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NAS CECIL FIELD, FL
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SITE ASSESSMENT REPORT ADDENDUM FOR BUILDING 815 WASH RACK AREA NAS CECIL FIELD FL
5/15/2008
TETRA TECH NUS INC

Document Tracking Number 088JAX0031

May 15, 2008

Project Number 112G01246

Mr. David Grabka
Remedial Project Manager
Technical Review/Federal Facilities
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reference: CLEAN IV Contract Number N62467-04-D-0055
Contract Task Order Number 0102

Subject: Site Assessment Report Addendum
Building 815 Wash Rack Area
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit this Site Assessment Report Addendum (SARA) for the referenced Contract Task Order (CTO) for the Building 815 Wash Rack Area at Naval Air Station (NAS) Cecil Field. This SARA was prepared for the United States Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE) under the Comprehensive Long-Term Environmental Action Navy (CLEAN) IV Contract Number N62467-04-D-0055. This SARA has been prepared in response to the September 2007 Base Closure Team (BCT) recommendations. This report summarizes the fieldwork and analytical results for the sampling events conducted in November 2007 and February 2008. The work was performed in general accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures under DEP-SOP-001/01.

BACKGROUND

Building 815 is a maintenance hangar and is located at the northern end of the flight line, at the east end of Lake Newman Street (formerly 6th Street). There is a wash rack to the north of the hangar. A General Location Map is included as Figure 1. Naphthalene contamination in groundwater was identified in wells at the wash rack in the 1999 Sampling and Analysis Report for Hangar 815 (HLA, 1999). There are no tanks associated with this particular area of contamination. For that study, two shallow monitoring wells were installed at the wash rack. In addition, an area of soil contamination and the storm water pond in the wash rack area were initially investigated. The results of the investigations of those areas are described in the Technical Memorandum for Potential Source of Contamination (PSC) 56.

Between October 1999 and May 2000, TtNUS conducted three phases of Site Assessment (SA) activities. The first phase included the installation and sampling of one monitoring well and the sampling of five existing wells. The second phase involved the installation and sampling of one shallow monitoring well and the sampling of three other existing upgradient wells. The groundwater samples from the second phase were analyzed for select compounds that were detected during the first phase of SA activities. The third phase of work entailed resampling the groundwater from monitoring well CEF-815-4S for VOCs on May 11, 2000 to check the vinyl chloride result from the Phase II sampling. Vinyl chloride was detected less than its GCTLs in monitoring well CEF-815-4S. The extent of the contamination was delineated and semi-annual monitoring was proposed and approved under the petroleum tank program.

On January 12, 2004, TtNUS submitted the Groundwater Monitoring Report documenting the results from the July 2003 sampling event. Following the results from the July 2003 groundwater sampling event, TtNUS concluded that naphthalene concentrations in the well CEF-815-1S were continuously exceeding the annual milestone cleanup objectives. TtNUS recommended that the monitoring program be discontinued and a Remedial Action Plan (RAP) be developed for the site. The FDEP concurred with discontinuing the monitoring program and recommended conducting a soil assessment prior to preparation of a RAP.

In January 2005, TtNUS collected soil samples at the 815 Wash Rack Area to determine if a continuing source was present in the vicinity of the well CEF-815-1S. Eight samples were collected above the water table and capillary fringe from 2 to 4 feet below land surface (bls). The results from the soil assessment indicated that the FDEP Soil Cleanup Target Level (SCTL) for TRPH was not exceeded where the analyte was detected. The chemicals of concern (COCs) benzene, toluene, ethyl benzene, and total xylenes (BTEX), methyl tert-butyl ether (MTBE), and polycyclic aromatic hydrocarbons (PAHs) were not detected and the reporting limits were below SCTLs.

As discussed during the February 2005 NAS Cecil Field Partnering meeting, the Base Realignment and Closure (BRAC) Team (BCT) had agreed to transfer the site from the Underground Storage Tank (UST) Program to the Installation Restoration (IR) program so that site remediation could be conducted concurrently with Site 59. Therefore, the remedial action was scheduled to be conducted under the IR program.

During the September 2007 BCT Meeting, it was decided that groundwater at the 815 Wash Rack Area would be addressed under the Petroleum Program. Since nearly two years had passed since the most recent groundwater sampling event at the 815 Wash Rack Area and a RAP had not been prepared for the site because of its transfer to the IR program, a SAR Addendum was recommended.

FIELD OPERATIONS

On November 5, 2007, TtNUS collected groundwater samples from the wells CEF-815-01S and NG-12S for analyses of naphthalene using Environmental Protection Agency (EPA) Method 8270C and total recoverable petroleum hydrocarbon (TRPH) using Florida Petroleum Range Organics (FL-PRO). Low-flow purge sheets and groundwater sample log sheets are included in Attachment A. The samples were placed on ice immediately upon collection and hand delivered under chain of custody to Columbia Analytical Services (CAS) in Jacksonville, Florida.

Using hollow stem auger drilling techniques, one shallow monitoring well was installed at the site on February 11, 2008. The monitoring well (CEF-815-05S) was installed to approximately 15 feet bls. The well was constructed of 2-inch diameter, Schedule 40, flush-joint polyvinyl chloride riser and flush-joint, 0.010-inch, factory-slotted well screen. The screen of the monitoring well is 10 feet in length. The monitoring well installation sheet is included in Attachment A. The approximate location of the well CEF-815-05S is shown on Figure 2. The well was developed using a peristaltic pump. The Monitoring Well Development Record is included in Attachment A.

On February 12, 2008, groundwater samples were collected from the wells CEF-815-01S, CEF-815-05S, CEF-NG-12S, and CEF-059-028-015. Low-flow Purge Sheets and Groundwater Sample Log Sheets for the four monitoring wells are included in Attachment A. The samples were placed on ice and subsequently hand delivered under chain of custody to CAS in Jacksonville, Florida for analysis. The laboratory analyzed the samples for naphthalene using EPA Method 8270C and for TRPH using FL-PRO.

Water level measurements were recorded on February 12, 2008, from the wells CEF-815-01S, CEF-815-05S, CEF-NG-12S, and CEF-059-028-015 prior to sampling activities. Water levels were documented on a Groundwater Level Measurement Sheet, which is included in Attachment A. The depth to water ranged from 6.31 feet below top of casing (btoc) (CEF-815-01S) to 7.16 feet btoc

(CEF-059-028-015). Current depth-to-water measurements, top-of-casing elevations, and groundwater elevations are presented in Table 1.

RESULTS

Groundwater elevation contours from February 2008 are shown on Figure 3. Based on the data, the inferred general direction of shallow groundwater flow is to the southeast, which is consistent with historical data from the site, and the horizontal gradient is 0.035. The on-site groundwater horizontal gradient was evaluated by reviewing shallow groundwater elevation data from across the site.

The COCs reported by the laboratory for the groundwater samples collected from the November 2007 and February 2008 sampling events were compared to FDEP Groundwater Cleanup Target Levels (GCTLs) and Natural Attenuation Default Source Concentrations (NADSCs). The results and applicable standards are indicated in Table 2, and the results are presented on Figure 4. The monitoring well CEF-815-01S exhibited naphthalene concentrations of 89 micrograms per liter (µg/L) and 69 µg/L during the November 2007 and February 2008 sampling events, respectively. These values continue to demonstrate a pattern of consistent decreasing concentrations of naphthalene since November 2000, as shown in Table 2 and Figure 4. Additionally, the well CEF-815-05S exhibited a naphthalene concentration of 37 µg/L from the February 2008 sampling event. These results exceeded the FDEP GCTL of 14 µg/L, but were less than the NADSC of 140 µg/L. TRPH concentrations were detected below the GCTL in both CEF-815-01S and CEF-815-05S. The laboratory reports from the November 2007 and February 2008 sampling events are included in Attachment B.

CONCLUSIONS AND RECOMMENDATIONS

The shallow groundwater flow direction in February 2008 is generally to the southeast, which is consistent with historical data from the site.

The laboratory analytical results from the November 2007 and February 2008 sampling events showed naphthalene concentrations greater than the GCTL in two of the site monitoring wells (CEF-815-01S and CEF-815-05S). Concentrations in CEF-815-01S have consistently decreased since the November 2000. No GCTLs were exceeded for the remaining site monitoring wells (CEF-NG-12S and CEF-059-015) sampled in February 2008.

Due to the trends of decreasing value of naphthalene in CEF-815-1S (shown in Table 2 and in Figure 4) and since the most recent measured value of naphthalene is well below the NADSC value of 140 µg/L, TtNUS recommends regular monitoring of the wells CEF-815-1S, CEF-NG-12S, CEF-815-5S, and CEF-059-015 for naphthalene over a five year period. The sampling frequency shall be quarterly for the first year, semi-annual for years two and three, and annual for years four and five. Contingent upon approval of this recommendation the next sampling event is currently scheduled to take place in June 2008, and will be identified at the 1st Quarter Year 1 event.

If you have any questions regarding this submittal, please feel free to contact me at (412) 921-8163 or Kara Wimble at (904) 730-4669, extension 214, or via e-mail at Kara.Wimble@ttnus.com.

Sincerely,

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

Kara F. Wimble
Project Scientist

Attachments (4)

c: Barbara Nwokike, NAVFAV SE (1 copy)
Mike Halil, CH2M Hill (electronic copy)
Mark Speranza, TtNUS (electronic copy)
Mark Jonnet, TtNUS (1 copy)
Mark Perry, TtNUS (unbound copy)
Debra Humbert, TtNUS (letter only)
Julie Johnson, TtNUS (Information Repository) (1 copy)
CTO 0209 Project File

CERTIFICATION

The information contained herein is based on the investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned engineer should be notified to evaluate the affects of any additional information on the information described in this report. This Site Assessment Report Addendum was developed for the 815 Wash Rack Area at Naval Air Station Cecil Field, Jacksonville, Florida, and should not be construed to apply to any other site.

May 15, 2008
Robert Simcik, P.E.
P.E. License Number 61263

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

TABLES

TABLE 1

GROUNDWATER ELEVATION DATA
SITE ASSESSMENT REPORT ADDENDUM
BUILDING 815 WASH RACK AREA
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Monitoring Well Identification	Well Depth (feet btoc)	TOC Elevation (feet msl)	May 1, 2001		December 17, 2001		June 19, 2002		January 9, 2003		July 24, 2003		February 12, 2008	
			Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)
CEF-815-1S	13.10	75.55	6.12	69.44	5.40	70.16	6.41	69.15	4.25	71.31	4.53	71.03	6.31	69.24
CEF-815-2S	14.00	75.60	5.92	69.68	5.14	70.46	6.86	68.74	3.76	71.84	4.26	71.34	NM	NM
CEF-815-3S	12.90	75.64	6.53	69.11	5.82	69.82	6.78	68.86	5.01	70.63	5.04	70.60	NM	NM
CEF-815-4S	14.00	75.75	6.85	68.90	6.24	69.51	7.07	68.68	5.56	70.19	5.51	70.24	NM	NM
CEF-815-5S	14.37	75.65	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	6.56	69.09
NG-02S	14.00	76.39	6.79	69.60	5.81	70.58	6.85	69.54	4.55	71.84	4.86	71.53	NM	NM
NG-12S	13.40	75.69	6.39	69.30	5.63	70.06	6.68	69.01	4.69	71.00	4.83	70.86	6.54	69.15
NG-13S	14.00	76.04	6.46	69.58	5.66	70.38	6.78	69.26	4.53	71.51	4.81	71.23	NM	NM
NG-14S	14.00	75.71	6.69	69.02	6.03	69.68	6.95	68.76	5.28	70.43	5.24	70.47	NM	NM
NG-26S	14.25	75.84	6.26	69.58	5.57	70.27	6.58	69.26	4.25	71.56	4.65	71.19	NM	NM
CEF-059-028-015	15.00	76.05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	7.16	68.89

Notes:

TOC = top of casing

btoc = below top of casing

msl = mean sea level

NM = not measured

TABLE 2

GROUNDWATER ANALYTICAL DATA
SITE ASSESSMENT REPORT ADDENDUM
BUILDING 815 WASH RACK AREA
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Contaminant of Concern	NADSC/ GCTL[(1)(2)]	Source Monitoring Wells									
		CEF-815-01S									
		11/6/2000	5/1/2001	12/17/2001	6/19/2002	7/17/2002	1/10/2003	7/24/2003	1/2006	11/5/2007	2/12/2008
PAHs (USEPA Method 8270 SIM) (µg/L)											
Naphthalene	140/14	**192**	**250**	**129**	**299**	**205**	**152**	**256**	**140**	**89**	**69**
TRPH (FL-PRO) (mg/L)											
TRPH	50/5	**21**	**16.8**	**15.5**	**22.7**	**16.3**	**12.2**	**12.5**	**9.45**	0.55	1.1

Contaminant of Concern	NADSC/ GCTL[(1)(2)]	Source Monitoring Wells						
		CEF-815-03S						CEF-815-05S
		11/6/2000	5/1/2001	12/17/2001	6/19/2002	1/9/2003	7/24/2003	2/12/2008
PAHs (USEPA Method 8270 SIM) (µg/L)								
Naphthalene	140/14	**22.9**	**25**	**28.1**	**54.8**	**39.9**	**18.6**	**37**
TRPH (FL-PRO) (mg/L)								
TRPH	50/5	4.57	2.07	1.38	**5.48**	**5.20**	1.80	0.48

See notes at end of table.

