376	2.313	2.364	2.541	E6	10.13
19)	Benzo(g,h,i) Peryle	1.247	1.126	1.095	1.029	1.007	1.037	1.090	E6	8.14

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE770-ICC770
Lab FileID: EE018430.D

```
20)     Indeno(1,2,3-cd)pyr 8.014 7.334 7.147 6.715 6.583 6.787 7.097 E5   7.47
---------------------------------------------------------------------------
(#) = Out of Range

          8310_32.M         Thu Oct 09 11:12:30 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE784-CC770
Lab FileID: EE018776.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\1024PAH\EE018776.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\1024PAH\EE018776.D\DAD1A.CH
Acq On : 24-Oct-2003, 11:22:49 Operator: MIKEE
Sample : CC770-10 Inst : G1315A
Misc : op8794,gee784,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Wed Oct 22 15:56:01 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.269	-2.7	102	0.00
2		Acenaphthylene	10.000	10.273	-2.7	102	0.00
3		1-Methyl Naphthalene	10.000	10.244	-2.4	102	0.00
4		2-Methyl Naphthalene	10.000	10.226	-2.3	102	0.00
5		Acenaphthene	10.000	10.195	-2.0	102	0.00
6		Fluorene	10.000	10.170	-1.7	102	0.01
7		Phenanthrene	10.000	10.232	-2.3	102	0.02
8	S	O-Terphenyl	10.000	10.132	-1.3	101	0.01
9		Anthracene	5.000	5.517	-10.3	102	0.00
10		Fluoranthene	10.000	10.019	-0.2	102	0.00
11		Pyrene	10.000	10.167	-1.7	101	0.00
12	S	P-Terphenyl	10.000	10.297	-3.0	102	0.00
13		Benzo(a)Anthracene	5.000	5.104	-2.1	102	0.00
14		Chrysene	5.000	5.181	-3.6	102	0.00
15		Benzo(b)Fluoranthene	5.000	5.101	-2.0	102	0.00
16		Benzo(k)Fluoranthene	5.000	5.057	-1.1	101	0.00
17		Benzo(a) Pyrene	5.000	4.946	1.1	100	0.00
18		Dibenzo(a,h)anthracene	5.000	5.112	-2.2	102	0.02
19		Benzo(g,h,i) Perylene	5.000	5.122	-2.4	102	0.02
20		Indeno(1,2,3-cd)pyrene	5.000	5.125	-2.5	102	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.267	-2.7	103	0.00
2		Acenaphthylene	10.000	10.272	-2.7	102	0.00
3		1-Methyl Naphthalene	10.000	10.155	-1.5	102	0.00
4		2-Methyl Naphthalene	10.000	9.984	0.2	102	0.00
5		Acenaphthene	10.000	10.134	-1.3	102	0.00
6		Fluorene	10.000	10.121	-1.2	102	0.01
7		Phenanthrene	10.000	10.200	-2.0	102	0.02
8	S	O-Terphenyl	10.000	10.028	-0.3	101	0.01
9		Anthracene	5.000	5.260	-5.2	102	0.00
10		Fluoranthene	10.000	10.018	-0.2	103	0.00
11		Pyrene	10.000	10.046	-0.5	101	0.00
12	S	P-Terphenyl	10.000	10.264	-2.6	102	0.00
13		Benzo(a)Anthracene	5.000	5.101	-2.0	102	0.00
14		Chrysene	5.000	5.136	-2.7	102	0.00
15		Benzo(b)Fluoranthene	5.000	5.081	-1.6	102	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE784-CC770
Lab FileID: EE018776.D

16	Benzo(k)Fluoranthene	5.000	5.124	-2.5	102	0.00
17	Benzo(a) Pyrene	5.000	4.947	1.1	99	0.00
18	Dibenzo(a,h)anthracene	5.000	5.097	-1.9	102	0.02
19	Benzo(g,h,i) Perylene	5.000	5.113	-2.3	102	0.02
20	Indeno(1,2,3-cd)pyrene	5.000	5.132	-2.6	102	0.03

Average % D = 2.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE018429.D 8310_32.M Mon Oct 27 10:28:13 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE784-CC770
Lab FileID: EE018786.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\1024PAH\EE018786.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\1024PAH\EE018786.D\DAD1A.CH
Acq On : 24-Oct-2003, 14:54:37 Operator: MIKEE
Sample : CC770-20 Inst : G1315A
Misc : op8794,gee784,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Wed Oct 22 15:56:01 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.376	3.1	103	0.01
2		Acenaphthylene	20.000	19.382	3.1	102	0.02
3		1-Methyl Naphthalene	20.000	19.308	3.5	103	0.02
4		2-Methyl Naphthalene	20.000	19.271	3.6	102	0.02
5		Acenaphthene	20.000	19.282	3.6	102	0.02
6		Fluorene	20.000	19.218	3.9	103	0.03
7		Phenanthrene	20.000	19.192	4.0	102	0.03
8	S	O-Terphenyl	20.000	19.078	4.6	102	0.02
9		Anthracene	10.000	10.185	-1.9	102	0.02
10		Fluoranthene	20.000	19.429	2.9	103	0.02
11		Pyrene	20.000	19.040	4.8	102	0.02
12	S	P-Terphenyl	20.000	19.541	2.3	103	0.02
13		Benzo(a)Anthracene	10.000	9.645	3.6	103	0.00
14		Chrysene	10.000	9.750	2.5	104	0.00
15		Benzo(b)Fluoranthene	10.000	9.654	3.5	103	0.00
16		Benzo(k)Fluoranthene	10.000	9.652	3.5	103	0.00
17		Benzo(a) Pyrene	10.000	9.415	5.9	100	0.00
18		Dibenzo(a,h)anthracene	10.000	9.753	2.5	104	0.02
19		Benzo(g,h,i) Perylene	10.000	9.708	2.9	103	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	9.767	2.3	103	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.365	3.2	103	0.01
2		Acenaphthylene	20.000	19.348	3.3	103	0.02
3		1-Methyl Naphthalene	20.000	19.215	3.9	103	0.02
4		2-Methyl Naphthalene	20.000	19.051	4.7	102	0.02
5		Acenaphthene	20.000	19.805	1.0	103	0.02
6		Fluorene	20.000	19.327	3.4	103	0.03
7		Phenanthrene	20.000	19.275	3.6	103	0.03
8	S	O-Terphenyl	20.000	19.597	2.0	103	0.02
9		Anthracene	10.000	10.265	-2.7	102	0.02
10		Fluoranthene	20.000	19.597	2.0	102	0.02
11		Pyrene	20.000	19.233	3.8	102	0.02
12	S	P-Terphenyl	20.000	19.513	2.4	103	0.02
13		Benzo(a)Anthracene	10.000	9.647	3.5	102	0.00
14		Chrysene	10.000	9.735	2.7	103	0.00
15		Benzo(b)Fluoranthene	10.000	9.719	2.8	104	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE784-CC770
Lab FileID: EE018786.D

16	Benzo(k)Fluoranthene	10.000	9.727	2.7	103	0.00
17	Benzo(a) Pyrene	10.000	9.396	6.0	100	0.00
18	Dibenzo(a,h)anthracene	10.000	9.665	3.4	103	0.02
19	Benzo(g,h,i) Perylene	10.000	9.718	2.8	103	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	9.791	2.1	103	0.02

Average % D = 3.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE018430.D 8310_32.M Mon Oct 27 10:27:25 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32370.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32370.D          Vial: 1
Acq On    : 15 Oct 2003   9:56 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8758,gop1087,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  61.118      -1.9  103   0.00
 2 H    TPH (C8-C40)                1020.000 1020.219      -0.0   97   0.00
---------------------------------------------------------------------------

                                          Average  % D =   0.9
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Fri Oct 17 09:01:48 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32382.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32382.D          Vial: 1
Acq On    : 15 Oct 2003   2:12 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8744,gop1087,890,,,1,1,water          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	61.247	-2.1	103	0.00
2 H	TPH (C8-C40)	1020.000	1021.465	-0.1	98	0.00

Average % D = 1.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Fri Oct 17 09:01:49 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1087-CC1082
Lab FileID: OP32392.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1015PRO\OP32392.D          Vial: 1
Acq On    : 15 Oct 2003   5:40 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8744,gop1087,1040,,,1,1,water         Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Wed Oct 08 15:47:36 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.198	-5.3	106	0.00
2 H	TPH (C8-C40)	1020.000	1058.985	-3.8	101	0.00

Average % D = 4.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Fri Oct 17 09:01:50 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32550.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32550.D          Vial: 1
Acq On    : 20 Oct 2003   8:24 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	63.549	-5.9	107	0.00
2 H	TPH (C8-C40)	1020.000	1091.480	-7.0	104	0.00

Average % D = 6.5

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:49 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32581.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32581.D          Vial: 1
Acq On    : 20 Oct 2003   8:45 pm                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8785,gop1090,30.0,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 S	O-TERPHENYL	60.000	64.531	-7.6	108	0.00