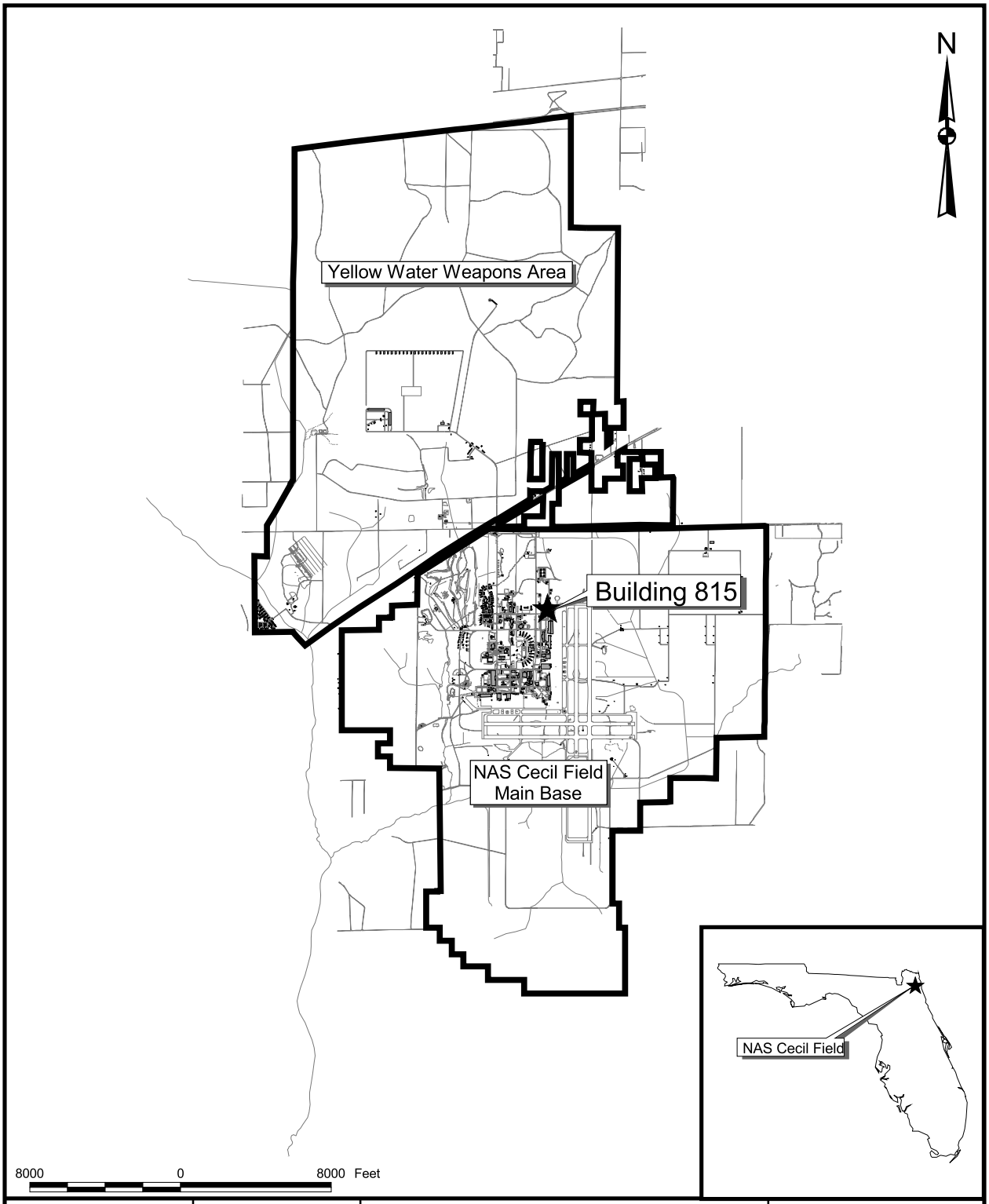
TABLE 2

GROUNDWATER ANALYTICAL DATA
SITE ASSESSMENT REPORT ADDENDUM
BUILDING 815 WASH RACK AREA
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

Contaminant of Concern	NADSC/ GCTL(1)(2)	Perimeter Monitoring Wells									
		NG-12S									CEF-059-015
		11/6/2000	5/1/2001	12/17/2001	6/19/2002	1/10/2003	7/24/2003	1/2006	11/5/2007	2/12/2008	2/12/2008
PAHs (USEPA Method 8270 SIM) (µg/L)											
Naphthalene	140/14	9.2	8.2	7.1	3.4	13.2	**39.9**	13.6	4.7	3.3	0.10
TRPH (FL-PRO) (mg/L)											
TRPH	50/5	4.2	3.12	2.18	1.59	1.74	3.7	1.85	0.084 I	0.062 U	0.062 U

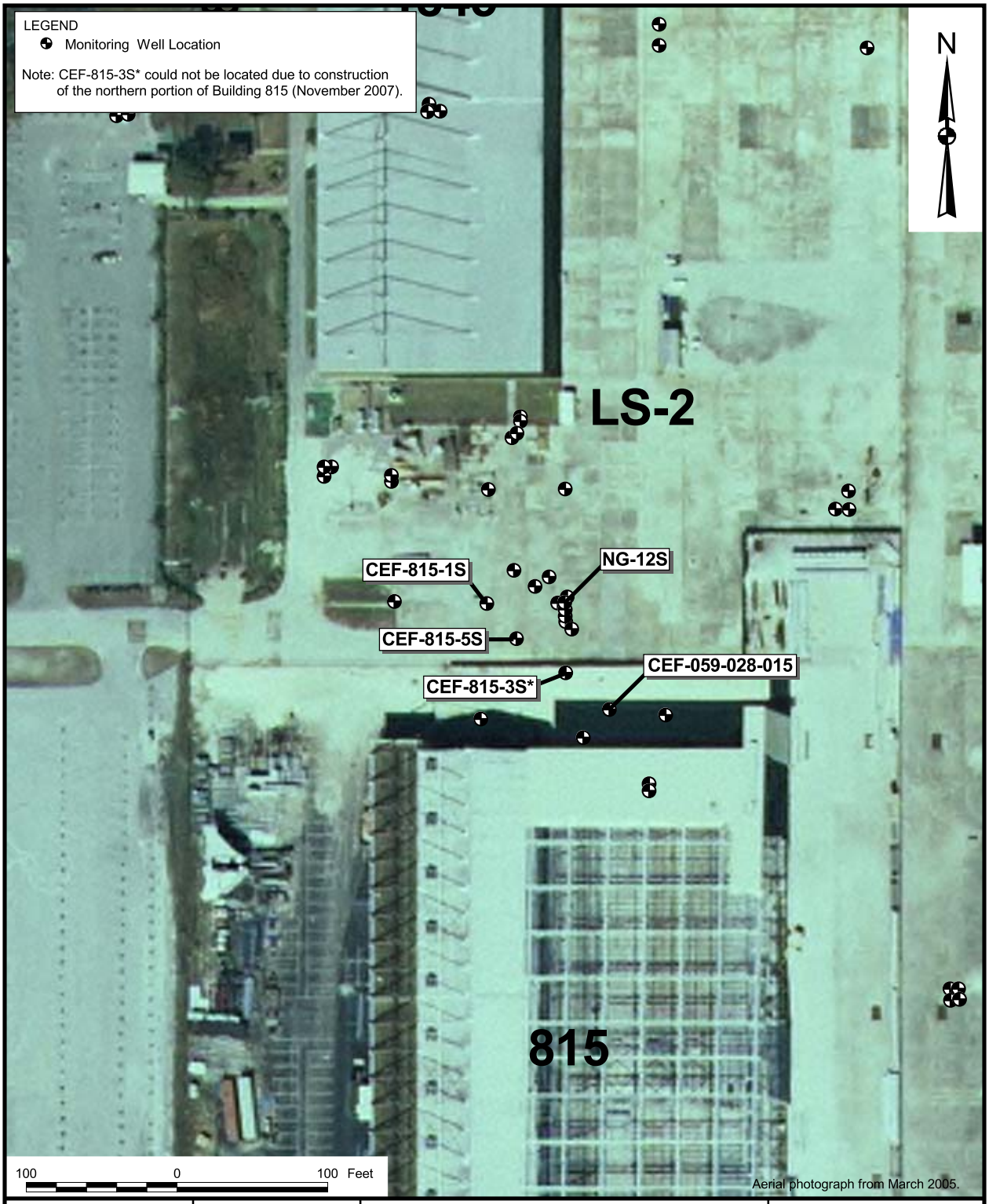
Notes:
(1) Groundwater Cleanup Target Levels (GCTLs) based on Chapter 62-777, Florida Administrative Code (F.A.C.).
(2) Natural Attenuation Default Source Concetnration (NADSC) as promulgated in Chapter 62-770.690, F.A.C.
Bold indicates values exceeding NADSC or GCTL standards.
U = not detected at detection limit shown
J = estimated value
I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

FIGURES



DRAWN BY MJJ	DATE 11Mar08	GENERAL LOCATION MAP BUILDING 815 WASH RACK AREA SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4093
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1 / REV 0

P:\GIS\NAS_CecilField\Site-59_0815_20080311.apr 11Mar08 MJJ Layout000



DRAWN BY MJJ	DATE 11Mar08	SITE LAYOUT AND MONITORING WELL LOCATIONS BUILDING 815 WASH RACK AREA SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4093
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV 0

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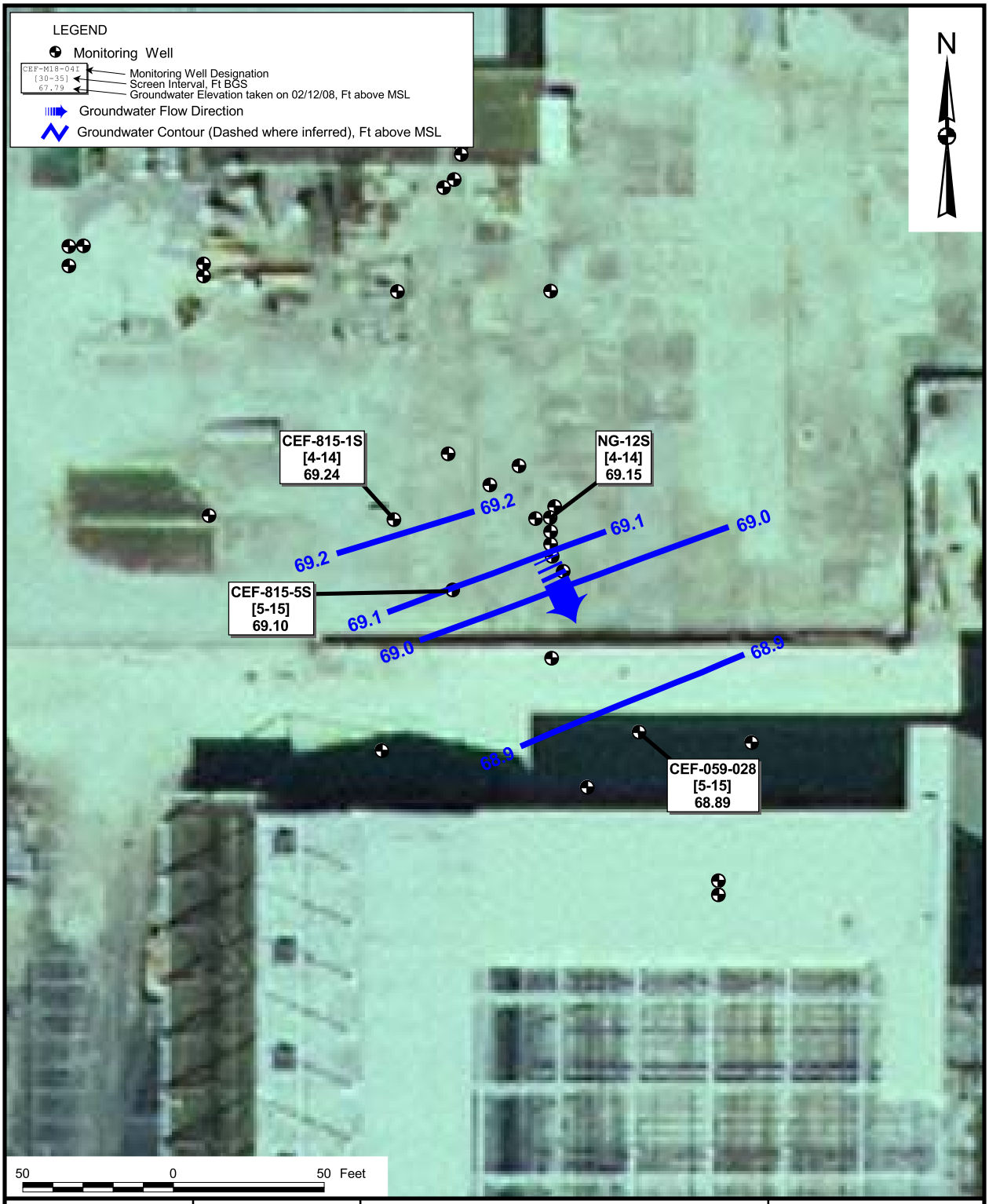

DRAWN BY MJJ	DATE 22Mar08	GROUNDWATER FLOW MAP (FEBRUARY 2008) BUILDING 815 WASH RACK AREA SITE ASSESSMENT REPORT ADDENDUM NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 4093
CHECKED BY	DATE		APPROVED BY DATE
COST/SCHEDULE-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3 / REV 0

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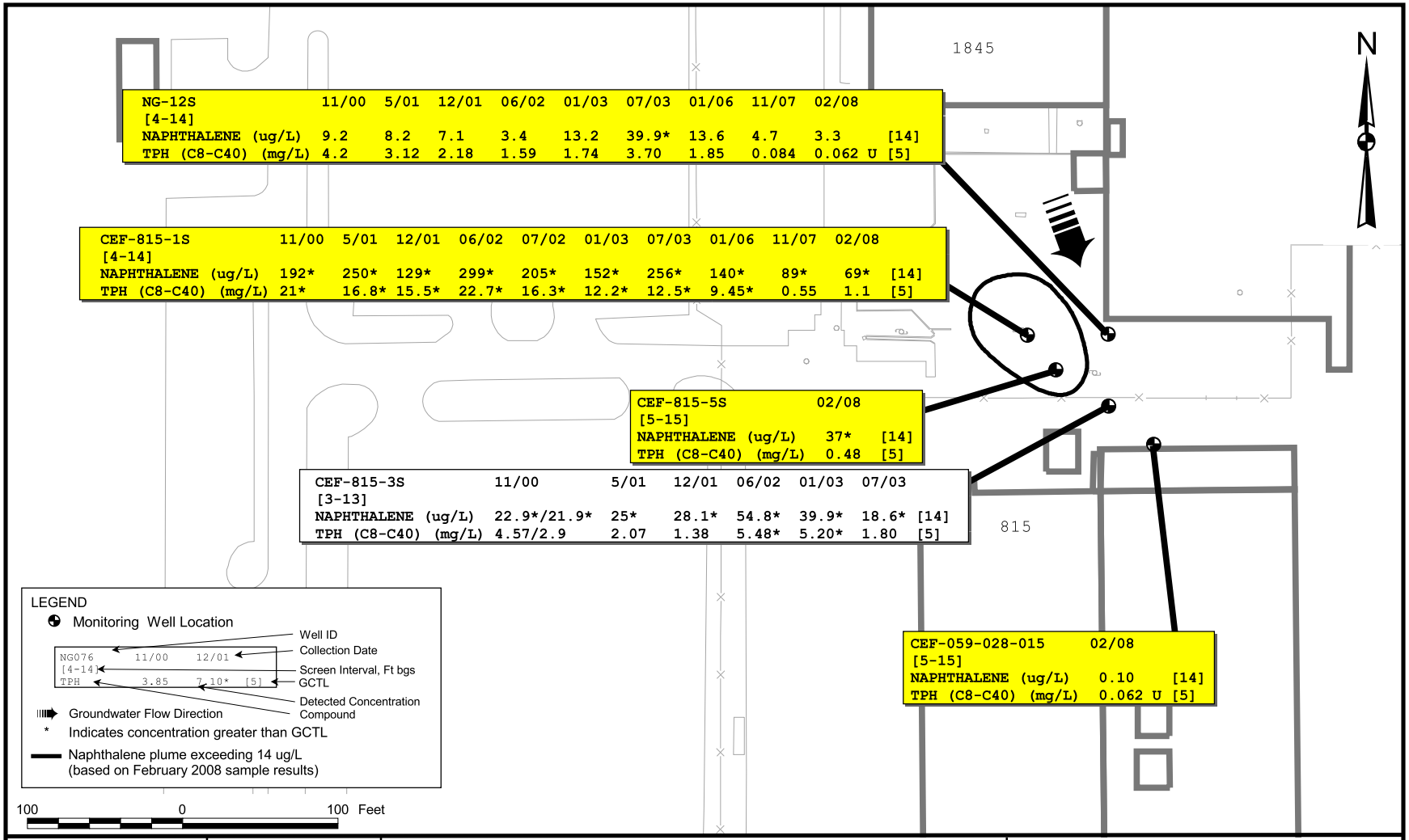

DRAWN BY	DATE
MJJ	11Mar06
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE	AS NOTED

GROUNDWATER CONCENTRATIONS
BUILDING 815 WASH RACK AREA
SITE ASSESSMENT REPORT ADDENDUM
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER	
4093	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 4	REV 0

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ATTACHMENT A

FIELD DATA SHEETS

FIGURE 8-1

SITE-SPECIFIC TRAINING DOCUMENTATION

My signature below indicates that I am aware of the potential hazardous nature of performing remedial investigation activities at NAS Cecil Field, Jacksonville, Florida and that I have received site-specific training which included the elements presented below:

- Names of designated personnel and alternates responsible for site safety and health
- Safety, health, and other hazards present at the sites
- Use of personal protective equipment
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure
- Contents of the Health and Safety Plan
- Emergency response procedures (evacuation and assembly points)
- Initial response procedures
- Review of the contents of relevant Material Safety Data Sheets
- Review of the use of Safe Work Permits

I have been given the opportunity to ask questions and these questions have been answered to my satisfaction. The training dates listed (introductory, refresher, and supervisory, as applicable) and my medical surveillance requirements are accurate and correct.

Name (Printed and Signature)	Site-Specific Training Date	40-Hour Training (Date)	8-Hour Refresher Training (Date)	8-Hour Supervisory Training (Date)	Medical Exam
Jonathan Foster	11-5-07	09-2005	05-2007	06-2006	05-2006

FIGURE 9-1

SAMPLE SAFE WORK PERMIT

Permit No. _____ Date: 11-05-2007 Time: From 1000 to 1800

SECTION I: General Job Scope

I. **Work limited to the following (description, area, equipment used):** _____

II. **Primary Hazards:** Potential hazards associated with this task include _____

III. **Field Crew:** Jon Foster

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ TtNUS

SECTION II: General Safety Requirements (To be filled in by permit issuer)

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

Modifications/Exceptions: None anticipated

VI.

Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures

Primary Route of Exposure/Hazard: _____

(Note to FOL and/or SHSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☐ Yes	☒ No	Hearing Protection (Plugs/Muffs)	☐ Yes	☒ No
Safety Glasses	☐ Yes	☒ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☒ Yes	☐ No
Splash Shield	☐ Yes	☒ No	Barricades	☐ Yes	☒ No
Splash suits/coveralls	☐ Yes	☒ No	Gloves (Type –_____)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☒ No
Steel toe Work shoes or boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☒ No
High Visibility vest	☐ Yes	☒ No	Tape up/use insect repellent	☐ Yes	☒ No
First Aid Kit	☒ Yes	☐ No	Fire Extinguisher	☐ Yes	☒ No
Safety Shower/Eyewash	☐ Yes	☒ No	Other	☐ Yes	☒ No

Modifications/Exceptions: _____

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☒
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☒
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☒
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc)	☐	☐	☒

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.). ☐ Yes ☐ No
If yes, SHSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** _____

Permit Issued by: _____ Permit Accepted by: JF

SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. _____ Date: 11-05-2007 Time: From 1000 to 1800

I. **Work limited to the following (description, area, equipment used):** Mob/Demob

II. **Primary Hazards:** lifting; cuts and lacerations; pinches and compressions; slip, trip and falls; ambient temperature extremes; insect and animal bites; and inclement weather

III. **Field Crew:** Jonathan Foster

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions: _____

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
None expected during this task			

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☐ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☐ Yes	☐ No
Safety Glasses	☐ Yes	☐ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash shield	☐ Yes	☒ No	Barricades	☐ Yes	☒ No
Splash suits/coveralls	☐ Yes	☒ No	Gloves (Type – Work)	☐ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☐ No
Steel toe work shoes or boots	☒ Yes	☐ No	Chemical resistant boot covers	☐ Yes	☒ No
High visibility vest	☐ Yes	☐ No	Tape up/use insect repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions: _____

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Use safe lifting/carrying techniques. Use additional PPE based on the hazards that are associated with each task. Use work gloves when cutting boxes or handling sharp tools/cutting devices. Safety glasses will be required.

Permit Issued by: _____ Permit Accepted by: JF

SAFE WORK PERMIT
DECONTAMINATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. _____ Date: 11-05-2007 Time: From 1000 to 1800

I. **Work limited to the following (description, area, equipment used):** Decontamination of the sampling and heavy equipment

II. **Primary Hazards:** Chemical exposure including decon fluids; lifting; noise; flying projectiles; vehicle and foot traffic; falling hazards; slip, trip and fall; and inclement weather

III. **Field Crew:** Jonathan Foster

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions: _____

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☐

VI.

Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
VOCs (BETX)	PID w/ 10.6 eV lamp	sustained readings (> 1 minute)	evacuate area until
SVOC naphthalene		above 10 ppm	readings return to
			background

Primary Route(s) of Exposure/Hazard: absorption

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-Hat	☒ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☒ Yes	☐ No
Safety Glasses	☒ Yes	☐ No	Safety Belt/Harness	☐ Yes	☒ No
Chemical/Splash Goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash Shield	☒ Yes	☐ No	Barricades	☐ Yes	☒ No
Splash Suits/Coveralls	☐ Yes	☒ No	Gloves (Type – Nitrile)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☐ No	Work/rest Regimen	☐ Yes	☐ No
Steel Toe Work Shoes or Boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☒ No
High Visibility Vest	☐ Yes	☒ No	Tape/Insect Repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire Extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions: _____

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Review and follow the instructions on the MSDS for the decontamination fluids. Follow guidance in Table 5-1 for PPE for different decontamination tasks.

Permit Issued by: _____ Permit Accepted by: JF

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Cecil Field - CTO 209

INSTRUMENT NAME/MODEL: YSI 556 MPS

SITE NAME: 815 Wash Rack

MANUFACTURER: YSI

PROJECT No.: 112GN4093

SERIAL NUMBER: 07D100941

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
11-5-07	07D100941	Jon Foster	pH	4.00	4.02	4.00	2604143	Exp. 03-2008
				7.00	6.98	7.00	2611651	Exp. 11-2008
				10.00	10.14	10.00	NA	
			Cond.	1.409	1.269	1.409	NA	
			D.O.	100.0	113.1	100.0	NA	
			ORP	240	232.2	240.0	G1748	Exp. 01-2012
	200704133		Turbidity	0.02	NA	0.02	70511	Exp. 11-2008
				10.0	NA	10.0	70514	Exp. 11-2008
				1000	NA	1000	70516	Exp. 11-2008

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: 815 Wash Rack
Project No.: 112GN4093
Location: NAS Cecil Field
Personnel: Jon Faster
Weather Conditions: Clear ~75°F
Measuring Device: Water Level Indicator
Tidally Influenced: Yes ___ No X
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
CEF-815-1S	11-05-07	1110	75.56	13.10	5.48			
NG-12S	11-05-07	1109	75.69	13.40	5.71			

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site: 815 Wash Rack, Cecil Field
Project No.: 112GN4093

Sample ID No.: CEF-815-1S
Sample Location: CEF-815-1S

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: JF

SAMPLING DATA

Date: 11-05-07 Time: 1314	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	ORP mV	
Method: Peristaltic	clear	6.11	0.491	26.71	0.87	0.27	-125.7	

PURGE DATA

Date:	11-05-07
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	13.10
Static Water Level (ft):	5.48
One Screen Volume(gal/L):	4.61
Start Purge (hrs):	1222
End Purge (hrs):	1309
Total Purge Time (min):	47
Total Vol. Purged (gal/L):	14.1

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
TRPH	None	2-1L amber	Columbia Analytical Services (CAS)	✓
Naphthalene 8260B	HSO4	1- 1L Amber	CAS	✓

OBSERVATIONS / NOTES

LAB INFO

LAB: CAS
8540 Baycenter Road

Jacksonville, FL 32256

COC #: 26150

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s):

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093
WELL ID.: CEF 815-1S
DATE: 11-05-07

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1222	5.48	–	300	–	–	–	–	–	–	
1259	5.56	11.1	300	6.13	0.509	1.23	0.29	26.63	-110.5	
1304	5.56	12.6	300	6.12	0.492	1.10	0.27	26.60	-123.6	
1309	5.56	14.1	300	6.11	0.491	0.87	0.27	26.71	-125.7	
			SAMPLE TIME: 1314							

SIGNATURE(S): [signature]

PAGE___OF___

Page___ of ___

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site: 815 Wash Rack, NAS Cecil Field
Project No.: 112GN4093

Sample ID No.: NG-12S
Sample Location: NG-12S

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Jon Foster

SAMPLING DATA

Date: 11-05-07 / Time: 1204	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	ORP mV	
Method: Peristaltic	clear	4.96	0.091	28.15	3.7	0.29	30.7	

PURGE DATA

Date:	11-05-07
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	13.40
Static Water Level (ft):	5.71
One Screen Volume(gal/L):	4.66
Start Purge (hrs):	1112
End Purge (hrs):	1159
Total Purge Time (min):	47
Total Vol. Purged (gal/L):	14.1

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements		Laboratory	Collected
TRPH	None		2-1L amber	CAS	✓
Naphthalene 8260B	HSO4		1- 1L Amber	CAS	✓

OBSERVATIONS / NOTES

LAB INFO

LAB: CAS
8540 Baycenter Road

Jacksonville, FL 32256

COC #: 26150

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s):

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093
WELL ID.: NG-12S
DATE: 11-05-2007

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1112	5.71	–	300	–	–	–	–	–	–	
1149	5.76	11.1	300	4.99	0.091	5.4	0.30	28.14	33.8	
1154	5.76	12.6	300	4.95	0.091	5.1	0.32	28.17	31.0	
1159	5.76	14.1	300	4.96	0.091	3.7	0.29	28.15	30.7	
		SAMPLE	TIME	1204						

SIGNATURE(S):

PAGE___OF___

TETRA TECH NUS, INC. **CHAIN OF CUSTODY** | **NUMBER** 26150 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GN4093	NAS Cecil Field - 815	Mary Wimble	904-636-6125	Columbia Analytical Services
SAMPLERS (SIGNATURE)		**FIELD OPERATIONS LEADER**	**PHONE NUMBER**	**ADDRESS**
		Jon Foster	904-636-6125	8540 Baycenter Rd.
		CARRIER/WAYBILL NUMBER		**CITY, STATE**
		Hand Delivery		Jacksonville, FL

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

DATE YEAR 2007	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	TRPH	Naphthalene							COMMENTS
								CONTAINER TYPE PLASTIC (P) or GLASS (G)			G	G					
								PRESERVATIVE USED			NONE	H_2SO_4					
11/5	1204	CEF-815-GW-NG-12S-20071105				GW	G	3	X	X							Cool to 4°C
↓	1314	CEF-815-GW-1S-20071105				GW	G	3	X	X							

1. RELINQUISHED BY Jonathan Foster	DATE 11-5-07	TIME 1547	1. RECEIVED BY	DATE	TIME 1547
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

4/02R
FORM NO. TtNUS-001

FIGURE 8-1

SITE-SPECIFIC TRAINING DOCUMENTATION

My signature below indicates that I am aware of the potential hazardous nature of performing remedial investigation activities at NAS Cecil Field, Jacksonville, Florida and that I have received site-specific training which included the elements presented below:

- Names of designated personnel and alternates responsible for site safety and health
- Safety, health, and other hazards present at the sites
- Use of personal protective equipment
- Safe use of engineering controls and equipment
- Medical surveillance requirements
- Signs and symptoms of overexposure
- Contents of the Health and Safety Plan
- Emergency response procedures (evacuation and assembly points)
- Initial response procedures
- Review of the contents of relevant Material Safety Data Sheets
- Review of the use of Safe Work Permits

I have been given the opportunity to ask questions and these questions have been answered to my satisfaction. The training dates listed (introductory, refresher, and supervisory, as applicable) and my medical surveillance requirements are accurate and correct.