2 H	TPH (C8-C40)	1020.000	1106.123	-8.4	106	0.00

Average % D = 8.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP32201.D FL_PRO_F.M Wed Oct 22 07:54:50 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GOP1090-CC1082
Lab FileID: OP32592.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\1020PRO\OP32592.D          Vial: 1
Acq On    : 21 Oct 2003  12:33 am                   Operator: sarahm
Sample    : cc1082-1020                             Inst    : FID 2
Misc      : op8829,gop1090,30.3,,,1,1,soil          Multiplr: 1.00
IntFile   : events.e

Method       : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title        : TPH by FL_PRO
Last Update  : Sat Oct 18 08:19:54 2003
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

       Compound                      Amount  Calc.     %Dev Area% Dev(min)
 ---------------------------------------------------------------------------
 1 S    O-TERPHENYL                   60.000  64.812      -8.0  109   0.00
 2 H    TPH (C8-C40)                1020.000 1085.887      -6.5  104   0.00
---------------------------------------------------------------------------

                                          Average  % D =   7.2
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    OP32201.D  FL_PRO_F.M       Wed Oct 22 07:54:51 2003
```

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017969.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1022PAH\AA017969.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1022PAH\AA017969.D\DAD1A.CH
Acq On : 22-Oct-2003, 16:03:47 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa860,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.524	-5.2	108	0.00
2		Acenaphthylene	10.000	10.455	-4.6	107	0.00
3		1-Methyl Naphthalene	10.000	10.931	-9.3	109	0.00
4		2-Methyl Naphthalene	10.000	11.070	-10.7	109	0.00
5		Acenaphthene	10.000	11.114	-11.1	108	0.00
6		Fluorene	10.000	10.705	-7.1	110	0.00
7		Phenanthrene	10.000	10.746	-7.5	110	0.00
8	S	O-Terphenyl	10.000	10.906	-9.1	110	0.00
9		Anthracene	5.000	5.640	-12.8	109	0.00
10		Fluoranthene	10.000	11.004	-10.0	112	0.00
11		Pyrene	10.000	10.859	-8.6	110	0.00
12	S	P-Terphenyl	10.000	10.866	-8.7	110	0.00
13		Benzo(a)Anthracene	5.000	5.408	-8.2	110	0.01
14		Chrysene	5.000	5.791	-15.8#	110	0.01
15		Benzo(b)Fluoranthene	5.000	5.381	-7.6	110	0.00
16		Benzo(k)Fluoranthene	5.000	5.339	-6.8	110	0.00
17		Benzo(a) Pyrene	5.000	5.458	-9.2	112	0.00
18		Dibenzo(a,h)anthracene	5.000	5.363	-7.3	110	0.00
19		Benzo(g,h,i) Perylene	5.000	5.411	-8.2	113	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.624	-12.5	118	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.579	-5.8	108	0.00
2		Acenaphthylene	10.000	10.714	-7.1	109	0.00
3		1-Methyl Naphthalene	10.000	11.052	-10.5	109	0.00
4		2-Methyl Naphthalene	10.000	10.996	-10.0	110	0.00
5		Acenaphthene	10.000	11.283	-12.8	107	0.00
6		Fluorene	10.000	10.638	-6.4	110	0.00
7		Phenanthrene	10.000	10.779	-7.8	110	0.00
8	S	O-Terphenyl	10.000	10.806	-8.1	110	0.00
9		Anthracene	5.000	5.732	-14.6	110	0.00
10		Fluoranthene	10.000	10.988	-9.9	112	0.00
11		Pyrene	10.000	10.668	-6.7	111	0.00
12	S	P-Terphenyl	10.000	10.794	-7.9	111	0.01
13		Benzo(a)Anthracene	5.000	5.377	-7.5	110	0.01
14		Chrysene	5.000	5.392	-7.8	110	0.01
15		Benzo(b)Fluoranthene	5.000	5.355	-7.1	109	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA860-CC846
Lab FileID: AA017969.D

16	Benzo(k)Fluoranthene	5.000	5.364	-7.3	109	0.00
17	Benzo(a) Pyrene	5.000	5.394	-7.9	112	0.00
18	Dibenzo(a,h)anthracene	5.000	5.391	-7.8	109	0.00
19	Benzo(g,h,i) Perylene	5.000	5.296	-5.9	109	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.386	-7.7	110	0.00

Average % D = 8.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Thu Oct 23 14:01:43 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-CC846
Lab FileID: AA017998.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1023PAH\AA017998.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1023PAH\AA017998.D\DAD1A.CH
Acq On : 23-Oct-2003, 09:57:35 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa861,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.467	-4.7	107	0.00
2		Acenaphthylene	10.000	10.470	-4.7	107	0.00
3		1-Methyl Naphthalene	10.000	10.909	-9.1	108	0.00
4		2-Methyl Naphthalene	10.000	11.027	-10.3	109	0.00
5		Acenaphthene	10.000	11.095	-11.0	108	0.00
6		Fluorene	10.000	10.727	-7.3	110	0.00
7		Phenanthrene	10.000	10.775	-7.8	110	0.00
8	S	O-Terphenyl	10.000	10.933	-9.3	110	0.00
9		Anthracene	5.000	5.628	-12.6	109	0.00
10		Fluoranthene	10.000	11.083	-10.8	113	0.00
11		Pyrene	10.000	10.900	-9.0	110	0.00
12	S	P-Terphenyl	10.000	10.840	-8.4	110	0.00
13		Benzo(a)Anthracene	5.000	5.392	-7.8	109	0.00
14		Chrysene	5.000	5.779	-15.6#	109	0.00
15		Benzo(b)Fluoranthene	5.000	5.403	-8.1	111	0.00
16		Benzo(k)Fluoranthene	5.000	5.358	-7.2	110	0.00
17		Benzo(a) Pyrene	5.000	5.257	-5.1	108	0.00
18		Dibenzo(a,h)anthracene	5.000	5.396	-7.9	111	0.00
19		Benzo(g,h,i) Perylene	5.000	5.386	-7.7	112	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.527	-10.5	116	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.705	-7.1	109	0.00
2		Acenaphthylene	10.000	10.720	-7.2	109	0.00
3		1-Methyl Naphthalene	10.000	10.903	-9.0	108	0.00
4		2-Methyl Naphthalene	10.000	10.932	-9.3	109	0.00
5		Acenaphthene	10.000	11.085	-10.9	105	0.00
6		Fluorene	10.000	10.679	-6.8	110	0.00
7		Phenanthrene	10.000	10.816	-8.2	110	0.00
8	S	O-Terphenyl	10.000	10.850	-8.5	111	0.00
9		Anthracene	5.000	5.735	-14.7	110	0.00
10		Fluoranthene	10.000	11.058	-10.6	112	0.00
11		Pyrene	10.000	10.725	-7.2	111	0.00
12	S	P-Terphenyl	10.000	10.733	-7.3	110	0.00
13		Benzo(a)Anthracene	5.000	5.366	-7.3	110	0.00
14		Chrysene	5.000	5.395	-7.9	110	0.00
15		Benzo(b)Fluoranthene	5.000	5.383	-7.7	110	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-CC846
Lab FileID: AA017998.D

16	Benzo(k)Fluoranthene	5.000	5.381	-7.6	110	0.00
17	Benzo(a) Pyrene	5.000	5.194	-3.9	107	0.00
18	Dibenzo(a,h)anthracene	5.000	5.419	-8.4	110	0.00
19	Benzo(g,h,i) Perylene	5.000	5.301	-6.0	110	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.339	-6.8	109	0.00

Average % D = 8.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Fri Oct 24 08:42:08 2003

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-ECC846
Lab FileID: AA018008.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1023PAH\AA018008.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1023PAH\AA018008.D\DAD1A.CH
Acq On : 23-Oct-2003, 13:25:17 Operator: MIKEE
Sample : ECC846-20 Inst : DAD
Misc : op8787,gaa861,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.871	5.6	101	0.00
2		Acenaphthylene	20.000	18.890	5.5	100	-0.01
3		1-Methyl Naphthalene	20.000	19.653	1.7	102	-0.01
4		2-Methyl Naphthalene	20.000	19.908	0.5	102	-0.01
5		Acenaphthene	20.000	19.940	0.3	101	-0.01
6		Fluorene	20.000	19.329	3.4	103	-0.01
7		Phenanthrene	20.000	19.393	3.0	103	0.00
8	S	O-Terphenyl	20.000	19.783	1.1	104	0.00
9		Anthracene	10.000	10.215	-2.1	101	0.00
10		Fluoranthene	20.000	19.830	0.9	106	0.00
11		Pyrene	20.000	19.231	3.8	104	0.00
12	S	P-Terphenyl	20.000	19.396	3.0	103	0.00
13		Benzo(a)Anthracene	10.000	9.579	4.2	103	0.00
14		Chrysene	10.000	9.935	0.6	102	0.00
15		Benzo(b)Fluoranthene	10.000	9.816	1.8	103	0.00
16		Benzo(k)Fluoranthene	10.000	9.661	3.4	102	0.00
17		Benzo(a) Pyrene	10.000	9.357	6.4	100	0.00
18		Dibenzo(a,h)anthracene	10.000	9.674	3.3	104	0.00
19		Benzo(g,h,i) Perylene	10.000	9.602	4.0	104	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	10.058	-0.6	110	-0.01

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.221	3.9	102	0.00
2		Acenaphthylene	20.000	19.226	3.9	100	0.00
3		1-Methyl Naphthalene	20.000	19.631	1.8	98	-0.01
4		2-Methyl Naphthalene	20.000	19.672	1.6	100	0.00
5		Acenaphthene	20.000	19.815	0.9	93	-0.01
6		Fluorene	20.000	19.154	4.2	102	-0.01
7		Phenanthrene	20.000	19.240	3.8	103	0.00
8	S	O-Terphenyl	20.000	19.495	2.5	103	0.00