Name (Printed and Signature)	Site-Specific Training Date	40-Hour Training (Date)	8-Hour Refresher Training (Date)	8-Hour Supervisory Training (Date)	Medical Exam
Kara Wimble Kara J. Wimble	2/11/08	11/03	1/17/08	1/17/08	9/06
Michael Nicholson Michael Nicholson	2/11/08	2/91	7/30/07	2/7/03	7/31/07
Kevin G. Webb KEVIN G. WEBB	2/11/08	2/91	8/3/07		6/25/08
Richard McCann Richard L. McCann	2/11/08	1/92	01/08		01/08
Kevin Weichert Kevin Weichert	2/11/08	1/08	—	—	1/08
Kara Wimble Kara J. Wimble	2/12/08	1/03	1/17/08	1/17/08	9/06
Kevin Weichert Kevin Weichert	2/12/08	1/08	—	—	1/08

SAFE WORK PERMIT
DECONTAMINATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. 04 Date: 2/11/09 Time: From 0900 to 0500

I. **Work limited to the following (description, area, equipment used):** Decontamination of the sampling and heavy equipment

II. **Primary Hazards:** Chemical exposure including decon fluids; lifting; noise; flying projectiles; vehicle and foot traffic; falling hazards; slip, trip and fall; and inclement weather

III. **Field Crew:**

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector ____TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector ____TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions:

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☐

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
VOCs (BETX)	PID w/ 10.6 eV lamp	sustained readings (> 1 minute) above 10 ppm	evacuate area until readings return to background
SVOC naphthalene			

Primary Route(s) of Exposure/Hazard: absorption

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-Hat	☒ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☒ Yes	☐ No
Safety Glasses	☒ Yes	☐ No	Safety Belt/Harness	☐ Yes	☒ No
Chemical/Splash Goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash Shield	☒ Yes	☐ No	Barricades	☐ Yes	☒ No
Splash Suits/Coveralls	☐ Yes	☒ No	Gloves (Type – Nitrile)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☐ No	Work/rest Regimen	☐ Yes	☐ No
Steel Toe Work Shoes or Boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☒ No
High Visibility Vest	☐ Yes	☒ No	Tape/Insect Repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire Extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions:

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Review and follow the instructions on the MSDS for the decontamination fluids. Follow guidance in Table 5-1 for PPE for different decontamination tasks.

Permit Issued by: Kara F. Wimbb Permit Accepted by: Kara F. Wimbb

MEN
KAW
KPW

SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. 01 Date: 2/17/08 Time: From 0900 to 0500

I. **Work limited to the following (description, area, equipment used):** Mob/Demob

II. **Primary Hazards:** lifting; cuts and lacerations; pinches and compressions; slip, trip and falls; ambient temperature extremes; insect and animal bites; and inclement weather

III. **Field Crew:**

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector ____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector ____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions:

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

VI. **Chemicals of Concern** — None expected during this task

Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
None expected during this task			

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☐ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☐ Yes	☐ No
Safety Glasses	☐ Yes	☐ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash shield	☐ Yes	☒ No	Barricades	☐ Yes	☒ No
Splash suits/coveralls	☐ Yes	☒ No	Gloves (Type – Work)	☐ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☐ No
Steel toe work shoes or boots	☒ Yes	☐ No	Chemical resistant boot covers	☐ Yes	☒ No
High visibility vest	☐ Yes	☐ No	Tape up/use insect repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions:

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Use safe lifting/carrying techniques. Use additional PPE based on the hazards that are associated with each task. Use work gloves when cutting boxes or handling sharp tools/cutting devices. Safety glasses will be required.

Permit Issued by: Kara F. Wimble

Permit Accepted by: Kara F. Wimble
MEN
KAW
KPW

SAFE WORK PERMIT
SUBSURFACE SOIL SAMPLING
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. 03 Date: 2/11/08 Time: From 0900 to 0500

I. **Work limited to the following (description, area, equipment used):** Subsurface soil sampling, and IDW

II. **Primary Hazards:** Potential hazards associated with this task: chemicals; transfer of contamination; slips, trips and falls; lifting; strains and muscle pulls from manual lifting; animal and insect bites, and inclement weather

III. **Field Crew:** _____

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☐

Modifications/Exceptions: _____

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
VOCs (BETX)	PID w/ 10.6 eV lamp	sustained readings(> 1 minute) above 10 ppm	Evacuate area until readings return to background
SVOC naphthalene			

Primary Route(s) of Exposure/Hazard: absorption

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☐ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☐ Yes	☐ No
Safety Glasses	☒ Yes	☐ No	Safety Belt/Harness	☐ Yes	☒ No
Chemical/Splash Goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash Shield	☐ Yes	☒ No	Barricades	☐ Yes	☐ No
Splash Suits/Coveralls	☐ Yes	☐ No	Gloves (Type – Nitrile)	☒ Yes	☐ No
Impermeable Apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☐ No
Steel Toe Work Shoes or Boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☒ No
High Visibility Vest	☐ Yes	☐ No	Tape/Insect Repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire Extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☐ No	Other	☐ Yes	☐ No

Modifications/Exceptions: _____

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☒	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☒ Yes ☐ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Use safe lifting/carrying techniques. Assume all media is contaminated and avoid contact through the use of safe work practices, PPE and decontamination. Use the Geoprobe® sampling kit to protect against cuts when opening the acetate sampling tubes.

Permit Issued by: Kara F. Wimble

Permit Accepted by: Kara F. Wimble
MEN
KDW
KPW

SAFE WORK PERMIT
SOIL BORING
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. 02 Date: 2/11/08 Time: From 0900 to 0500

I. **Work limited to the following (description, area, equipment used):** Soil Boring and Monitoring well installation using HSA or DPT and split spoon and MacroCore sampling .

II. **Primary Hazards:** Chemical exposure; contamination transfer; heavy equipment hazards; noise; energized systems; lifting; slip, trip and fall; cuts and lacerations; vehicular and foot traffic; insect/animal bites, inclement weather

III. **Field Crew:**

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector ____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector ____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐
Modifications/Exceptions:

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

VI. Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
VOCs (BETX)	PID w/ 10.6 eV lamp	sustained readings(> 1 minute) above 10 ppm	evacuate area until readings return to background
SVOC naphthalene			

Primary Route(s) of Exposure/Hazard: inhalation

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☒ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☒ Yes	☐ No
Safety Glasses	☒ Yes	☐ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash shield	☐ Yes	☒ No	Barricades	☐ Yes	☐ No
Splash suits/coveralls	☒ Yes	☐ No	Gloves (Type – nitrile/work)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☐ No	Work/rest regimen	☐ Yes	☐ No
Steel toe work shoes or boots	☒ Yes	☐ No	Chemical resistant boot covers	☐ Yes	☐ No
High visibility vest	☐ Yes	☐ No	Tape up/use insect repellent	☐ Yes	☐ No
First Aid Kit	☒ Yes	☐ No	Fire extinguisher	☐ Yes	☐ No
Safety Shower/Eyewash	☐ Yes	☒ No	Other	☐ Yes	☐ No

Modifications/Exceptions: Driller and helper will wear impermeable apron when handling drill augers.

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Use safe lifting/carrying techniques. Inspect equipment prior to use. Ensure emergency stop devices are functional and test daily.

Permit Issued by: Kara Wimbo Permit Accepted by: Kara Wimbo
MEN
KAW
KRW

SAFE WORK PERMIT
GEOGRAPHIC LAND SURVEYING
NAVAL AIR STATION CECILFIELD,
JACKSONVILLE, FLORIDA

Permit No. 05 Date: 2/11/08 Time: From 0900 to 0500

I. **Work limited to the following (description, area, equipment used):** IDW management, moving and storage

II. **Primary Hazards:** Potential hazards associated with this task: slip, trip and fall; vehicular and foot traffic; insect/ animal bites or stings, poisonous plants; and inclement weather.

III. **Field Crew:**

IV. **On-site Inspection conducted** ☐ Yes ☐ No Initials of Inspector _____ TtNUS
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector _____ TtNUS

V. **Protective equipment required**
Level D ☒ Level B ☐
Level C ☐ Level A ☐

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

Modifications/Exceptions:

VI. **Chemicals of Concern** None expected during this task

Chemicals of Concern	Hazard Monitoring	Action Level(s)	Response Measures
None expected during this task			

Primary Route(s) of Exposure/Hazard: NA

(Note to FOL and/or SSO: Each item in Sections VII, VIII, and IX must be checked Yes, No, or NA)

VII. **Additional Safety Equipment/Procedures**

Hard-hat	☐ Yes	☐ No	Hearing Protection (Plugs/Muffs)	☐ Yes	☒ No
Safety Glasses	☐ Yes	☐ No	Safety belt/harness	☐ Yes	☒ No
Chemical/splash goggles	☐ Yes	☒ No	Radio/Cellular Phone	☐ Yes	☐ No
Splash Shield	☐ Yes	☒ No	Barricades	☐ Yes	☒ No
Splash suits/coveralls	☐ Yes	☐ No	Gloves (Type – work)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☐ No
Steel toe work shoes or boots	☒ Yes	☐ No	Chemical Resistant Boot Covers	☐ Yes	☒ No
High Visibility vest	☐ Yes	☐ No	Tape up/use insect repellent	☐ Yes	☐ No
First Aid Kit	☐ Yes	☐ No	Fire Extinguisher	☐ Yes	☒ No
Safety Shower/Eyewash	☐ Yes	☒ No	Other	☐ Yes	☐ No

Modifications/Exceptions:

VIII. **Site Preparation**

	Yes	No	NA
Utility Locating and Excavation Clearance completed	☐	☐	☐
Vehicle and Foot Traffic Routes Established/Traffic Control Barricades/Signs in Place	☐	☐	☐
Physical Hazards Identified and Isolated (Splash and containment barriers)	☐	☐	☐
Emergency Equipment Staged (Spill control, fire extinguishers, first aid kits, etc).	☐	☐	☐

IX. **Additional Permits required** (Hot work, confined space entry, excavation etc.) ☐ Yes ☒ No
If yes, SSO to complete or contact Health Sciences, Pittsburgh Office (412)921-7090

X. **Special instructions, precautions:** Inspect roll off boxes and drums used to store IDW prior to use. Cover IDW containers and roll off boxes to prevent unauthorized entry and filling with rain water. Do not over load. Disperse IDW evenly. Use proper lifting practices and obtain assistance when handling heavy drums.