9		Anthracene	10.000	10.406	-4.1	103	0.00
10		Fluoranthene	20.000	19.885	0.6	104	0.00
11		Pyrene	20.000	19.307	3.5	103	0.00
12	S	P-Terphenyl	20.000	19.297	3.5	103	0.00
13		Benzo(a)Anthracene	10.000	9.640	3.6	103	0.00
14		Chrysene	10.000	9.601	4.0	103	0.00
15		Benzo(b)Fluoranthene	10.000	9.431	5.7	101	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA861-ECC846
Lab FileID: AA018008.D

16	Benzo(k)Fluoranthene	10.000	9.654	3.5	103	0.00
17	Benzo(a) Pyrene	10.000	9.185	8.1	101	0.00
18	Dibenzo(a,h)anthracene	10.000	9.578	4.2	104	0.00
19	Benzo(g,h,i) Perylene	10.000	9.373	6.3	102	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.536	4.6	102	-0.01

Average % D = 3.2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Fri Oct 24 08:35:22 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018010.D

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\1024PAH\AA018010.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\1024PAH\AA018010.D\DAD1A.CH
Acq On : 24-Oct-2003, 10:39:57 Operator: MIKEE
Sample : CC846-10 Inst : DAD
Misc : op8787,gaa862,30.0,,,5,,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.501	-5.0	107	0.00
2		Acenaphthylene	10.000	10.609	-6.1	108	0.00
3		1-Methyl Naphthalene	10.000	10.937	-9.4	109	0.00
4		2-Methyl Naphthalene	10.000	11.040	-10.4	109	0.00
5		Acenaphthene	10.000	11.072	-10.7	108	0.00
6		Fluorene	10.000	10.715	-7.1	110	0.00
7		Phenanthrene	10.000	10.768	-7.7	110	0.00
8	S	O-Terphenyl	10.000	10.914	-9.1	110	0.00
9		Anthracene	5.000	5.660	-13.2	109	0.00
10		Fluoranthene	10.000	11.059	-10.6	112	0.00
11		Pyrene	10.000	10.867	-8.7	110	0.00
12	S	P-Terphenyl	10.000	10.812	-8.1	110	0.00
13		Benzo(a)Anthracene	5.000	5.372	-7.4	109	0.00
14		Chrysene	5.000	5.747	-14.9	109	0.00
15		Benzo(b)Fluoranthene	5.000	5.399	-8.0	111	0.00
16		Benzo(k)Fluoranthene	5.000	5.357	-7.1	110	0.00
17		Benzo(a) Pyrene	5.000	5.274	-5.5	108	0.00
18		Dibenzo(a,h)anthracene	5.000	5.361	-7.2	110	0.00
19		Benzo(g,h,i) Perylene	5.000	5.387	-7.7	112	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.579	-11.6	117	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.706	-7.1	109	0.00
2		Acenaphthylene	10.000	10.701	-7.0	109	0.00
3		1-Methyl Naphthalene	10.000	10.949	-9.5	108	0.00
4		2-Methyl Naphthalene	10.000	10.968	-9.7	110	0.00
5		Acenaphthene	10.000	11.089	-10.9	105	0.00
6		Fluorene	10.000	10.652	-6.5	110	0.00
7		Phenanthrene	10.000	10.805	-8.0	110	0.00
8	S	O-Terphenyl	10.000	10.781	-7.8	110	0.00
9		Anthracene	5.000	5.733	-14.7	110	0.00
10		Fluoranthene	10.000	11.023	-10.2	112	0.00
11		Pyrene	10.000	10.654	-6.5	110	0.00
12	S	P-Terphenyl	10.000	10.759	-7.6	110	0.00
13		Benzo(a)Anthracene	5.000	5.364	-7.3	110	0.00
14		Chrysene	5.000	5.389	-7.8	110	0.00
15		Benzo(b)Fluoranthene	5.000	5.385	-7.7	110	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018010.D

16	Benzo(k)Fluoranthene	5.000	5.386	-7.7	110	0.00
17	Benzo(a) Pyrene	5.000	5.237	-4.7	108	0.00
18	Dibenzo(a,h)anthracene	5.000	5.412	-8.2	110	0.00
19	Benzo(g,h,i) Perylene	5.000	5.317	-6.3	110	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.331	-6.6	109	0.00

Average % D = 8.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017702.D 8310_32.M Fri Oct 24 15:31:55 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018019.D

Evaluate Continuing Calibration Report

```
Signal #1 : F:\HPCHEM\1\DATA\1024PAH\AA018019.D\DAD1B.CH Vial: 3
Signal #2 : F:\HPCHEM\1\DATA\1024PAH\AA018019.D\DAD1A.CH
Acq On    : 24-Oct-2003, 13:46:53                    Operator: MIKEE
Sample    : CC846-20                                 Inst    : DAD
Misc      : op8819,gaa862,1000,,,1,,water            Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title        : PAH's BY EPA  8310
Last Update  : Thu Oct 09 09:29:03 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.159	4.2	103	-0.01
2		Acenaphthylene	20.000	19.101	4.5	101	-0.01
3		1-Methyl Naphthalene	20.000	19.760	1.2	102	-0.01
4		2-Methyl Naphthalene	20.000	20.020	-0.1	103	-0.01
5		Acenaphthene	20.000	20.128	-0.6	102	-0.01
6		Fluorene	20.000	19.399	3.0	103	-0.01
7		Phenanthrene	20.000	19.419	2.9	103	0.00
8	S	O-Terphenyl	20.000	19.862	0.7	104	0.00
9		Anthracene	10.000	10.253	-2.5	102	0.00
10		Fluoranthene	20.000	19.846	0.8	106	0.00
11		Pyrene	20.000	19.222	3.9	104	0.00
12	S	P-Terphenyl	20.000	19.463	2.7	104	0.01
13		Benzo(a)Anthracene	10.000	9.657	3.4	103	0.00
14		Chrysene	10.000	10.059	-0.6	104	0.01
15		Benzo(b)Fluoranthene	10.000	9.782	2.2	103	0.00
16		Benzo(k)Fluoranthene	10.000	9.893	1.1	105	0.00
17		Benzo(a) Pyrene	10.000	9.407	5.9	101	0.00
18		Dibenzo(a,h)anthracene	10.000	9.650	3.5	104	0.00
19		Benzo(g,h,i) Perylene	10.000	9.605	3.9	104	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	10.008	-0.1	109	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.981	5.1	101	-0.01
2		Acenaphthylene	20.000	19.320	3.4	100	0.00
3		1-Methyl Naphthalene	20.000	19.835	0.8	99	-0.01
4		2-Methyl Naphthalene	20.000	19.816	0.9	101	0.00
5		Acenaphthene	20.000	20.126	-0.6	94	-0.01
6		Fluorene	20.000	19.166	4.2	102	0.00
7		Phenanthrene	20.000	19.233	3.8	103	0.00
8	S	O-Terphenyl	20.000	19.547	2.3	103	0.00
9		Anthracene	10.000	10.418	-4.2	104	0.00
10		Fluoranthene	20.000	19.960	0.2	105	0.00
11		Pyrene	20.000	19.349	3.3	103	0.00
12	S	P-Terphenyl	20.000	19.314	3.4	103	0.01
13		Benzo(a)Anthracene	10.000	9.676	3.2	103	0.00
14		Chrysene	10.000	9.647	3.5	103	0.01
15		Benzo(b)Fluoranthene	10.000	9.627	3.7	104	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GAA862-CC846
Lab FileID: AA018019.D

16	Benzo(k)Fluoranthene	10.000	9.652	3.5	103	0.00
17	Benzo(a) Pyrene	10.000	9.226	7.7	101	0.00
18	Dibenzo(a,h)anthracene	10.000	9.560	4.4	103	0.00
19	Benzo(g,h,i) Perylene	10.000	9.407	5.9	102	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.550	4.5	102	0.00

Average % D = 2.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA017703.D 8310_32.M Fri Oct 24 15:32:18 2003

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE785-CC770
Lab FileID: EE018806.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\1027PAH\EE018806.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\1027PAH\EE018806.D\DAD1A.CH
Acq On : 27-Oct-2003, 11:56:24 Operator: MIKEE
Sample : CC770-10 Inst : G1315A
Misc : op8794,gee785,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Wed Oct 22 15:56:01 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.645	-6.4	106	0.00
2		Acenaphthylene	10.000	10.601	-6.0	105	0.00
3		1-Methyl Naphthalene	10.000	10.584	-5.8	106	0.00
4		2-Methyl Naphthalene	10.000	10.560	-5.6	105	0.00
5		Acenaphthene	10.000	10.512	-5.1	105	0.00
6		Fluorene	10.000	10.448	-4.5	105	0.00
7		Phenanthrene	10.000	10.457	-4.6	105	0.01
8	S	O-Terphenyl	10.000	10.356	-3.6	104	0.00
9		Anthracene	5.000	5.550	-11.0	103	0.00
10		Fluoranthene	10.000	10.320	-3.2	105	0.00
11		Pyrene	10.000	10.466	-4.7	104	0.00
12	S	P-Terphenyl	10.000	10.575	-5.7	105	0.00
13		Benzo(a)Anthracene	5.000	5.228	-4.6	104	0.00
14		Chrysene	5.000	5.319	-6.4	105	0.00
15		Benzo(b)Fluoranthene	5.000	5.233	-4.7	105	0.00
16		Benzo(k)Fluoranthene	5.000	5.217	-4.3	104	0.00
17		Benzo(a) Pyrene	5.000	5.130	-2.6	104	0.00
18		Dibenzo(a,h)anthracene	5.000	5.235	-4.7	105	0.01
19		Benzo(g,h,i) Perylene	5.000	5.284	-5.7	105	0.01
20		Indeno(1,2,3-cd)pyrene	5.000	5.310	-6.2	106	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.651	-6.5	106	0.00
2		Acenaphthylene	10.000	10.589	-5.9	105	0.00
3		1-Methyl Naphthalene	10.000	10.486	-4.9	105	0.00
4		2-Methyl Naphthalene	10.000	10.310	-3.1	105	0.00
5		Acenaphthene	10.000	10.452	-4.5	105	0.00
6		Fluorene	10.000	10.406	-4.1	105	0.00
7		Phenanthrene	10.000	10.489	-4.9	105	0.01
8	S	O-Terphenyl	10.000	10.301	-3.0	104	0.00
9		Anthracene	5.000	5.405	-8.1	104	0.00
10		Fluoranthene	10.000	10.296	-3.0	106	0.00
11		Pyrene	10.000	10.359	-3.6	104	0.00
12	S	P-Terphenyl	10.000	10.578	-5.8	105	0.00
13		Benzo(a)Anthracene	5.000	5.236	-4.7	105	0.00
14		Chrysene	5.000	5.279	-5.6	105	0.00
15		Benzo(b)Fluoranthene	5.000	5.243	-4.9	105	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE785-CC770
Lab FileID: EE018806.D

16	Benzo(k)Fluoranthene	5.000	5.279	-5.6	105	0.00
17	Benzo(a) Pyrene	5.000	5.133	-2.7	102	0.00
18	Dibenzo(a,h)anthracene	5.000	5.270	-5.4	105	0.01
19	Benzo(g,h,i) Perylene	5.000	5.278	-5.6	105	0.01
20	Indeno(1,2,3-cd)pyrene	5.000	5.315	-6.3	106	0.02

Average % D = 5.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE018429.D 8310_32.M Mon Oct 27 13:56:30 2003

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE785-ECC770
Lab FileID: EE018814.D

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\1027PAH\EE018814.D\DAD1B.CH Vial: 3
Signal #2 : E:\HPCHEM\1\DATA\1027PAH\EE018814.D\DAD1A.CH
Acq On : 27-Oct-2003, 14:45:45 Operator: MIKEE
Sample : ECC770-20 Inst : G1315A
Misc : op8794,gee785,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Wed Oct 22 15:55:59 2003
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.768	1.2	105	0.04
2		Acenaphthylene	20.000	19.717	1.4	104	0.04
3		1-Methyl Naphthalene	20.000	19.644	1.8	105	0.04
4		2-Methyl Naphthalene	20.000	19.620	1.9	104	0.05
5		Acenaphthene	20.000	19.638	1.8	104	0.05
6		Fluorene	20.000	19.491	2.5	104	0.05
7		Phenanthrene	20.000	19.469	2.7	104	0.05
8	S	O-Terphenyl	20.000	19.322	3.4	103	0.05
9		Anthracene	10.000	10.178	-1.8	102	0.04
10		Fluoranthene	20.000	19.681	1.6	104	0.03
11		Pyrene	20.000	19.291	3.5	103	0.03
12	S	P-Terphenyl	20.000	19.761	1.2	104	0.02
13		Benzo(a)Anthracene	10.000	9.762	2.4	104	0.01
14		Chrysene	10.000	9.891	1.1	105	0.00
15		Benzo(b)Fluoranthene	10.000	9.792	2.1	105	0.00
16		Benzo(k)Fluoranthene	10.000	9.807	1.9	105	0.00
17		Benzo(a) Pyrene	10.000	9.617	3.8	102	0.00
18		Dibenzo(a,h)anthracene	10.000	9.892	1.1	105	0.00
19		Benzo(g,h,i) Perylene	10.000	9.922	0.8	105	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	9.949	0.5	105	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.782	1.1	105	0.04
2		Acenaphthylene	20.000	19.676	1.6	104	0.04
3		1-Methyl Naphthalene	20.000	19.556	2.2	104	0.04
4		2-Methyl Naphthalene	20.000	19.398	3.0	104	0.05
5		Acenaphthene	20.000	20.186	-0.9	105	0.05
6		Fluorene	20.000	19.602	2.0	104	0.05
7		Phenanthrene	20.000	19.562	2.2	104	0.05
8	S	O-Terphenyl	20.000	19.813	0.9	104	0.05
9		Anthracene	10.000	10.379	-3.8	103	0.04
10		Fluoranthene	20.000	19.801	1.0	103	0.03
11		Pyrene	20.000	19.504	2.5	104	0.03
12	S	P-Terphenyl	20.000	19.744	1.3	104	0.02
13		Benzo(a)Anthracene	10.000	9.777	2.2	104	0.01
14		Chrysene	10.000	9.887	1.1	105	0.00
15		Benzo(b)Fluoranthene	10.000	9.845	1.5	105	0.00

Continuing Calibration Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: GEE785-ECC770
Lab FileID: EE018814.D

16	Benzo(k)Fluoranthene	10.000	9.871	1.3	105	0.00
17	Benzo(a) Pyrene	10.000	9.596	4.0	102	0.00
18	Dibenzo(a,h)anthracene	10.000	9.778	2.2	105	0.00
19	Benzo(g,h,i) Perylene	10.000	9.898	1.0	105	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	9.968	0.3	105	0.00

Average % D = 1.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE018430.D 8310_32.M Mon Oct 27 14:02:14 2003

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:21	MA3521-ICV1	1		
10:28	MA3521-ICB1	1		
10:31	MA3521-CRI1	1		
10:34	MA3521-ICSA1	1		
10:37	MA3521-ICSAB1	1		
10:43	MA3521-CCV1	1		
10:48	MA3521-CCB1	1		
10:51	MP5940-MB1	1		
10:55	MP5940-B1	1		
10:59	F19987-1	1		(sample used for QC only; not part of login F20036)
11:03	MP5940-D1	1		
11:06	MP5940-SD1	5		
11:09	MP5940-S1	1		
11:13	MP5940-S2	1		
11:17	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:28	MA3521-CCV2	1		
11:33	MA3521-CCB2	1		
11:36	ZZZZZZ	1		
11:40	ZZZZZZ	1		
11:43	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:57	ZZZZZZ	1		
12:01	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:11	MA3521-CCV3	1		
12:15	MA3521-CCB3	1		
12:19	ZZZZZZ	1		
12:22	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:26	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:33	ZZZZZZ	1		
12:36	ZZZZZZ	1		
12:39	MP5941-MB1	1		
12:43	MP5941-B1	1		
12:47	F19987-8	1		(sample used for QC only; not part of login F20036)
12:51	MP5941-D1	1		
12:54	MA3521-CCV4	1		
12:59	MA3521-CCB4	1		
13:02	MP5941-SD1	5		
13:05	MP5941-S1	1		
13:09	MP5941-S2	1		
13:13	ZZZZZZ	1		
13:17	ZZZZZZ	1		
13:20	ZZZZZZ	1		
13:24	ZZZZZZ	1		
13:27	ZZZZZZ	1		
13:31	ZZZZZZ	1		
13:34	ZZZZZZ	1		
13:37	MA3521-CCV5	1		
13:42	MA3521-CCB5	1		
13:45	ZZZZZZ	1		
13:49	ZZZZZZ	1		
13:52	ZZZZZZ	1		
13:56	ZZZZZZ	1		
13:59	ZZZZZZ	1		
14:03	ZZZZZZ	1		
14:06	MA3521-CCV6	1		
14:10	MA3521-CCB6	1		
14:17	MP5945-MB1	1		
14:20	MP5945-B1	1		
14:24	F20002-1	1		(sample used for QC only; not part of login F20036)

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:28	MP5945-D1	1		
14:31	MP5945-SD1	5		
14:35	MP5945-S1	1		
14:38	MP5945-S2	1		
14:43	ZZZZZZ	1		
14:46	ZZZZZZ	1		
14:49	ZZZZZZ	1		
14:53	MA3521-CCV7	1		
14:57	MA3521-CCB7	1		
15:01	ZZZZZZ	1		
15:04	ZZZZZZ	1		
15:08	ZZZZZZ	1		
15:11	ZZZZZZ	1		
15:15	F20036-2	1		
---------->	Last reportable sample/prep for job F20036			
15:18	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:25	ZZZZZZ	1		
15:28	ZZZZZZ	1		
15:32	ZZZZZZ	1		
15:35	MA3521-CCV8	1		
15:40	MA3521-CCB8	1		
---------->	Last reportable CCB for job F20036			
15:43	ZZZZZZ	1		
15:48	MA3521-CRI2	1		
15:51	MA3521-CCV9	1		
15:55	MA3521-CCB9	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
10:21	MA3521-ICV1	9117
10:28	MA3521-ICB1	9339 R
10:31	MA3521-CRI1	9257
10:34	MA3521-ICSA1	8113
10:37	MA3521-ICSAB1	7380
10:43	MA3521-CCV1	9000
10:48	MA3521-CCB1	9211
10:51	MP5940-MB1	9312
10:55	MP5940-B1	8920
10:59	F19987-1	9570
11:03	MP5940-D1	9462
11:06	MP5940-SD1	9418
11:09	MP5940-S1	9640
11:13	MP5940-S2	9598
11:17	ZZZZZZ	9897
11:21	ZZZZZZ	9278
11:25	ZZZZZZ	9509
11:28	MA3521-CCV2	9038
11:33	MA3521-CCB2	9349
11:36	ZZZZZZ	9316
11:40	ZZZZZZ	8936
11:43	ZZZZZZ	9472
11:47	ZZZZZZ	9632
11:50	ZZZZZZ	9554
11:54	ZZZZZZ	9404
11:57	ZZZZZZ	9288
12:01	ZZZZZZ	9394
12:04	ZZZZZZ	9335
12:07	ZZZZZZ	9187
12:11	MA3521-CCV3	9004
12:15	MA3521-CCB3	9458
12:19	ZZZZZZ	9479
12:22	ZZZZZZ	9036
12:26	ZZZZZZ	9319

INTERNAL STANDARD SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
12:29	ZZZZZZ	9229
12:33	ZZZZZZ	9337
12:36	ZZZZZZ	9564
12:39	MP5941-MB1	9426
12:43	MP5941-B1	9255
12:47	F19987-8	9313
12:51	MP5941-D1	9548
12:54	MA3521-CCV4	9045
12:59	MA3521-CCB4	9305
13:02	MP5941-SD1	9483
13:05	MP5941-S1	9221
13:09	MP5941-S2	9300
13:13	ZZZZZZ	9286
13:17	ZZZZZZ	9248
13:20	ZZZZZZ	9088
13:24	ZZZZZZ	9399
13:27	ZZZZZZ	10487
13:31	ZZZZZZ	9348
13:34	ZZZZZZ	9131
13:37	MA3521-CCV5	8937
13:42	MA3521-CCB5	9124
13:45	ZZZZZZ	9515
13:49	ZZZZZZ	9960
13:52	ZZZZZZ	9188
13:56	ZZZZZZ	10681
13:59	ZZZZZZ	9009
14:03	ZZZZZZ	9165
14:06	MA3521-CCV6	9173
14:10	MA3521-CCB6	9435
14:17	MP5945-MB1	9452
14:20	MP5945-B1	9206
14:24	F20002-1	9381
14:28	MP5945-D1	9308
14:31	MP5945-SD1	9468

INTERNAL STANDARD SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3521
Parameters: Pb

Time	Sample Description	Istd#1
14:35	MP5945-S1	9182
14:38	MP5945-S2	9160
14:43	ZZZZZZ	9411
14:46	ZZZZZZ	9323
14:49	ZZZZZZ	9067
14:53	MA3521-CCV7	9254
14:57	MA3521-CCB7	9522
15:01	ZZZZZZ	9511
15:04	ZZZZZZ	9339
15:08	ZZZZZZ	9246
15:11	ZZZZZZ	9208
15:15	F20036-2	9333
15:18	ZZZZZZ	10122
15:22	ZZZZZZ	9515
15:25	ZZZZZZ	9482
15:28	ZZZZZZ	9577
15:32	ZZZZZZ	9700
15:35	MA3521-CCV8	8969
15:40	MA3521-CCB8	9298
15:43	ZZZZZZ	9421
15:48	MA3521-CRI2	9296
15:51	MA3521-CCV9	9102
15:55	MA3521-CCB9	30678

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6	anr							
Antimony	5.0	1.5								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26								
Cadmium	5.0	.26	anr							
Calcium	1000	3.8								
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44								
Iron	300	7.1	anr							
Lead	5.0	1.2	0.30	<5.0	3.2	<5.0	0.27	<5.0	0.63	<5.0
Magnesium	5000	9.9								
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1								
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47								