Permit Issued by: Kara F. Wimble Permit Accepted by: Marc J. Wells

MEW
KFW
KPW

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Cecil Field - CTO 209

SITE NAME: 815 Wash Rack

PROJECT No.: 112GN4093

INSTRUMENT NAME/MODEL:

MANUFACTURER:

SERIAL NUMBER:

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
2/11/08	YSI 556	KW	~~pH~~					07J101359
			pH	4.00	3.66	4.00	6038	11-8-2008
				7.00	7.20	7.01	2708894	Aug 2009
				10.00	9.78	9.95	2708587	Feb 2009
			Conductivity	1.413	1.309	1.413	5889	8-2008
			ORP	240.0	239.0	240.0	62488	10-2012
			DO	100	133.3	100.0	N/A	N/A
2/11/08	Lamotte 2020	KW	turbidity					SN# MF-11961
				0.0				
2/11/08	MiniRae 2000	KFW	Fresh Air	0.0 ppm	0.0 ppm	0.0 ppm		110-013457
			Span Gas	100 ppm	100 ppm	100 ppm		
2/12/08	YSI 556	KW	pH	4.00	4.21	4.00	6038	11-8-2008
				7.00	6.91	7.00	2708894	Aug 2009
				10.00	9.97	10.00	2708587	Feb 2009
			conductivity	1.413	1.337	1.413	5889	8-2008
			ORP	240.0	248.5	240.0	62488	10-2012
			DO	100	104.5	100.0	N/A	N/A
2/12/08	Lamotte 2020	KW	turbidity	10.0	17.6	10.0		
				1.0	-0.0			
				0.0	-	-	-	ERROR 2 - BAD STANDARD

07J101359

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: 815 Wash Rack
Project No.: 112GN4093
Location: NAS Cecil Field
Personnel: KW
Weather Conditions:
Measuring Device:
Tidally Influenced: Yes ___ No ___
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
CEF-815-1S			75.56	13.10	6.31			
NG-12S			75.69	13.40	6.54			
CEF-815-5S				14.67	6.56			
CEF-059-028-015			75.92	15.00	7.16			

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site: 815 Wash Rack, Cecil Field
Project No.: 112GN4093

Sample ID No.: CEF-815-1S
Sample Location: CEF-815-1S

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: ~~JF~~ KW

SAMPLING DATA

Date: 2/12/08	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	ORP mV	
Time:								
Method: Peristaltic	clear	6.22	0.470	21.19	000	0.28	-172.9	

PURGE DATA

Date:	2/12/08
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	13.10
Static Water Level (ft):	6.32
One Screen Volume(gal/L):	1.7 L
Start Purge (hrs):	1049
End Purge (hrs):	1125
Total Purge Time (min):	36
Total Vol. Purged (gal/L):	14.5

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
TRPH	None	2-1L amber	Columbia Analytical Services (CAS)	
Naphthalene 8260B	HSO4	~~1~~ 2 1L Amber	CAS	

OBSERVATIONS / NOTES

LAB INFO

LAB: CAS
~~8540 Baycenter Road~~
Jacksonville, FL 32256
COC #:

Check if Collected:

☐ MS / MSD ☒ DUPLICATE / ID No.:

Signature(s):

CEF-815-DU01-20080212

~~5.11~~ 12.92 3 well volumes

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093
WELL ID.: CEF 815-1S
DATE: 2/12/2008

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1049	6.32	–	300	–	–	–	–	–	–	
1054	6.47	1.5	300	6.33	.602	.80	1.08	21.40	-156.0	clear
1059	6.48	3.0	300	6.32	.590	.48	1.06	21.42	-161.2	clear
1104	6.48	4.5	300	6.30	.570	0.00	.99	21.44	-161.6	clear
1109	6.57	7.0	500	6.26	.506	.08	.83	21.23	-167.7	clear
1114	6.58	9.5	500	6.25	.492	0.00	.68	21.28	-165.5	clear
1119	6.60	12.0	500	6.24	.474	0.00	.40	21.24	-171.6	clear
1124	6.61	14.5	500	6.22	.470	0.00	.28	21.19	-172.9	clear
1125	SAMPLE	TIME								

→ turbidity meter not working properly

SIGNATURE(S): K. Gilt

PAGE ___ **OF** ___

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site:	815 Wash Rack, NAS Cecil Field	Sample ID No.:	CEF-059-028-015- 20080211
Project No.:	112GN4093	Sample Location:	CEF-059-028-015
[X] Monitoring Well [ ] Domestic Well [ ] Other:		Sampler:	KW

SAMPLING DATA

Date: 2/11/08 Time: 1445	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	ORP mV
Method: Peristaltic	cloudy	5.55	0.123	19.96	74.3	0.51	-115.2

PURGE DATA

Date:	2/11/08
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	15.00
Static Water Level (ft):	7.21
One Screen Volume(gal/L):	0.604
Start Purge (hrs):	~~1423~~ 1423
End Purge (hrs):	1443
Total Purge Time (min):	20
Total Vol. Purged (gal/L):	6.0 L

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements		Laboratory	Collected
TRPH	None		2-1L amber	CAS	✓
Naphthalene 8260B	HSO4		~~1~~ 2 1L Amber	CAS	✓

OBSERVATIONS / NOTES

(15.00 - 7.21) = 7.79 x .02 = 0.1558 x
~~7.375~~ = ~~0.058~~
3.875 = 0.604 L

LAB INFO

LAB: CAS
8540 Baycenter Road
Jacksonville, FL 32256
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Kara J. Wendle

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093

WELL ID.: CEF-059-028-015-20080211
DATE: 2/11/08

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1428	7.50	1.5L	300	5.55	0.122	76.0	2.36	20.07	-92.6	
1433	7.51	3.0L	"	5.50	0.124	193.0	0.64	20.06	-107.6	
1438		4.5L	"	5.52	0.115	~~3074~~ 0	0.55	20.00	-113.0	
	–	–	–	–	–	3723.00	–	–	–	
1443	7.52	6.0L	"	5.55	0.123	74.3	0.51	19.96	-115.2	
		1445								

SIGNATURE(S): Kara J. Wimble

PAGE 1 OF 1

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site: 815 Wash Rack, NAS Cecil Field
Project No.: 112GN4093

Sample ID No.: NG-12S - 20080211
Sample Location: NG-12S
Sampler: KW

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 2/11/08 Time: 1333	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO ~~mg/L~~ %	ORP mV
Method: Peristaltic	cloudy	5.36	0.094	22.54	52.4	3.7	-73.7

PURGE DATA

Date:	2/11/08
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	13.40
Static Water Level (ft):	7.61
One Screen Volume(gal/L):	3.53L
Start Purge (hrs):	1243
End Purge (hrs):	1331
Total Purge Time (min):	47
Total Vol. Purged (gal/L):	12.0

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements		Laboratory	Collected
TRPH	None		2-1L amber	CAS	✓
Naphthalene 8260B	HSO4		~~1~~ 2 - 1L Amber	CAS	✓

OBSERVATIONS / NOTES

(13.30-7.61) = 5.69 x 0.16 = 0.91 x 3.875 = 3.53 L

LAB INFO

LAB: CAS
8540 Baycenter Road
Jacksonville, FL 32256
COC #:

Check If Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Kara J. Wimsl

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093

WELL ID.: NG-12S 2008 211
DATE: 2/11/08

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO ~~(mg/L)~~ %	Temp. (Celsius)	ORP (mV)	Comments
1253	6.67	1.5	250/min	5.37	0.088	96.9	6.0	22.58	-67.9	
1258	6.67	3.75		5.30	0.089	45.5	4.6	22.46	-88.3	
1304	6.65	5.25		5.44	0.091	49.9	4.1%	22.45	-108.5	
1308	6.65	6.25		5.40	0.091	45.6	3.8%	22.33	-108.6	
1312	6.65	7.25		5.43	0.093	49.3	3.9%	22.59	-107.5	
1316	6.67	8.25		5.43	0.093	63.5	3.9%	22.55	-106.6	
1320	6.66	9.25		5.48	0.093	51.6	4.1%	22.54	-113.7	
1331	6.67	12.0		5.36	0.094	52.4	3.7%	22.54	-73.2	

SIGNATURE(S): Kara J. Winkle

PAGE 1 **OF** 1

Page___ of ___

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site:	815 Wash Rack, NAS Cecil Field	Sample ID No.:	CEF-815-05S -20082 12
Project No.:	112GN4093	Sample Location:	CEF-815-05S
[X] Monitoring Well [ ] Domestic Well [ ] Other:		Sampler:	KW

SAMPLING DATA

Date: 2/12/08 Time: 1028	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	ORP mV
Method: Peristaltic	clear	5.12	0.090	22.47	4.51	1.47	-97.00

PURGE DATA

Date:	2/12/08
Method:	Peristaltic
Monitor Reading (ppm):	0
Well Casing Diameter:	2"
Well Casing Material:	PVC
Total Well Depth (ft):	14.67
Static Water Level (ft):	6.56
One Screen Volume(gal/L):	5.04
Start Purge (hrs):	929
End Purge (hrs):	1028
Total Purge Time (min):	59
Total Vol. Purged (gal/L):	25.7

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
TRPH	None	2-1L amber	CAS	✓
Naphthalene 8260B	HSO4	~~1~~ 2 - 1L Amber	CAS	✓

OBSERVATIONS / NOTES

(14.67 - 6.56) = 8.11 X 0.16 = 1.30 X 3.875 = 5.04L

LAB INFO

LAB: CAS
~~8540 Baycenter Road~~
Jacksonville, FL 32256
COC #: _____

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Kara J Wuml

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: 815 Wash Rack, NAS Cecil Field
PROJECT NUMBER: 112GN4093

WELL ID.: CEF-815-05S
DATE: 2/12/08 2008-2-12

Time (Hrs.)	Water Level (Ft. below TOC)	Cum.Vol. (liters)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
943	6.61	~~0.20~~ 4.2	0.30	5.24	0.096	77.3	9.1	22.14	-163.3	
948	6.62	5.7	0.300	5.18	0.095	55.5	15.0	22.16	-75.1	
953	6.64	8.2	0.500	5.15	0.094	35.8	13.5	22.31	-76.6	
958	6.64	10.7	0.500	5.13	0.092	26.6	11.7	22.40	-85.6	
1003	6.64	13.2	0.500	5.14	0.091	33.1	12.7	22.45	-92.5	
1008	6.64	15.7	0.500	5.14	0.090	15.7	12.6	22.48	-92.5	
1013	6.64	18.2	0.500	5.15	0.091	11.5	12.5	22.47	-94.0	
1018	6.64	20.7	0.500	5.14	0.090	6.79	8.91	22.47	-92.8	
1023	6.64	23.2	0.500	5.14	0.090	7.61	11.7	22.44	-93.6	
1028	6.64	25.7	0.500	5.12	0.090	4.51	11.7	22.47	-97.00	

SIGNATURE(S): Tara D. Wimbo

PAGE 1 OF 1

WELL NO.: CEF-815-05S

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Cecil Field - CTO 209
PROJECT NO. 112GN4093
DATE BEGUN 2/11/08
FIELD GEOLOGIST Kara Wimble, Kevin
GROUND ELEVATION to be measured later
LOCATION 815 Wash Rack
BORING NA
DATE COMPLETED 2/11/08
DATUM to be measured later
DRILLER Partridge
DRILLING METHOD
DEVELOPMENT METHOD

ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL:

TYPE OF PROTECTIVE CASING:

I.D. OF PROTECTIVE CASING:

DIAMETER OF HOLE: 8"

TYPE OF RISER PIPE:

RISER PIPE I.D.:

TYPE OF BACKFILL/SEAL: grout

ELEVATION/DEPTH TOP OF SEAL: 3ft

TYPE OF SEAL:

ELEVATION/DEPTH TOP OF SAND: 4ft

ELEVATION/DEPTH TOP OF SCREEN: 5ft

TYPE OF SCREEN: 10 slot

SLOT SIZE x LENGTH:

TYPE OF SAND PACK: 20-30

DIAMETER OF HOLE IN BEDROCK:

ELEVATION / DEPTH BOTTOM OF SCREEN: 15f

ELEVATION / DEPTH BOTTOM OF SAND: 15ft

ELEVATION/DEPTH BOTTOM OF HOLE: 15ft

BACKFILL MATERIAL BELOW SAND: Formation

ACAD:FORM_MWFM.dwg 07/20/99 INL

12.6 → 10.0
.56 → 1.00

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: CEF-815-05S
Site: NAS Cecil Field
Date Installed: 2/11/08
Date Developed: 2/11/08
Dev. Method:
Pump Type:

Depth to Bottom (ft.):
Static Water Level Before (ft.):
Static Water Level After (ft.):
Screen Length (ft.): 10 ft
Specific Capacity:
Casing ID (in.):

Responsible Personnel:
Drilling Co.: Partridge Well Drilling Co.
Project Name: 815 Wash Rack
Project Number: 112GN4093

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units mS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
1140	—	20	—	23.30	5.48	.095	926	light brown, few sediments
1145	—	60	—	23.07	5.43	.087	346	clearer, fewer sediments
1150	—	100	—	22.86	5.46	.084	83.9	clear

JACKSONVILLE AVIATION AUTHORITY CECIL FIELD
DIG PERMIT/REQUEST

1. Costs associated with utility locates will be the responsibility of the requestor.

2. The requestor is responsible for the repair of any utilities damaged during the digging operation. Hand digging to locate lines is recommended.

3. The JAA Cecil Field Aviation does not accept any financial responsibility associated with repairs due to any other damage associated with this request.

4. Contact "Sunshine State One Call Center" to coordinate all your utility locates. The service is free of charge.

REQUESTOR (NAME): Kara Wimble PHONE NUMBER: 716-8184

COMPANY: Tetra Tech NUS REQUEST DATE: 2/4/08

LOCATION(S): (Attach Map) North of 81S in NADEP area (see map)

PURPOSE: to install one shallow monitoring well

UTILITY LOCATED AND/OR AREA SCREENED (Sunshine State One Call Center: 1-800-432-4770)

	YES	NO
GAS:	X	
ELECTRICAL:	X	
WATER:	X	
SEWAGE:	X	
CABLE:	X	
TELEPHONE:	X	
STORMWATER:	X	

COMMENTS:
Roy Craigue met me out in the NADEP area + said that the place we had marked was OK + that Sunshine would not be able to locate utilities in the NADEP area.