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	6.6	anr							
Antimony	5.0	1.5								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26								
Cadmium	5.0	.26	anr							
Calcium	1000	3.8								
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44								
Iron	300	7.1	anr							
Lead	5.0	1.2	0.94	<5.0	3.8	<5.0	0.93	<5.0	1.2	<5.0
Magnesium	5000	9.9								
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1								
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47								
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: result < RL Run ID: MA3521 Units: ug/l

Metal	RL	IDL	CCB raw	final
Aluminum	200	6.6	anr	
Antimony	5.0	1.5		
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26		
Cadmium	5.0	.26	anr	
Calcium	1000	3.8		
Chromium	10	.43	anr	
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	2.8	<5.0
Magnesium	5000	9.9		
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1		
Potassium	5000	14		
Selenium	10	2	anr	
Silver	10	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59	anr	

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	ICV True	ICV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1920	96.0	2000	1950	97.5	2000	1920	96.0
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1950	97.5	2000	1950	97.5	2000	1930	96.5
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA3521 Units: ug/l

Metal	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec	CCV True	CCV Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	2000	1960	98.0	2000	1990	99.5	2000	1930	96.5
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium	anr								
Thallium									
Tin									
Vanadium									
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 70 to 130 % Recovery Run ID: MA3521 Units: ug/l

Metal	CRI True	CRIA True	CRI Results	% Rec
Aluminum	400		anr	
Antimony	10			
Arsenic	20		anr	
Barium	400		anr	
Beryllium	10			
Cadmium	10		anr	
Calcium	2000			
Chromium	20		anr	
Cobalt	100			
Copper	50			
Iron	600		anr	
Lead	10		10.4	104.0
Magnesium	10000			
Manganese	30		anr	
Molybdenum	100			
Nickel	80			
Potassium	10000			
Selenium	10		anr	
Silver	20		anr	
Sodium	10000		anr	
Thallium	20			
Tin	100			
Vanadium	100			
Zinc	40		anr	

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

File ID: IR101503.ASC Date Analyzed: 10/15/03 Methods: SW846 6010B
QC Limits: 80 to 120 % Recovery Run ID: MA3521 Units: ug/l

Metal	ICSA True	ICSAB True	ICSA Results	% Rec	ICSAB Results	% Rec
Aluminum	500000	500000	511000	102.2	482000	96.4
Antimony		1000			956	95.6
Arsenic		1000	2.6		966	96.6
Barium		500	1.4		499	99.8
Beryllium		500	-0.84		504	100.8
Cadmium		1000	1.3		981	98.1
Calcium	500000	500000	476000	95.2	469000	93.8
Chromium		500	1.4		463	92.6
Cobalt		500	-0.31		466	93.2
Copper		500	-4.9		478	95.6
Iron	200000	200000	199000	99.5	189000	94.5
Lead		1000	-4.6		943	94.3
Magnesium	500000	500000	517000	103.4	513000	102.6
Manganese		500	-0.74		473	94.6
Molybdenum		1000	-4.2		900	90.0
Nickel		1000	2.7		943	94.3
Potassium					-200	
Selenium		1000	6.8		949	94.9
Silver		1000	0.060		1070	107.0
Sodium			73.5		650	
Thallium		1000			892	89.2
Tin		1000	-6.0		940	94.0
Vanadium		500	13.8		507	101.4
Zinc		1000	-5.5		973	97.3

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Arsenic	10	2.8		
Barium	200	.49		
Beryllium	5.0	.26		
Cadmium	5.0	.26		
Calcium	1000	3.8		
Chromium	10	.43		
Cobalt	50	.5		
Copper	25	.44		
Iron	300	7.1	anr	
Lead	5.0	1.2	0.52	<5.0
Magnesium	5000	9.9		
Manganese	15	.16		
Molybdenum	50	.75		
Nickel	40	1.1		
Selenium	10	2		
Silver	10	.55		
Sodium	5000	150	anr	
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59		

Associated samples MP5945: F20036-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Metal	F20002-1 Original	DUP	RPD	QC Limits	F20002-1 Original	MS	Spikelot MPFLICP	% Rec	QC Limits
Prep Date:			10/15/03					10/15/03	
Aluminum									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron	anr								
Lead	1.6	1.3	20.7 (a)	0-10	1.6	1030	1000	102.8	84-118
Magnesium									
Manganese									
Molybdenum									
Nickel									
Selenium									
Silver									
Sodium	anr								
Tin									
Vanadium									
Zinc									

Associated samples MP5945: F20036-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	F20002-1 Original	MSD	Spikelot MPFLICP	% Rec	MSD RPD	QC Limit
Aluminum						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	anr					
Lead	1.6	1050	1000	104.8	1.9	
Magnesium						
Manganese						
Molybdenum						
Nickel						
Selenium						
Silver						
Sodium	anr					
Tin						
Vanadium						
Zinc						

Associated samples MP5945: F20036-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	BSP Result	Spikelot MPFLICP	% Rec	QC Limits
Aluminum				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	1040	1000	104.0	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Selenium				
Silver				
Sodium	anr			
Tin				
Vanadium				
Zinc				

Associated samples MP5945: F20036-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F20036
Account: TETRPAPT - Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

QC Batch ID: MP5945
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/15/03

Metal	F20002-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	1.63	0.00	100.0(a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Selenium				
Silver				
Sodium	anr			
Tin				
Vanadium				
Zinc				

Associated samples MP5945: F20036-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Instrument Detection Limits

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Instrument ID: TJATRACE1 Effective Date: 04/14/02

Analyte	IDL ug/l
Aluminum	6.56
Antimony	1.52
Arsenic	2.83
Barium	.49
Beryllium	.26
Cadmium	.26
Calcium	3.82
Chromium	.43
Cobalt	.5
Copper	.44
Iron	7.11
Lead	1.22
Magnesium	9.88
Manganese	.16
Molybdenum	.75
Nickel	1.08
Potassium	13.85
Selenium	1.98
Silver	.55
Sodium	145.01
Thallium	1.49
Tin	2.18
Vanadium	.47
Zinc	.59

The above applies to the following instrument runs:
MA3521

Instrument Linear Ranges

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Instrument ID: TJATRACE1 Effective Date: 10/03/03

Analyte	Linear Range ug/l
Aluminum	1000000
Antimony	100000
Arsenic	50000
Barium	100000
Beryllium	50000
Cadmium	50000
Calcium	500000
Chromium	100000
Cobalt	100000
Copper	100000
Iron	1000000
Lead	100000
Magnesium	1000000
Manganese	50000
Molybdenum	100000
Nickel	100000
Potassium	1000000
Selenium	100000
Silver	1000
Sodium	250000
Thallium	100000
Tin	100000
Vanadium	100000
Zinc	100000

The above applies to the following instrument runs:
MA3521

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: F20036
Account: TETRPAPT Tetra Tech, NUS
Project: NASCF-NASJAX Pipeline N0013

Sample: F20036-1 Analyzed: 22-OCT-03 by LE Method: EPA 160.3 M
ClientID: CF-AN16-SB05

Wet Weight (Total)	6.59	g
Tare Weight	1	g
Dry Weight (Total)	6.13	g
Solids, Percent	91.8	%

TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER 2347 F20036

PAGE 1 OF 1

PROJECT NO: N003	FACILITY: AN16 (NASCF - NASJAX PIPELINE)	PROJECT MANAGER PAUL CALLIGAN	PHONE NUMBER ~~407 425 6700~~ 813 806 0202 MD	LABORATORY NAME AND CONTACT: ACCUTEST Sue Bell
SAMPLERS (SIGNATURE) Marvin W. Dale		FIELD OPERATIONS LEADER MELV DAVE	PHONE NUMBER 904 636 6125	ADDRESS 4405 Vineland Road C-15
		CARRIER/WAYBILL NUMBER Fedex 8427 1834 5470		CITY, STATE ORLANDO, FL 32811

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

	DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	SW846 1260B *	SW846 8310 *	EPA 504.1 *	Total Pb SW846 6010B	FL-PRO	SW846 8260B *	SW846 8310 *	FL-PRO	COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)										G	G	G	P	G	G	G	G	
PRESERVATIVE USED										HCl	None	None	HNO_3	H_2SO_4	CH_3OH	None	None	
1)	10/9	2235	CF-AN16-SBQ5	SBQ5	5	6	SO	G	5						3	1	1	Cool to 4°C
2)	10/10	0237	CF-AN16-TMWQ5				GW	G	11	3	2	3	1	2				

* See WRK Release N003-WR380(5'5) for list of analytes & methods.

1. RELINQUISHED BY Marvin W. Dale	DATE 10/10/03	TIME 1600	1. RECEIVED BY Fedex	DATE 10/10/03	TIME
2. RELINQUISHED BY [signature]	DATE	TIME	2. RECEIVED BY [signature]	DATE 10/11/03	TIME 0930
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY [signature]	DATE 10/11/03	TIME 0950

COMMENTS 3.40

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4/02R
FORM NO. TtNUS-001

APPENDIX H

FIXED-BASE LABORATORY REPORT FOR CF-TH03

Southeast ACCUTEST Laboratories

01/08/04

Technical Report for

Tetra Tech, NUS

NASCF-NASJAX Pipeline N0013

N0013-WR380(SS)

Accutest Job Number: F19999

Report to:

Tetra Tech, NUS

dalem@ttnus.com

ATTN: Merv Dale

Total number of pages in report: **33**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Accutest LabLink@21506 20:35 08-Jan-2004

Sample Summary

Tetra Tech, NUS

Job No: F19999

NASCF-NASJAX Pipeline N0013
Project No: N0013-WR380(SS)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F19999-1	10/09/03	01:56	MD	10/10/03	SO	Soil	CF-TH3-SB28
F19999-2	10/09/03	02:11	MD	10/10/03	SO	Soil	CF-TH3-SB30
F19999-3	10/09/03	02:35	MD	10/10/03	SO	Soil	CF-TH3-SB26
F19999-4	10/09/03	02:51	MD	10/10/03	SO	Soil	CF-TH3-SB31
F19999-5	10/09/03	03:07	MD	10/10/03	SO	Soil	CF-TH3-SB32
F19999-6	10/09/03	03:23	MD	10/10/03	SO	Soil	CF-TH3-SB33
F19999-7	10/09/03	03:37	MD	10/10/03	SO	Soil	CF-TH3-SB34
F19999-8	10/09/03	04:10	MD	10/10/03	SO	Soil	CF-TH3-SB35
F19999-9	10/09/03	00:00	MD	10/10/03	SO	Soil	CF-TH3-SO-DUP1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

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Report of Analysis

Client Sample ID:	CF-TH3-SB28		
Lab Sample ID:	F19999-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	81.5
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022592.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	3.94 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.8	3.1	ug/kg	
108-88-3	Toluene	ND	7.8	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.8	3.1	ug/kg	
1330-20-7	Xylene (total)	ND	23	7.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.8	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	99%		79-121%
460-00-4	4-Bromofluorobenzene	110%		77-133%
17060-07-0	1,2-Dichloroethane-D4	110%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@21506 20:35 08-Jan-2004

Report of Analysis

Client Sample ID:	CF-TH3-SB28		
Lab Sample ID:	F19999-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	81.5
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA017973.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	800	200	ug/kg	
208-96-8	Acenaphthylene	ND	800	200	ug/kg	
120-12-7	Anthracene	ND	400	200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	100	ug/kg	
50-32-8	Benzo(a)pyrene	139	80	20	ug/kg	
205-99-2	Benzo(b)fluoranthene	87.7	80	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	140	80	20	ug/kg	
207-08-9	Benzo(k)fluoranthene	39.2	80	20	ug/kg	J
218-01-9	Chrysene	ND	400	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	80	20	ug/kg	
206-44-0	Fluoranthene	ND	400	100	ug/kg	
86-73-7	Fluorene	ND	400	200	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	120	80	20	ug/kg	
91-20-3	Naphthalene	ND	400	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	100	ug/kg	
85-01-8	Phenanthrene	ND	400	200	ug/kg	
129-00-0	Pyrene	ND	400	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		38-139%
92-94-4	p-Terphenyl	99%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@21506 20:35 08-Jan-2004

Report of Analysis

Client Sample ID:	CF-TH3-SB28		
Lab Sample ID:	F19999-1	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	81.5
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32556.D	4	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	134	40	27	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	99%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB30		
Lab Sample ID:	F19999-2	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	90.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022593.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	3.73 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.4	3.0	ug/kg	
108-88-3	Toluene	ND	7.4	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.4	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.4	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	110%		77-133%
17060-07-0	1,2-Dichloroethane-D4	115%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB30		
Lab Sample ID:	F19999-2	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	90.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA017974.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	87.9	72	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	73.1	72	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	59.7	72	18	ug/kg	J
207-08-9	Benzo(k)fluoranthene	31.1	72	18	ug/kg	J
218-01-9	Chrysene	ND	360	360	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	544	360	90	ug/kg	
86-73-7	Fluorene	224	360	180	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	55.1	72	18	ug/kg	J
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	120	360	90	ug/kg	J
91-57-6	2-Methylnaphthalene	108	360	90	ug/kg	J
85-01-8	Phenanthrene	960	360	180	ug/kg	
129-00-0	Pyrene	368	360	90	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		38-139%
92-94-4	p-Terphenyl	98%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB30		
Lab Sample ID:	F19999-2	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	90.8
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32557.D	10	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.9 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	255	89	61	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	107%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB26		
Lab Sample ID:	F19999-3	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	88.0
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022594.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	4.06 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.0	2.8	ug/kg	
108-88-3	Toluene	ND	7.0	2.8	ug/kg	
100-41-4	Ethylbenzene	ND	7.0	2.8	ug/kg	
1330-20-7	Xylene (total)	ND	21	6.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.0	2.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	105%		79-121%
460-00-4	4-Bromofluorobenzene	133%		77-133%
17060-07-0	1,2-Dichloroethane-D4	112%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB26		
Lab Sample ID:	F19999-3	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	88.0
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017975.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	750	190	ug/kg	
208-96-8	Acenaphthylene	ND	750	190	ug/kg	
120-12-7	Anthracene	ND	380	190	ug/kg	
56-55-3	Benzo(a)anthracene	ND	380	94	ug/kg	
50-32-8	Benzo(a)pyrene	ND	75	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	75	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	75	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	75	19	ug/kg	
218-01-9	Chrysene	ND	380	94	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	75	19	ug/kg	
206-44-0	Fluoranthene	ND	380	94	ug/kg	
86-73-7	Fluorene	ND	380	190	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	75	19	ug/kg	
91-20-3	Naphthalene	ND	380	94	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	94	ug/kg	
91-57-6	2-Methylnaphthalene	ND	380	94	ug/kg	
85-01-8	Phenanthrene	ND	380	190	ug/kg	
129-00-0	Pyrene	ND	380	94	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		38-139%
92-94-4	p-Terphenyl	96%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB26		
Lab Sample ID:	F19999-3	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	88.0
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32558.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	6.65	9.3	6.4	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB31		
Lab Sample ID:	F19999-4	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	81.6
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022595.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	3.68 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.3	3.3	ug/kg	
108-88-3	Toluene	ND	8.3	3.3	ug/kg	
100-41-4	Ethylbenzene	ND	8.3	3.3	ug/kg	
1330-20-7	Xylene (total)	ND	25	7.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.3	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
2037-26-5	Toluene-D8	97%		79-121%
460-00-4	4-Bromofluorobenzene	105%		77-133%
17060-07-0	1,2-Dichloroethane-D4	110%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB31		
Lab Sample ID:	F19999-4	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	81.6
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017979.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	800	200	ug/kg	
208-96-8	Acenaphthylene	ND	800	200	ug/kg	
120-12-7	Anthracene	ND	400	200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	400	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	80	20	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	80	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	80	20	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	80	20	ug/kg	
218-01-9	Chrysene	ND	400	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	80	20	ug/kg	
206-44-0	Fluoranthene	ND	400	100	ug/kg	
86-73-7	Fluorene	ND	400	200	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	80	20	ug/kg	
91-20-3	Naphthalene	ND	400	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	400	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	400	100	ug/kg	
85-01-8	Phenanthrene	ND	400	200	ug/kg	
129-00-0	Pyrene	ND	400	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		38-139%
92-94-4	p-Terphenyl	84%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@21506 20:35 08-Jan-2004

Report of Analysis

Client Sample ID:	CF-TH3-SB31		
Lab Sample ID:	F19999-4	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	81.6
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32559.D	40	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	775	410	280	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		57-127%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@21506 20:35 08-Jan-2004

Report of Analysis

Client Sample ID:	CF-TH3-SB32		
Lab Sample ID:	F19999-5	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	90.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022596.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	3.70 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.5	3.0	ug/kg	
108-88-3	Toluene	ND	7.5	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.5	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.5	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	106%		77-133%
17060-07-0	1,2-Dichloroethane-D4	112%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@21506 20:35 08-Jan-2004

Report of Analysis

Client Sample ID:	CF-TH3-SB32		
Lab Sample ID:	F19999-5	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	90.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017980.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	740	180	ug/kg	
208-96-8	Acenaphthylene	ND	740	180	ug/kg	
120-12-7	Anthracene	ND	370	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	370	92	ug/kg	
50-32-8	Benzo(a)pyrene	ND	74	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	74	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	74	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	74	18	ug/kg	
218-01-9	Chrysene	ND	370	92	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	74	18	ug/kg	
206-44-0	Fluoranthene	ND	370	92	ug/kg	
86-73-7	Fluorene	ND	370	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	74	18	ug/kg	
91-20-3	Naphthalene	ND	370	92	ug/kg	
90-12-0	1-Methylnaphthalene	ND	370	92	ug/kg	
91-57-6	2-Methylnaphthalene	ND	370	92	ug/kg	
85-01-8	Phenanthrene	ND	370	180	ug/kg	
129-00-0	Pyrene	ND	370	92	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		38-139%
92-94-4	p-Terphenyl	100%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB32		
Lab Sample ID:	F19999-5	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	90.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32560.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	98.4	46	31	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB33		
Lab Sample ID:	F19999-6	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	91.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022597.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	3.67 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.5	3.0	ug/kg	
108-88-3	Toluene	ND	7.5	3.0	ug/kg	
100-41-4	Ethylbenzene	ND	7.5	3.0	ug/kg	
1330-20-7	Xylene (total)	ND	22	6.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.5	3.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	98%		79-121%
460-00-4	4-Bromofluorobenzene	99%		77-133%
17060-07-0	1,2-Dichloroethane-D4	114%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB33		
Lab Sample ID:	F19999-6	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	91.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA017981.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	720	180	ug/kg	
208-96-8	Acenaphthylene	ND	720	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	90	ug/kg	
50-32-8	Benzo(a)pyrene	ND	72	72	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	72	72	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	72	72	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	72	72	ug/kg	
218-01-9	Chrysene	ND	360	90	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	72	18	ug/kg	
206-44-0	Fluoranthene	125	360	90	ug/kg	J
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	72	18	ug/kg	
91-20-3	Naphthalene	ND	360	90	ug/kg	