(Maintenance) Aviation Facilities Coordinator

Approval/Disapproval Date:

(Env/Planning/Eng) Facilities Manager

Approval/Disapproval Date:

Cecil Field Manager: Rusty Chandler 573-1613
Aviation Facilities Coordinator: Roy Craigue 573-1607 Facilities Tech: Chris West 573-1605
Senior Resident Inspector: Cecil Poston 741-2227

* Locates were performed by JAA Facilities Coord. -Roy Craigue

EQUIPMENT INSPECTION CHECKLIST

Company: Partridge Well Drilling **Unit/Serial No#:** _____

Inspection Date: 7/11/08 **Time:** 09:30 **Equipment Type:** D3500 Mobile Drill
(e.g, Drill Rigs Hollow Stem, Mud Rotary, Direct Push, HDD)

Project Name: 815 Wash Rack **Project No#:** 112

Yes	No	NA	Requirement	Comments
			Emergency Stop Devices	
☑	☐	☐	• Emergency Stop Devices (At points of operation)	
☑	☐	☐	• Have all emergency shut offs identified been communicated to the field crew?	
☐	☐	☐	• Has a person been designated as the Emergency Stop Device Operator?	
☑	☐	☐	• Cab, mirrors, safety glass?	
☑	☐	☐	• Turn signals, lights, brake lights, etc. (front/rear) for equipment approved for highway u	
☑	☐	☐	• Seat Belts?	
☑	☐	☐	• Is the equipment equipped with audible back-up alarms and back-up lights?	
☑	☐	☐	• Horn and gauges	
☑	☐	☐	• Brake condition (dynamic, park, etc.)	
☑	☐	☐	• Tires (Tread) or tracks	
☑	☐	☐	• Windshield wipers	
☑	☐	☐	• Exhaust system	
☑	☐	☐	• Steering (standard and emergency)	
☐	☐	☐	• Wheel Chocks?	
☑	☐	☐	• Are tools and material secured to prevent movement during transport? Especially those within the cab?	
☐	☑	☐	• Are there flammables or solvents stored within the cab?	

Yes	No	NA	Requirement	Comments
☑	☐	☐	Fluid Levels: • Engine oil	
☑	☐	☐	• Transmission fluid	
☑	☐	☐	• Brake fluid	
☑	☐	☐	• Cooling system fluid	
☑	☐	☐	• Hoses and belts	
☑	☐	☐	• Hydraulic oil	
☑	☐	☐	Power cable and/or hoist cable Hooks • Are the hooks equipped with Safety Latches?	
☐	☑	☐	• Is the hook showing signs of wear in excess of 10% original dimension?	
☐	☑	☐	• Is there a bend or twist exceeding 10% from the plane of an unbent hook?	
☐	☑	☐	• Increase in throat opening exceeding 15% from new condition	
☐	☑	☐	• Excessive nicks and/or gouges	
☐	☑	☐	• Clips	
☐	☑	☐	• Number of U-Type (Crosby) Clips (5/16 – 5/8 = 3 clips minimum) (3/4 – 1 inch = 4 clips minimum) (1 1/8 – 1 3/8 inch = 5 clips minimum)	
☑	☐	☐	Wire Rope (Hoist Mechanism) • Reduction in Rope diameter (5/16 wire rope>1/64 reduction nominal size -replace) (3/8 to 1/2 wire rope>1/32 reduction nominal size-replace) (9/16 to 3/4 wire rope>3/64 reduction nominal size-replace)	
☐	☐	☑	• Number of broken wires (6 randomly broken wires in one rope lay) (3 broken wires in one strand)	
☑	☐	☐	• Number of wire rope wraps left on the Running Drum at nominal use (≥3 required) - Lead (primary) sheave is centered on the running drum	
☐	☐	☐	• Lubrication of wire rope (adequate?)	
☑	☑	☐	• Kinks, bends – Flattened to > 50% diameter	
☐	☐	☑	Hemp/Fiber rope (Cathead/Split Spoon Hammer) • Minimum ¾;maximum 1inch rope diameter (Inspect for physical damage)	
☐	☐	☑	• Rope to hammer is securely fastened	
☐	☑	☐	Safety Guards – • Around rotating apparatus (belts, pulleys, sprockets, spindles, drums, flywheels, chains) all points of operations protected from accidental contact?	
☐	☑	☐	• Hot pipes and surfaces exposed to accidental contact?	
☑	☐	☐	• High pressure lines	
☑	☐	☐	• Nip/pinch points	

Yes	No	NA	Requirement	Comments
☐	☐	☑	Attachments • Have the attachments designed for use (as per manufacturer's recommendation) with this equipment been inspected and are considered suitable for use? (Auger and drill rod pins and connectors)	
☑ ☑ ☑ ☑	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	Operator Qualifications • Does the operator have proper licensing where applicable, (e.g., CDL)? • Does the operator, understand the equipment's operating instructions? • Is the operator experienced with this equipment? • Is the operator 21 years of age or more?	
☑ ☑ ☑ ☑ ☑ ☑ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☑ ☐	☐ ☐ ☐ ☐ ☐ ☑ ☐ ☐	PPE Required for Drill Rig Exclusion Zone • Hardhat • Safety glasses • Work gloves • Chemical resistant gloves_____ • Steel toed Work Boots • Chemical resistant Boot Covers • Apron • Coveralls Tyvek, Saranex, cotton)_____	
☑ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☑ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	Other Hazards • Excessive Noise Levels? _____ dBA • Chemical hazards (Drilling supplies - Sand, betonite, grout, fuel, etc.) - MSDSs available? • Will On-site fueling occur - Safety cans available? - Fire extinguisher (Type/Rating -_____)	

Approved for use ☐ Yes ☐ No ☐ See Comments

Kara J. Wimble
Site Health and Safety Officer

Michael Nicholson
Operator

TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER 2573

PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GN4092	Cecil - Eastward Rock	Karen Wimble	904-626-6125	Columbia Analytical Svcs
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Kevin J Wimble		Karen Wimble	904-626-6125	9143 Philips Hwy, Ste 200
		CARRIER/WAYBILL NUMBER		CITY, STATE
		hand-delivered		Jacksonville, FL 32256

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: None HCl

TYPE OF ANALYSIS: PAHs - Naphthalene; TPH

DATE YEAR 2008	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	PAHs - Naphthalene	TPH							COMMENTS
2/11	1333	NG-125-20080211				GW	G	4	2	2							Cool to 4°C
2/11	1443	CLF-059-028-015-20080211				GW	G	4	2	2							
2/12	1028	CLF-815-55-20080212				GW	G	4	2	2							
2/12	1125	CLF-815-15-20080212				GW	G	4	2	2							
2/12	0000	CLF-815-DUP1-20080212				GW	G	4	2	2							

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: Kevin J Weichert	2-12-2008	1345	1. RECEIVED BY: [signature]	2-12-08	1345
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

4/02R
FORM NO. TtNUS-001

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

NOVEMBER 2007
FEBRUARY 2008

NOVEMBER 2007

8540 Baycenter Road Jacksonville,Florida 32256 (904) 739-2277 (904) 739-2011 fax

Columbia Analytical Services INC.
An Employee - Owned Company

November 14, 2007

Service Request No: J0705300

Amy Thomson
Tetra Tech NUS, Inc.
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220

RE: NAS Cecil Field - 815/112GN4093

Dear Amy:

Enclosed are the results of the sample(s) submitted to our laboratory on November 5, 2007. For your reference, these analyses have been assigned our service request number **J0705300**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please call if you have any questions. My extension is 224. You may also contact me via email at CMyers@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Craig Myers
Project Chemist

Page 1 of 97

Laboratory Manager: Greg Jordan
Quality Assurance Officer: Kathy Brungard

CAS Jacksonville is NELAC-accredited by the State of Florida, #E82502 valid through 6/30/08. Other state accreditations include: Arkansas, #88-0600 valid through 1/12/06; Georgia, #958 valid through 6/30/08; Louisiana, #02086 valid through 6/30/08; Texas, #T104704197-06-TX valid through 5/31/08; North Carolina, #527 valid through 12/31/07; South Carolina, #96021001 valid through 6/30/07.

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

TABLE OF CONTENTS

CAS Lab Reference No.: J0705300
Non CLP Tier III (w/out Raw Data)

	Page No.
Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Identification Cross-Reference	4
Data Qualifiers	5
Acronyms	6
Chain of Custody Documentation	7
Summary Package	11
Polynuclear Aromatic Hydrocarbons by GC/MS SIM	12
Total Petroleum Hydrocarbons by GC-FID	35
Validation Package	51
Polynuclear Aromatic Hydrocarbons by GC/MS SIM	52
Total Petroleum Hydrocarbons by GC-FID	78

This report contains a total of 97 pages

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Tetra Tech NUS, Inc.	**Service Request No.:**	J0705300
Project:	NAS Cecil Field - 815	**Date Received:**	11/5/07
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III data deliverables including validation summary forms. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 11/5/07. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 4±2°C upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

Extractable Hydrocarbons by GC-FID

The samples were analyzed for TRPH using Method FLPRO. No problems were observed.

Polynuclear Aromatic Hydrocarbons (PAHs) by GC-MS SIM

The samples were analyzed for PAHs using EPA Method 8270 SIM. No problems were observed.

Approved by Craig R. Mg **Date** 11/14/07

Client: Tetra Tech NUS, Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
J0705300-001	CEF-815-GW-NG-125-20071105	11/05/07	12:04
J0705300-002	CEF-815-GW-1S-20071105	11/05/07	13:14

4

Florida DEP Data Qualifiers

B Results based upon colony counts outside the acceptable range.

D Measurement was made in the field.

H Value based on field kit determination; results may not be accurate.

i The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

J Estimated value (one of the following reasons is discussed in the project case narrative).
1. The result may be inaccurate because the surrogate recovery limits have been exceeded.
2. No known quality control criteria exists for the component.
3. The reported value failed to meet the established quality control criteria for either precision or accuracy.
4. The sample matrix interfered with the ability to make any accurate determination (e.g., primary and confirmation results show greater than 40% RPD).
5. The data is questionable because of improper laboratory or field protocols (e.g., GC/MS Tune did not meet method criteria).

K Off scale low. The value is less than the lowest calibration standard but greater than the method reporting limit (MRL).

L Off scale high. The analyte is above the upper limit of the linear calibration range.

M The MDL/MRL has been elevated because the analyte could not be accurately quantified due to matrix interference.

N Presumptive evidence of the analyte. Confirmation was not performed.

Q Sample held beyond the accepted holding time.

T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only.

U Indicates that the compound was analyzed for but not detected.

V Indicates that the analyte was detected in both the sample and the associated method blank.

Y The laboratory analysis was from an improperly preserved sample.

Z Too many colonies were present (TNTC). The numeric value represents the filtration volume.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Chain of Custody and Sample Receipt Documentation

20709300

TETRA TECH NUS, INC. | **CHAIN OF CUSTODY** | **NUMBER** 26150 | **PAGE** 1 **OF** 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112GN4093	NAS Cecil Field - 815	Kara Wimble	904-636-6125	Columbia Analytical Services
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Jon Foster	PHONE NUMBER: 904-636-6125	ADDRESS: 8540 Baycenter Rd.
		CARRIER/WAYBILL NUMBER: Hand Delivery		CITY, STATE: Jacksonville, FL

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

DATE YEAR 2007	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TRPH	Naphthalene							COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)									G	G							
PRESERVATIVE USED									None	H_2SO_4							
11/5	1204	CEF-815-GW-NG-12S-20071105				GW	G	3	X	X							Cool to 4° C
↓	1314	CEF-815-GW-1S-20071105				GW	G	3	X	X							

[redacted]

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
Jonathan Foster	11-5-07	1547	Shawn Lightsey	11-5-07	1547
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

4/02R
FORM NO. TtNUS-001

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client: Petrotech Service Request # J0705300

Project: 112GN4093

Cooler received on 11-5-07 and opened on 11-5-07 by SC

COURIER: CAS UPS FEDEX DHL CLIENT Tracking #

1	Were custody seals on outside of cooler?	Yes	No	N/A
2	Were seals intact, signed and dated?	Yes	No	N/A
3	Were custody papers properly filled out?	Yes	No	N/A
4	Temperature of cooler(s) upon receipt (Should be 4 +/- 2 degrees C) 0.4			
5	Correct Temperature?	Yes	No	N/A
6	Were Ice or Ice Packs present	Yes	No	N/A
7	Did all bottles arrive in good condition (unbroken, etc....)?	Yes	No	N/A
8	Were all bottle labels complete (sample ID, preservation, etc....)?	Yes	No	N/A
9	Did all bottle labels and tags agree with custody papers?	Yes	No	N/A
10	Were the correct bottles used for the tests indicated?	Yes	No	N/A
11	Were all of the preserved bottles received with the appropriate preservative?	Yes	No	N/A
	HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2			
	Preservative additions noted below			
12	Were all samples received within analysis holding times?	Yes	No	N/A
13	Were VOA vials checked for absence of air bubbles? If present, note below	Yes	No	N/A
14	Where did the bottles originate?	CAS	Client	

Sample ID	Reagent	Manuf. Lot # or CAS Chem ID	ml added	Inititials

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted: Date:

SR # : J0705300 Date: 11-5-07 Initials: SL

Note that pH is checked and meets the required pH criterion listed in the column heading unless otherwise noted on cooler receipt form.

	Bottle Code																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Container	40mL G	40mL G	40mL G	40mL G	125mL P	125mL P	125mL P	125mL P	250mL P	250mL P	250mL P	250mL P	250mL P	250mL G	250mL G	500mL P	500mL P	500mL P	1L P	1L P	1L G	1L G	1L G	2oz G	4oz G	8oz G	16oz G	5g ENC	100mL P	Misc. Misc.
Pres.		HCl	Sodium Thiosulfate	H2SO4		HCl	H2SO4	HNO3		H2SO4	HNO3	ZnAcetate NaOH	NaOH		HNO3		H2SO4	HNO3		HNO3		HCl	H2SO4						Sodium Thiosulfate	
Req. pH	N/A	<2	N/A	<2	N/A	<2	<2	<2	N/A	<2	<2	>9	>12	N/A	<2	N/A	<2	<2	N/A	<2	N/A	<2	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-				-	-
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-037																														
-038																														
-039																														
-040																														

Summary Package

Organic Analysis:
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Summary Package

Sample and QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name	Lab Code	Date Collected	Date Received
CEF-815-GW-NG-125-20071105	J0705300-001	11/05/2007	11/05/2007
CEF-815-GW-1S-20071105	J0705300-002	11/05/2007	11/05/2007

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J Monk

Name: William J Monk

Date: 11/13/07

Title: Scientist

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Collected:**	11/05/2007
Sample Matrix:	Water	**Date Received:**	11/05/2007

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-815-GW-NG-125-20071105	**Units:**	ug/L
Lab Code:	J0705300-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**4.7**		0.11	0.046	1	11/06/07	11/12/07	JWG0703703	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	76	22-105	11/12/07	Acceptable
p-Terphenyl-d14	96	25-127	11/12/07	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Collected:**	11/05/2007
Sample Matrix:	Water	**Date Received:**	11/05/2007

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-815-GW-1S-20071105	**Units:**	ug/L
Lab Code:	J0705300-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**89**		1.1	0.47	10	11/06/07	11/13/07	JWG0703703	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	60	22-105	11/12/07	Acceptable
p-Terphenyl-d14	80	25-127	11/12/07	Acceptable

Comments:

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name: Method Blank
Lab Code: JWG0703703-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.10	0.044	1	11/06/07	11/12/07	JWG0703703	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	70	22-105	11/12/07	Acceptable
p-Terphenyl-d14	82	25-127	11/12/07	Acceptable

Comments:

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
CEF-815-GW-NG-125-20071105	J0705300-001	76	96
CEF-815-GW-1S-20071105	J0705300-002	60	80
Method Blank	JWG0703703-3	70	82
Lab Control Sample	JWG0703703-1	77	84
Duplicate Lab Control Sample	JWG0703703-2	82	87

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorobiphenyl	22-105
Sur2 =	p-Terphenyl-d14	25-127

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/12/2007
Time Analyzed: 15:43

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M12\111
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0703762-2
Analysis Lot: JWG0703762
Column : RTX-5MS

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	375,528	5.58	201,680	7.60	292,869	9.42
	Upper Limit ==>	751,056	6.08	403,360	8.10	585,738	9.92
	Lower Limit ==>	187,764	5.08	100,840	7.10	146,435	8.92
	ICAL Result ==>	449,061	5.59	237,314	7.60	337,886	9.42
Associated Analyses							
Method Blank	JWG0703703-3	370,730	5.58	201,534	7.60	291,982	9.41
Lab Control Sample	JWG0703703-1	380,925	5.58	211,730	7.60	311,822	9.41
Duplicate Lab Control Sample	JWG0703703-2	383,739	5.58	213,762	7.60	316,216	9.41
CEF-815-GW-1S-20071105	J0705300-002	425,073	5.59	246,693	7.60	368,748	9.42
CEF-815-GW-NG-125-20071105	J0705300-001	367,604	5.59	209,840	7.60	315,073	9.42

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/12/2007
Time Analyzed: 15:43

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M12\111
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0703762-2
Analysis Lot: JWG0703762
Column : RTX-5MS

		Chrysene-d12		Perylene-d12	
		Area	RT	Area	RT
	Results ==>	300,272	12.82	291,241	15.19
	Upper Limit ==>	600,544	13.32	582,482	15.69
	Lower Limit ==>	150,136	12.32	145,621	14.69
	ICAL Result ==>	344,935	12.82	344,326	15.19
Associated Analyses					
Method Blank	JWG0703703-3	297,528	12.82	291,715	15.19
Lab Control Sample	JWG0703703-1	331,455	12.82	319,537	15.19
Duplicate Lab Control Sample	JWG0703703-2	330,765	12.82	320,937	15.19
CEF-815-GW-1S-20071105	J0705300-002	383,537	12.82	372,937	15.19
CEF-815-GW-NG-125-20071105	J0705300-001	327,503	12.82	322,711	15.19

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/13/2007
Time Analyzed: 10:53

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M13\111
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0703765-2
Analysis Lot: JWG0703765
Column : RTX-5MS

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	352,623	5.58	187,989	7.60	264,700	9.41
	Upper Limit ==>	705,246	6.08	375,978	8.10	529,400	9.91
	Lower Limit ==>	176,312	5.08	93,995	7.10	132,350	8.91
	ICAL Result ==>	449,061	5.59	237,314	7.60	337,886	9.42
Associated Analyses							
CEF-815-GW-1S-20071105DL	J0705300-002	366,774	5.58	198,094	7.60	286,206	9.42

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/13/2007
Time Analyzed: 10:53

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M13\111
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0703765-2
Analysis Lot: JWG0703765
Column : RTX-5MS

		Chrysene-d12		Perylene-d12	
		Area	RT	Area	RT
	Results ==>	274,278	12.81	271,820	15.19
	Upper Limit ==>	548,556	13.31	543,640	15.69
	Lower Limit ==>	137,139	12.31	135,910	14.69
	ICAL Result ==>	344,935	12.82	344,326	15.19
Associated Analyses					
CEF-815-GW-1S-20071105DL	J0705300-002	287,578	12.82	286,619	15.19

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300
Date Extracted: 11/06/2007
Date Analyzed: 11/12/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: JWG0703703

	Lab Control Sample JWG0703703-1 Lab Control Spike			Duplicate Lab Control Sample JWG0703703-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	3.04	5.00	61	3.18	5.00	64	42-104	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Extracted:**	11/06/2007
Sample Matrix:	Water	**Date Analyzed:**	11/12/2007
		Time Analyzed:	17:07

Method Blank Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	Method Blank	**File ID:**	J:\MS02\DATA\MS027M12\1112-17.D
Lab Code:	JWG0703703-3	**Instrument ID:**	MS02.i
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	JWG0703703

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	JWG0703703-1	J:\MS02\DATA\MS027M12\1112-18.D	11/12/07	17:35
Duplicate Lab Control Sample	JWG0703703-2	J:\MS02\DATA\MS027M12\1112-19.D	11/12/07	18:03
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M12\1112-20.D	11/12/07	18:31
CEF-815-GW-NG-125-20071105	J0705300-001	J:\MS02\DATA\MS027M12\1112-22.D	11/12/07	19:27
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M13\1113-08.D	11/13/07	13:13

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300

Lab Control Sample/Duplicate Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	Lab Control Sample	**Sample Name:**	Duplicate Lab Control Sample
Lab Code:	JWG0703703-1	**Lab Code:**	JWG0703703-2
File ID:	J:\MS02\DATA\MS027M12\1112-18.D	**File ID:**	J:\MS02\DATA\MS027M12\1112-19.D
Instrument ID:	MS02.i	**Instrument ID:**	MS02.i
Date Extracted:	11/06/2007	**Date Extracted:**	11/06/2007
Date Analyzed:	11/12/2007	**Date Analyzed:**	11/12/2007
Time Analyzed:	17:35	**Time Analyzed:**	18:03

Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	JWG0703703

These Lab Control Samples apply to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	JWG0703703-3	J:\MS02\DATA\MS027M12\1112-17.D	11/12/07	17:07
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M12\1112-20.D	11/12/07	18:31
CEF-815-GW-NG-125-20071105	J0705300-001	J:\MS02\DATA\MS027M12\1112-22.D	11/12/07	19:27
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M13\1113-08.D	11/13/07	13:13

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/12/2007
Time Analyzed: 15:26

Tune Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M12\1112-13.D
Instrument ID: MS02.i
Column:

Analysis Method: 8270C SIM
Analysis Lot: JWG0703762

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
127	198	10	80	58.4	681792	PASS
197	198	0	2	0.0	0	PASS
198	198	100	100	100.0	1168384	PASS
199	198	5	9	7.0	82032	PASS
275	198	10	60	28.3	331200	PASS
365	198	1	100	3.9	45200	PASS
441	443	0	200	91.4	251648	PASS
442	198	40	200	115.6	1350656	PASS
443	442	15	24	20.4	275200	PASS
51	198	10	80	37.8	441984	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.6	497152	PASS
70	69	0	2	0.7	3423	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	JWG0703762-2	J:\MS02\DATA\MS027M12\1112-14.	11/12/2007	15:43	
Method Blank	JWG0703703-3	J:\MS02\DATA\MS027M12\1112-17.	11/12/2007	17:07	
Lab Control Sample	JWG0703703-1	J:\MS02\DATA\MS027M12\1112-18.	11/12/2007	17:35	
Duplicate Lab Control Sample	JWG0703703-2	J:\MS02\DATA\MS027M12\1112-19.	11/12/2007	18:03	
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M12\1112-20.	11/12/2007	18:31	
CEF-815-GW-NG-125-20071105	J0705300-001	J:\MS02\DATA\MS027M12\1112-22.	11/12/2007	19:27	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/13/2007
Time Analyzed: 10:36

Tune Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M13\1113-02.D
Instrument ID: MS02.i
Column:

Analysis Method: 8270C SIM
Analysis Lot: JWG0703765

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
127	198	10	80	57.3	641344	PASS
197	198	0	2	0.0	0	PASS
198	198	100	100	100.0	1119232	PASS
199	198	5	9	7.2	81024	PASS
275	198	10	60	28.7	321664	PASS
365	198	1	100	4.0	44896	PASS
441	443	0	200	64.5	178816	PASS
442	198	40	200	122.6	1372160	PASS
443	442	15	24	20.2	277376	PASS
51	198	10	80	36.6	409600	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.7	477888	PASS
70	69	0	2	0.5	2529	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	JWG0703765-2	J:\MS02\DATA\MS027M13\1113-03.	11/13/2007	10:53	
CEF-815-GW-1S-20071105	J0705300-002	J:\MS02\DATA\MS027M13\1113-08.	11/13/2007	13:13	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
ICAL Date: 11/12/2007

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL ID: CAL1276
Instrument ID: MS02.i

Column: RTX-5MS

Level ID	File ID	Level ID	File ID
A	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-	F	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-
B	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-	G	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-
C	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-	H	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-
D	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-	I	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-
E	\\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	0.10	1.23	B	0.50	1.17	C	1.0	1.16	D	2.0	1.16	E	4.0	1.16
	F	5.0	1.11	G	8.0	1.11	H	10	1.13	I	20	1.01			
2-Fluorobiphenyl	A	0.10	1.46	B	0.50	1.41	C	1.0	1.40	D	2.0	1.44	E	4.0	1.43
	F	5.0	1.37	G	8.0	1.36	H	10	1.39	I	20	1.24			
p-Terphenyl-d14	A	0.10	0.876	B	0.50	0.864	C	1.0	0.868	D	2.0	0.895	E	4.0	0.887
	F	5.0	0.857	G	8.0	0.855	H	10	0.874	I	20	0.778			

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc. **Service Request:** J0705300
Project: NAS Cecil Field - 815/112GN4093 **ICAL Date:** 11/12/2007

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL ID: CAL1276 **Column:** RTX-5MS
Instrument ID: MS02.i

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	5.3		≤ 15	1.14		.01
2-Fluorobiphenyl	SURR	AverageRF	% RSD	4.7		≤ 15	1.39		.01
p-Terphenyl-d14	SURR	AverageRF	% RSD	3.9		≤ 15	0.862		.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
ICAL Date: 11/12/2007
Date Analyzed: 11/12/2007

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type: Internal Standard
Analysis Method: 8270C SIM

ICAL ID: CAL1276
Units: ug/mL

File ID: \\Jacksonville1\ACQUDATA\MS02\DATA\MS027M12\1112-12.D

Column ID: RTX-5MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.2	1.14	1.26	11	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/12/2007

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type: Internal Standard
Analysis Method: 8270C SIM

ICAL Date: 11/12/2007
ICAL ID: CAL1276
Analysis Lot: JWG0703762
Units: ug/mL

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M12\1112-14.D

Column ID: RTX-5MS

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.0	.01	1.14	1.16	2	NA	± 30 %	AverageRF
2-Fluorobiphenyl	2.0	2.0	.01	1.39	1.42	2	NA	± 30 %	AverageRF
p-Terphenyl-d14	2.0	2.1	.01	0.862	0.886	3	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/13/2007

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type: Internal Standard
Analysis Method: 8270C SIM

ICAL Date: 11/12/2007
ICAL ID: CAL1276
Analysis Lot: JWG0703765
Units: ug/mL

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS027M13\1113-03.D

Column ID: RTX-5MS

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.0	.01	1.14	1.16	2	NA	± 30 %	AverageRF
2-Fluorobiphenyl	2.0	2.0	.01	1.39	1.41	2	NA	± 30 %	AverageRF
p-Terphenyl-d14	2.0	2.1	.01	0.862	0.885	3	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc. **Service Request:** J0705300
Project: NAS Cecil Field - 815/112GN4093

Analysis Run Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Analysis Method: 8270C SIM