90-12-0	1-Methylnaphthalene	ND	360	90	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	90	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	103	360	90	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		38-139%
92-94-4	p-Terphenyl	95%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB33		
Lab Sample ID:	F19999-6	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	91.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32563.D	5	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	341	45	31	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB34		
Lab Sample ID:	F19999-7	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	80.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022598.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2							

	Initial Weight
Run #1	4.06 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	7.7	3.1	ug/kg	
108-88-3	Toluene	ND	7.7	3.1	ug/kg	
100-41-4	Ethylbenzene	ND	7.7	3.1	ug/kg	
1330-20-7	Xylene (total)	10.2	23	6.9	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	7.7	3.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	96%		79-121%
460-00-4	4-Bromofluorobenzene	107%		77-133%
17060-07-0	1,2-Dichloroethane-D4	114%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB34		
Lab Sample ID:	F19999-7	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	80.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017982.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	830	210	ug/kg	
208-96-8	Acenaphthylene	ND	830	210	ug/kg	
120-12-7	Anthracene	ND	420	210	ug/kg	
56-55-3	Benzo(a)anthracene	ND	420	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	83	21	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	83	21	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	83	21	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	83	21	ug/kg	
218-01-9	Chrysene	ND	420	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	83	21	ug/kg	
206-44-0	Fluoranthene	ND	420	100	ug/kg	
86-73-7	Fluorene	ND	420	210	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	83	21	ug/kg	
91-20-3	Naphthalene	ND	420	100	ug/kg	
90-12-0	1-Methylnaphthalene	ND	420	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	420	100	ug/kg	
85-01-8	Phenanthrene	ND	420	210	ug/kg	
129-00-0	Pyrene	ND	420	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		38-139%
92-94-4	p-Terphenyl	93%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB34		
Lab Sample ID:	F19999-7	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	80.1
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32565.D	1	10/20/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	25.4	10	7.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB35		
Lab Sample ID:	F19999-8	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	91.4
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022599.D	1	10/10/03	NAF	n/a	n/a	VH826
Run #2 [a]	H022613.D	1	10/13/03	NAF	n/a	n/a	VH827

	Initial Weight
Run #1	3.24 g
Run #2	3.10 g

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.4	3.4	ug/kg	
108-88-3	Toluene	3.5	8.4	3.4	ug/kg	J
100-41-4	Ethylbenzene	134	8.4	3.4	ug/kg	
1330-20-7	Xylene (total)	538	25	7.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.4	3.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	102%	70-130%
2037-26-5	Toluene-D8	105%	103%	79-121%
460-00-4	4-Bromofluorobenzene	140% [b]	149%	77-133%
17060-07-0	1,2-Dichloroethane-D4	119%	103%	72-133%

(a) Confirmation run.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB35		
Lab Sample ID:	F19999-8	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	91.4
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA018012.D	1	10/24/03	MRE	10/15/03	OP8787	GAA862
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	730	180	ug/kg	
208-96-8	Acenaphthylene	ND	730	180	ug/kg	
120-12-7	Anthracene	ND	360	180	ug/kg	
56-55-3	Benzo(a)anthracene	ND	360	91	ug/kg	
50-32-8	Benzo(a)pyrene	ND	73	18	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	73	18	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	73	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	73	18	ug/kg	
218-01-9	Chrysene	ND	360	91	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	73	18	ug/kg	
206-44-0	Fluoranthene	ND	360	91	ug/kg	
86-73-7	Fluorene	ND	360	180	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	73	18	ug/kg	
91-20-3	Naphthalene	129	360	91	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	360	91	ug/kg	
91-57-6	2-Methylnaphthalene	ND	360	91	ug/kg	
85-01-8	Phenanthrene	ND	360	180	ug/kg	
129-00-0	Pyrene	ND	360	91	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		38-139%
92-94-4	p-Terphenyl	73%		46-149%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SB35		
Lab Sample ID:	F19999-8	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	91.4
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32635.D	20	10/21/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1470	910	620	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		57-127%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SO-DUP1		
Lab Sample ID:	F19999-9	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	SW846 8260B	Percent Solids:	87.2
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H022612.D	1	10/13/03	NAF	n/a	n/a	VH827
Run #2							

	Initial Weight
Run #1	3.56 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	8.1	3.2	ug/kg	
108-88-3	Toluene	ND	8.1	3.2	ug/kg	
100-41-4	Ethylbenzene	ND	8.1	3.2	ug/kg	
1330-20-7	Xylene (total)	ND	24	7.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	8.1	3.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-130%
2037-26-5	Toluene-D8	100%		79-121%
460-00-4	4-Bromofluorobenzene	118%		77-133%
17060-07-0	1,2-Dichloroethane-D4	95%		72-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SO-DUP1		
Lab Sample ID:	F19999-9	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	EPA 8310 SW846 3550B	Percent Solids:	87.2
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA017984.D	1	10/22/03	MRE	10/15/03	OP8787	GAA860
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	760	190	ug/kg	
208-96-8	Acenaphthylene	ND	760	190	ug/kg	
120-12-7	Anthracene	ND	380	190	ug/kg	
56-55-3	Benzo(a)anthracene	ND	380	95	ug/kg	
50-32-8	Benzo(a)pyrene	ND	76	19	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	76	19	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	76	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	76	19	ug/kg	
218-01-9	Chrysene	ND	380	95	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	76	19	ug/kg	
206-44-0	Fluoranthene	ND	380	95	ug/kg	
86-73-7	Fluorene	ND	380	190	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	76	19	ug/kg	
91-20-3	Naphthalene	ND	380	95	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	95	ug/kg	
91-57-6	2-Methylnaphthalene	ND	380	95	ug/kg	
85-01-8	Phenanthrene	ND	380	190	ug/kg	
129-00-0	Pyrene	ND	380	95	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		38-139%
92-94-4	p-Terphenyl	93%		46-149%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	CF-TH3-SO-DUP1		
Lab Sample ID:	F19999-9	Date Sampled:	10/09/03
Matrix:	SO - Soil	Date Received:	10/10/03
Method:	FLORIDA-PRO SW846 3550B	Percent Solids:	87.2
Project:	NASCF-NASJAX Pipeline N0013		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OP32636.D	2	10/21/03	SM	10/15/03	OP8785	GOP1090
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	45.9	19	13	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		57-127%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 2370 F19999 PAGE 1 OF 1

PROJECT NO: N0013	FACILITY: NASCF-NASJAX PIPELINE	PROJECT MANAGER P. Calligan	PHONE NUMBER 813 806 0202	LABORATORY NAME AND CONTACT: ACCUTEST Sue Bell
SAMPLERS (SIGNATURE) [signature]		FIELD OPERATIONS LEADER M. Dale	PHONE NUMBER 904 636 6125	ADDRESS 4405 Vineland Rd.
		CARRIER/WAYBILL NUMBER Fedex 8427 1834 5426		CITY, STATE ORLANDO, FL 32811

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

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G G
PRESERVATIVE USED: CH3OH H2O None None

	DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: 8260B *	8310 *	FL-PRO						COMMENTS
1	10/9	0156	CF-TH3-SB28	SB28	1	2	SO	G	5	3	1	1						Cool to 4°C
2	10/9	0211	CF-TH3-SB30	SB30	2	2.5	SO	G	5	3	1	1						* See work
3	10/9	0235	CF-TH3-SB26	SB26	2	3	SO	G	5	3	1	1						release N0013-
4	10/9	0251	CF-TH3-SB31	SB31	1	2	SO	G	5	3	1	1						WR380(SS).
5	10/9	0307	CF-TH3-SB32	SB32	2	3	SO	G	5	3	1	1						for list of
6	10/9	0323	CF-TH3-SB33	SB33	2	3	SO	G	5	3	1	1						analytes &
7	10/9	0337	CF-TH3-SB34	SB34	2	3	SO	G	5	3	1	1						methods.
8	10/9	0410	CF-TH3-SB35	SB35	1	2	SO	G	5	3	1	1						
9	10/9	0000	CF-TH3-SO-DUP1	—	2	3	SO	G	5	3	1	1						

1. RELINQUISHED BY [signature]	DATE 10/9/03	TIME 1600	1. RECEIVED BY Fedex	DATE	TIME
2. RELINQUISHED BY [signature]	DATE 10/10/03	TIME 0930	2. RECEIVED BY [signature]	DATE 10/10/03	TIME 0930
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 2.40 4/02R FORM NO. TINUS-001

F19999: Chain of Custody
Page 1 of 2

APPENDIX I

FIXED-BASE LABORATORY REPORT FOR CF-AN14

TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER JR 1636

PAGE 1 OF 1

PROJECT NO: 0013 DM0050115

SITE NAME: CTO 72

PROJECT MANAGER AND PHONE NUMBER: Jon Kucera (904) 281-0400

FIELD OPERATIONS LEADER AND PHONE NUMBER: Same

CARRIER/WAYBILL NUMBER: —

SAMPLERS (SIGNATURE): [signature]

LABORATORY NAME AND CONTACT: ENCO

ADDRESS: 4810 Executive Park Court, Suite 211

CITY, STATE: Jax, FL 32216

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

DATE YEAR 2000	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: 8310 (TR-216) - SVOCs						COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G						
PRESERVATIVE USED						—						
2/8/00		CEF-AN14-1S	GW	G	1	X						Bailer # JAX-T-301

Delivered by T+NUS personnel to Lab.

1. RELINQUISHED BY [signature]	DATE 2-8-00	TIME 1430	1. RECEIVED BY [signature]
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY
3. RELINQUISHED BY	DATE	TIME	3 RECEIVED BY

DATE	TIME
2/9/00	1420
DATE	TIME
DATE	TIME

COMMENTS

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

3/99
FORM NO. TtNUS-001

CLIENT : Tetra Tech NUS
ADDRESS: 7018 A.C. Skinner Parkway
Suite 250
Jacksonville, FL 32256

REPORT # : JR1636
DATE SUBMITTED : February 9, 2000
DATE REPORTED : February 14, 2000

ATTENTION: Accounts Payable
REFERENCE: 0013DM0050115

P.O. # : N0013-P99201-03(SS)

INVOICE

DESCRIPTION	PRICE	QTY	AMOUNT
EPA METHOD 8310 (PAH by HPLC)	$ 120.00	X 1	$ 120.00
Bailer	$ 10.00	X 1	$ 10.00
Rush Fee @ 50%	$ 60.00	X 1	$ 60.00
	TOTAL		**$ 190.00**

Please remit payment to :
Environmental Conservation Laboratories, Inc.
9500 Satellite Blvd., Suite 190
Orlando, FL 32837-8466
TERMS: NET 30 DAYS
Past Due Balances are subject to a 1.5% per month service charge.

CLIENT : Tetra Tech NUS
ADDRESS: 7018 A.C. Skinner Parkway
Suite 250
Jacksonville, FL 32256

REPORT # : JR1636
DATE SUBMITTED: February 9, 2000
DATE REPORTED : February 14, 2000

ATTENTION: Mr. John Kucera

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: 0013DM0050115

02/09/00

#1 - CEF-AN14-1S

PROJECT MANAGER _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR1636
DATE REPORTED: February 14, 2000
REFERENCE : 0013DM0050115

RESULTS OF ANALYSIS

EPA METHOD 8310 - PAH BY HPLC	**CEF-AN14-1S**	**LAB BLANK**	**Units**
Naphthalene	0.50 U	0.50 U	µg/L
Acenaphthylene	1.0 U	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	1.0 U	µg/L
Acenaphthene	0.50 U	0.50 U	µg/L
Fluorene	0.10 U	0.10 U	µg/L
Phenanthrene	1.0 U	1.0 U	µg/L
Anthracene	0.20 U	0.20 U	µg/L
Fluoranthene	0.10 U	0.10 U	µg/L
Pyrene	0.10 U	0.10 U	µg/L
Benzo(a)anthracene	0.10 U	0.10 U	µg/L
Chrysene	0.10 U	0.10 U	µg/L
Benzo(b)fluoranthene	0.10 U	0.10 U	µg/L
Benzo(k)fluoranthene	0.10 U	0.10 U	µg/L
Benzo(a)pyrene	0.10 U	0.10 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.10 U	0.10 U	µg/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-terphenyl	93	106	43-148
Date Extracted	02/11/00	02/11/00	
Date Analyzed	02/12/00	02/12/00	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR1636
DATE REPORTED: February 14, 2000
REFERENCE : 0013DM0050115

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8310				
Naphthalene	81/ 85/ 75	59-111	5	12
Acenaphthene	80/ 81/ 70	58-128	1	13
Benzo(a)pyrene	104/110/103	78-134	6	15
Benzo(g,h,i)perylene	105/111/107	62-115	6	30

Environmental Conservation Laboratories Comprehensive QA Plan #910190

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

APPENDIX J

FIXED-BASE LABORATORY REPORT FOR CF-VA02

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER VA02 - 1B | PAGE 1 OF 1

PROJECT NO: N00B CTO 72	FACILITY: NASCF, VA02	PROJECT MANAGER: PAUL CALLIGAN	PHONE NUMBER: 813 606 0202
LABORATORY NAME AND CONTACT: ENCO			
SAMPLERS (SIGNATURE): Marvin H. Dale		FIELD OPERATIONS LEADER: MARV DALE	PHONE NUMBER: 904 636 6165
ADDRESS: 4810 Executive Park Ct Ste 211		CARRIER/WAYBILL NUMBER: Courier	CITY, STATE: JACKSONVILLE, FL 32216

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

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

DATE YEAR 2003	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	VOCs 8260B	PAHs 8310							COMMENTS
11/21	1550	CEF-VA02-15				GW	G	5	✓	✓							Cool to 4°C

1. RELINQUISHED BY: Marvin H. Dale	DATE: 11/21/03	TIME: 1907	1. RECEIVED BY: [signature]	DATE: 11-21-03	TIME: 19:07
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: Custody intact - [illegible]

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

4/02R
FORM NO. TtNUS-001

TTNUS JACKSONVILLE Fax:9042810070 Dec 29 2003 15:40 P.07