Analysis Lot: JWG0703762
Instrument ID: MS02.i
Column: RTX-5MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\1112-13.D	GC/MS Tuning - Generic	JWG0703762-1	11/12/2007	15:26		11/12/2007	15:26
\1112-14.D	Continuing Calibration Verification	JWG0703762-2	11/12/2007	15:43		11/12/2007	15:43
\1112-15.D	ZZZZZZ	ZZZZZZ	11/12/2007	16:11		11/12/2007	16:11
\1112-16.D	ZZZZZZ	ZZZZZZ	11/12/2007	16:40		11/12/2007	16:40
\1112-17.D	Method Blank	JWG0703703-3	11/12/2007	17:07		11/12/2007	17:07
\1112-18.D	Lab Control Sample	JWG0703703-1	11/12/2007	17:35		11/12/2007	17:35
\1112-19.D	Duplicate Lab Control Sample	JWG0703703-2	11/12/2007	18:03		11/12/2007	18:03
\1112-20.D	CEF-815-GW-1S-20071105	J0705300-002	11/12/2007	18:31		11/12/2007	18:31
\1112-22.D	CEF-815-GW-NG-125-20071105	J0705300-001	11/12/2007	19:27		11/12/2007	19:27
\1112-23.D	ZZZZZZ	ZZZZZZ	11/12/2007	19:55		11/12/2007	19:55
\1112-24.D	ZZZZZZ	ZZZZZZ	11/12/2007	20:23		11/12/2007	20:23
\1112-25.D	ZZZZZZ	ZZZZZZ	11/12/2007	20:51		11/12/2007	20:51
\1112-26.D	ZZZZZZ	ZZZZZZ	11/12/2007	21:20		11/12/2007	21:20
\1112-27.D	ZZZZZZ	ZZZZZZ	11/12/2007	21:47		11/12/2007	21:47
\1112-28.D	ZZZZZZ	ZZZZZZ	11/12/2007	22:15		11/12/2007	22:15
\1112-29.D	ZZZZZZ	ZZZZZZ	11/12/2007	22:44		11/12/2007	22:44
\1112-30.D	ZZZZZZ	ZZZZZZ	11/12/2007	23:12		11/12/2007	23:12
\1112-31.D	ZZZZZZ	ZZZZZZ	11/12/2007	23:40		11/12/2007	23:40
\1112-32.D	ZZZZZZ	ZZZZZZ	11/13/2007	00:09		11/13/2007	00:09
\1112-33.D	ZZZZZZ	ZZZZZZ	11/13/2007	00:37		11/13/2007	00:37
\1112-34.D	ZZZZZZ	ZZZZZZ	11/13/2007	01:05		11/13/2007	01:05
\1112-35.D	ZZZZZZ	ZZZZZZ	11/13/2007	01:34		11/13/2007	01:34
\1112-36.D	ZZZZZZ	ZZZZZZ	11/13/2007	02:02		11/13/2007	02:02
\1112-37.D	ZZZZZZ	ZZZZZZ	11/13/2007	02:31		11/13/2007	02:31
\1112-38.D	ZZZZZZ	ZZZZZZ	11/13/2007	02:59		11/13/2007	02:59

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300

Analysis Run Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Analysis Method: 8270C SIM

Analysis Lot: JWG0703765
Instrument ID: MS02.i
Column: RTX-5MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\1113-02.D	GC/MS Tuning - Generic	JWG0703765-1	11/13/2007	10:36		11/13/2007	10:36
\1113-03.D	Continuing Calibration Verification	JWG0703765-2	11/13/2007	10:53		11/13/2007	10:53
\1113-04.D	ZZZZZZ	ZZZZZZ	11/13/2007	11:21		11/13/2007	11:21
\1113-05.D	ZZZZZZ	ZZZZZZ	11/13/2007	11:49		11/13/2007	11:49
\1113-06.D	ZZZZZZ	ZZZZZZ	11/13/2007	12:17		11/13/2007	12:17
\1113-07.D	ZZZZZZ	ZZZZZZ	11/13/2007	12:45		11/13/2007	12:45
\1113-08.D	CEF-815-GW-1S-20071105	J0705300-002	11/13/2007	13:13		11/13/2007	13:13

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300
Date Extracted: 11/06/2007

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Extraction Lot: JWG0703703
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CEF-815-GW-NG-125-200711	J0705300-001	11/05/07	11/05/07	960ml	1.0ml	NA	
CEF-815-GW-1S-20071105D	J0705300-002	11/05/07	11/05/07	950ml	1.0ml	NA	
CEF-815-GW-1S-20071105	J0705300-002	11/05/07	11/05/07	950ml	1.0ml	NA	
Method Blank	JWG0703703-3	NA	NA	1000ml	1.0ml	NA	
Lab Control Sample	JWG0703703-1	NA	NA	1000ml	1.0ml	NA	
Duplicate Lab Control Sample	JWG0703703-2	NA	NA	1000ml	1.0ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Total Petroleum Hydrocarbons (TPH) by GC-FID

Summary Package

Sample and QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300

Cover Page - Organic Analysis Data Package
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name	Lab Code	Date Collected	Date Received
CEF-815-GW-NG-125-20071105	J0705300-001	11/05/2007	11/05/2007
CEF-815-GW-1S-20071105	J0705300-002	11/05/2007	11/05/2007

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J Mark

Name: William J Mark

Date: 11/12/7

Title: Scientist

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Collected:**	11/05/2007
Sample Matrix:	Water	**Date Received:**	11/05/2007

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-815-GW-NG-125-20071105	**Units:**	mg/L
Lab Code:	J0705300-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	**0.084**	I	0.43	0.064	1	11/07/07	11/09/07	JWG0703732	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	65	49-116	11/09/07	Acceptable
n-Nonatriacontane	58	19-141	11/09/07	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Collected:**	11/05/2007
Sample Matrix:	Water	**Date Received:**	11/05/2007

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-815-GW-1S-20071105	**Units:**	mg/L
Lab Code:	J0705300-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	**0.55**		0.43	0.064	1	11/07/07	11/09/07	JWG0703732	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	71	49-116	11/09/07	Acceptable
n-Nonatriacontane	57	19-141	11/09/07	Acceptable

Comments:

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	JWG0703732-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	ND	U	0.40	0.060	1	11/07/07	11/09/07	JWG0703732	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
n-Nonatriacontane	63	19-141	11/09/07	Acceptable
o-Terphenyl	65	49-116	11/09/07	Acceptable

Comments:

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300

Surrogate Recovery Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method: METHOD
Analysis Method: FL-PRO

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
CEF-815-GW-NG-125-20071105	J0705300-001	65	58
CEF-815-GW-1S-20071105	J0705300-002	71	57
Method Blank	JWG0703732-3	65	63
Lab Control Sample	JWG0703732-1	76	64
Duplicate Lab Control Sample	JWG0703732-2	70	58

Surrogate Recovery Control Limits (%)

Sur1 =	o-Terphenyl	49-116
Sur2 =	n-Nonatriacontane	19-141

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Extracted:**	11/07/2007
Sample Matrix:	Water	**Date Analyzed:**	11/09/2007

Lab Control Spike/Duplicate Lab Control Spike Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method:	METHOD	**Units:**	mg/L
Analysis Method:	FL-PRO	**Basis:**	NA
		Level:	Low
		Extraction Lot:	JWG0703732

	Lab Control Sample JWG0703732-1 Lab Control Spike			Duplicate Lab Control Sample JWG0703732-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
C8-C40 PRO	3.87	5.00	77	3.55	5.00	71	49-124	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0705300
Project:	NAS Cecil Field - 815/112GN4093	**Date Extracted:**	11/07/2007
Sample Matrix:	Water	**Date Analyzed:**	11/09/2007
		Time Analyzed:	13:14

Method Blank Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Method Blank	**File ID:**	J:\GC02\DATA\GC027M09\1109-03.D
Lab Code:	JWG0703732-3	**Instrument ID:**	GC02
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO	**Extraction Lot:**	JWG0703732

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	JWG0703732-1	J:\GC02\DATA\GC027M09\1109-04.D	11/09/07	13:50
Duplicate Lab Control Sample	JWG0703732-2	J:\GC02\DATA\GC027M09\1109-05.D	11/09/07	14:26
CEF-815-GW-NG-125-20071105	J0705300-001	J:\GC02\DATA\GC027M09\1109-06.D	11/09/07	15:02
CEF-815-GW-1S-20071105	J0705300-002	J:\GC02\DATA\GC027M09\1109-07.D	11/09/07	15:38

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300

Lab Control Sample/Duplicate Lab Control Sample Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Lab Control Sample	**Sample Name:**	Duplicate Lab Control Sample
Lab Code:	JWG0703732-1	**Lab Code:**	JWG0703732-2
File ID:	J:\GC02\DATA\GC027M09\1109-04.D	**File ID:**	J:\GC02\DATA\GC027M09\1109-05.D
Instrument ID:	GC02	**Instrument ID:**	GC02
Date Extracted:	11/07/2007	**Date Extracted:**	11/07/2007
Date Analyzed:	11/09/2007	**Date Analyzed:**	11/09/2007
Time Analyzed:	13:50	**Time Analyzed:**	14:26

Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO	**Extraction Lot:**	JWG0703732

These Lab Control Samples apply to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	JWG0703732-3	J:\GC02\DATA\GC027M09\1109-03.D	11/09/07	13:14
CEF-815-GW-NG-125-20071105	J0705300-001	J:\GC02\DATA\GC027M09\1109-06.D	11/09/07	15:02
CEF-815-GW-1S-20071105	J0705300-002	J:\GC02\DATA\GC027M09\1109-07.D	11/09/07	15:38

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
ICAL Date: 07/24/2007

Initial Calibration Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL ID: CAL1198
Instrument ID: GC02

Column: DB-5

Level ID	File ID	Level ID	File ID
A	J:\GC02\DATA\GC027G24\0724-03.D	D	J:\GC02\DATA\GC027G24\0724-06.D
B	J:\GC02\DATA\GC027G24\0724-04.D	E	J:\GC02\DATA\GC027G24\0724-07.D
C	J:\GC02\DATA\GC027G24\0724-05.D	F	J:\GC02\DATA\GC027G24\0724-08.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
n-Nonatriacontane	A	12	5990	B	60	3790	C	120	5900	D	300	5060	E	600	6260
	F	1200	6470												
o-Terphenyl	A	2.5	5780	B	10	4360	C	25	5920	D	50	5630	E	100	7020
	F	250	5840												
C8-C40 PRO	A	170	9040	B	850	4510	C	1700	5030	D	3400	5000	E	8500	4920
	F	17000	4880												

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
ICAL Date: 07/24/2007

Initial Calibration Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL ID: CAL1198
Instrument ID: GC02

Column: DB-5

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
n-Nonatriacontane	SURR	AverageRF	% RSD	17.9		≤ 20
o-Terphenyl	SURR	AverageRF	% RSD	14.7		≤ 20
C8-C40 PRO	MS	Linear	R2	1.000		≥ 0.990

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
ICAL Date: 07/24/2007
Date Analyzed: 07/24/2007

Second Source Calibration Verification
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL ID: CAL1198
Units: ug/mL

File ID: J:\GC02\DATA\GC027G24\0724-09.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
C8-C40 PRO	3400	4000	5560	5830	NA	18	± 20 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/09/2007

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 07/24/2007
ICAL ID: CAL1198
Analysis Lot: JWG0703750
Units: ug/mL

File ID: J:\GC02\DATA\GC027M09\1109-02.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	48	5760	5570	-3	NA	± 25 %	AverageRF
n-Nonatriacontane	300	230	5580	4280	-23	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3300	5560	4750	NA	-4	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300
Date Analyzed: 11/09/2007

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 07/24/2007
ICAL ID: CAL1198
Analysis Lot: JWG0703750
Units: ug/mL

File ID: J:\GC02\DATA\GC027M09\1109-08.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	50	5760	5770	0	NA	± 25 %	AverageRF
n-Nonatriacontane	300	240	5580	4400	-21	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3400	5560	4890	NA	-1	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093

Service Request: J0705300

Analysis Run Log
Total Petroleum Hydrocarbons (TPH) by GC-FID

Analysis Method: FL-PRO

Analysis Lot: JWG0703750
Instrument ID: GC02
Column: DB-5

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\1109-02.D	Continuing Calibration Verification	JWG0703750-1	11/9/2007	12:38		11/9/2007	13:06
\1109-03.D	Method Blank	JWG0703732-3	11/9/2007	13:14		11/9/2007	13:42
\1109-04.D	Lab Control Sample	JWG0703732-1	11/9/2007	13:50		11/9/2007	14:18
\1109-05.D	Duplicate Lab Control Sample	JWG0703732-2	11/9/2007	14:26		11/9/2007	14:54
\1109-06.D	CEF-815-GW-NG-125-20071105	J0705300-001	11/9/2007	15:02		11/9/2007	15:30
\1109-07.D	CEF-815-GW-1S-20071105	J0705300-002	11/9/2007	15:38		11/9/2007	16:06
\1109-08.D	Continuing Calibration Verification	JWG0703750-2	11/9/2007	16:14		11/9/2007	16:42

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: NAS Cecil Field - 815/112GN4093
Sample Matrix: Water

Service Request: J0705300
Date Extracted: 11/07/2007

Extraction Prep Log
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method: METHOD
Analysis Method: FL-PRO

Extraction Lot: JWG0703732
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
CEF-815-GW-NG-125-200711	J0705300-001	11/05/07	11/05/07	940ml	2.0ml	NA	
CEF-815-GW-1S-20071105	J0705300-002	11/05/07	11/05/07	940ml	2.0ml	NA	
Method