CLIENT : Tetra Tech NUS
ADDRESS: Foster Plaza 7
661 Andersen Dr.
Pittsburg, PA 15220-2745

INVOICE # : JAX35640
DATE SUBMITTED : November 21, 2003
DATE REPORTED : December 1, 2003

CLIENT #: BR006

ATTENTION: Mr. Paul Calligan
REFERENCE: NASCF, VA02
NOO13 CTO 72

P.O. # : N0013-P3627(SS)

INVOICE

DESCRIPTION	PRICE	QTY	AMOUNT
SW-846 Method 8260 (Volatile Organics)	$ 100.00	X 1	$ 100.00
8270 (PAH's by Selected Ion Monitoring)	$ 120.00	X 1	$ 120.00
	TOTAL		**$ 220.00**

Please remit payment to :
Environmental Conservation Laboratories, Inc.
9500 Satellite Blvd., Suite 190
Orlando, FL 32837-8466
TERMS: NET 30 DAYS
Past Due Balances are subject to a 1.5% per month service charge.

CLIENT : Tetra Tech NUS
ADDRESS: 8640 Philips Highway
Suite 16
Jacksonville, FL 32256

REPORT # : JAX35640
DATE SUBMITTED: November 21, 2003
DATE REPORTED : December 1, 2003

ATTENTION: Mr. Paul Calligan

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: NOO13 CTO 72

NASCF, VA02

11/21/03

JAX35640-1 : CEF-VA02-1S @ 15:50

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

NOTE: The use of EPA Method 8270 for the analysis of polynuclear aromatic hydrocarbons was approved per client.

PROJECT MANAGER _____
Christopher K. Devore

ENCO LABORATORIES
REPORT # : JAX35640
DATE REPORTED: December 1, 2003
REFERENCE : NOO13 CTO 72
PROJECT NAME : NASCF, VA02

RESULTS OF ANALYSIS

EPA METHOD 8260 - VOLATILE ORGANICS	**CEF-VA02-1S**	**LAB BLANK**	**Units**
Dichlorodifluoromethane	2.0 U	2.0 U	ug/L
Chloromethane	1.0 U	1.0 U	ug/L
Vinyl Chloride	1.0 U	1.0 U	ug/L
Bromomethane	2.0 U	2.0 U	ug/L
Chloroethane	2.0 U	2.0 U	ug/L
Trichlorofluoromethane	1.0 U	1.0 U	ug/L
1,1-Dichloroethene	1.0 U	1.0 U	ug/L
Acetone	50 U	50 U	ug/L
Carbon Disulfide	50 U	50 U	ug/L
Methylene Chloride	5.0 U	5.0 U	ug/L
t-1,2-Dichloroethene	1.0 U	1.0 U	ug/L
Methyl tert-butyl ether	1.0 U	1.0 U	ug/L
1,1-Dichloroethane	1.0 U	1.0 U	ug/L
2,2-Dichloropropane	2.0 U	2.0 U	ug/L
c-1,2-Dichloroethene	1.0 U	1.0 U	ug/L
2-Butanone	20 U	20 U	ug/L
Chloroform	1.0 U	1.0 U	ug/L
1,1,1-Trichloroethane	1.0 U	1.0 U	ug/L
Carbon tetrachloride	1.0 U	1.0 U	ug/L
1,1-Dichloropropene	1.0 U	1.0 U	ug/L
Benzene	1.0 U	1.0 U	ug/L
1,2-Dichloroethane	1.0 U	1.0 U	ug/L
Trichloroethene	1.0 U	1.0 U	ug/L
1,2-Dichloropropane	1.0 U	1.0 U	ug/L
Dibromomethane	1.0 U	1.0 U	ug/L
Bromodichloromethane	1.0 U	1.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX35640
DATE REPORTED: December 1, 2003
REFERENCE : NOO13 CTO 72
PROJECT NAME : NASCF, VA02

RESULTS OF ANALYSIS

EPA METHOD 8260 (cont.) - VOLATILE ORGANICS	**CEF-VA02-1S**	**LAB BLANK**	**Units**
2-Chloroethyl vinyl ether	6.0 U	6.0 U	ug/L
c-1,3-Dichloropropene	1.0 U	1.0 U	ug/L
4-Methyl-2-pentanone	20 U	20 U	ug/L
Toluene	1.0 U	1.0 U	ug/L
t-1,3-Dichloropropene	1.0 U	1.0 U	ug/L
1,1,2-Trichloroethane	1.0 U	1.0 U	ug/L
Tetrachloroethene	3.0 U	3.0 U	ug/L
1,3-Dichloropropane	1.0 U	1.0 U	ug/L
2-Hexanone	20 U	20 U	ug/L
Dibromochloromethane	1.0 U	1.0 U	ug/L
1,2-Dibromoethane	1.0 U	1.0 U	ug/L
Chlorobenzene	1.0 U	1.0 U	ug/L
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	ug/L
Ethylbenzene	1.0 U	1.0 U	ug/L
m-Xylene & p-Xylene	2.0 U	2.0 U	ug/L
o-Xylene	1.0 U	1.0 U	ug/L
Styrene	1.0 U	1.0 U	ug/L
Bromoform	1.0 U	1.0 U	ug/L
Isopropylbenzene	1.0 U	1.0 U	ug/L
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	ug/L
Bromobenzene	1.0 U	1.0 U	ug/L
1,2,3-Trichlorobenzene	1.0 U	1.0 U	ug/L
n-Propylbenzene	1.0 U	1.0 U	ug/L
2-Chlorotoluene	1.0 U	1.0 U	ug/L
1,3,5-Trimethylbenzene	1.0 U	1.0 U	ug/L
4-Chlorotoluene	1.0 U	1.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 8260 (cont.) - VOLATILE ORGANICS	**CEF-VA02-1S**	**LAB BLANK**	**Units**
tert-Butylbenzene	1.0 U	1.0 U	ug/L
1,2,4-Trimethylbenzene	1.0 U	1.0 U	ug/L
s-Butylbenzene	1.0 U	1.0 U	ug/L
1,3-Dichlorobenzene	1.0 U	1.0 U	ug/L
p-Isopropyltoluene	1.0 U	1.0 U	ug/L
1,4-Dichlorobenzene	1.0 U	1.0 U	ug/L
n-Butylbenzene	1.0 U	1.0 U	ug/L
1,2-Dichlorobenzene	1.0 U	1.0 U	ug/L
1,2-Dibromo-3-chloropropane	1.0 U	1.0 U	ug/L
1,2,4-Trichlorobenzene	1.0 U	1.0 U	ug/L
Hexachlorobutadiene	1.0 U	1.0 U	ug/L
Naphthalene	2.0 U	2.0 U	ug/L
1,2,3-Trichloropropane	1.0 U	1.0 U	ug/L
Bromochloromethane	1.0 U	1.0 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	100	94	67-139
D8-Toluene	102	98	80-115
Bromofluorobenzene	98	100	66-131
Date Analyzed	11/25/03 22:18	11/25/03 18:45	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JAX35640
DATE REPORTED: December 1, 2003
REFERENCE : NOO13 CTO 72
PROJECT NAME : NASCF, VA02

RESULTS OF ANALYSIS

EPA METHOD 8270 - PAH Compounds by SIM	CEF-VA02-1S	LAB BLANK	Units
Naphthalene	**0.20**	0.10 U	ug/L
2-Methylnaphthalene	0.10 U	0.10 U	ug/L
1-Methylnaphthalene	0.10 U	0.10 U	ug/L
Acenaphthylene	0.10 U	0.10 U	ug/L
Acenaphthene	0.10 U	0.10 U	ug/L
Fluorene	0.10 U	0.10 U	ug/L
Phenanthrene	0.10 U	0.10 U	ug/L
Anthracene	0.10 U	0.10 U	ug/L
Fluoranthene	0.10 U	0.10 U	ug/L
Pyrene	0.10 U	0.10 U	ug/L
Chrysene	0.10 U	0.10 U	ug/L
Benzo(a)anthracene	0.10 U	0.10 U	ug/L
Benzo(b)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(k)fluoranthene	0.10 U	0.10 U	ug/L
Benzo(a)pyrene	0.10 U	0.10 U	ug/L
Indeno(1,2,3-cd)pyrene	0.10 U	0.10 U	ug/L
Dibenzo(a,h)anthracene	0.10 U	0.10 U	ug/L
Benzo(g,h,i)perylene	0.10 U	0.10 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
p-Terphenyl	78	61	20-148
Date Prepared	11/25/03	11/25/03	
Date Analyzed	11/26/03 10:28	11/26/03 09:24	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NELAC:E82277

All analyses reported with this project were analyzed by the facility indicated unless identified below.

ENCO LABORATORIES
REPORT # : JAX35640
DATE REPORTED: December 1, 2003
REFERENCE : NOO13 CTO 72
PROJECT NAME : NASCF, VA02

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8260				
1,1-Dichloroethene	117/112/116	40-155	4	30
Benzene	111/111/114	70-131	<1	23
Trichloroethene	98/ 95/ 98	68-128	3	10
Toluene	106/ 99/109	84-116	7	12
Chlorobenzene	105/104/106	88-123	<1	11
EPA Method 8270				
Naphthalene	66/ 64/ 66	30-112	3	28
Acenaphthene	64/ 60/ 68	28-113	6	32
Benzo(a)pyrene	75/ 72/ 80	39-148	4	38
Benzo(g,h,i)perylene	100/ 93/120	20-130	7	43

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference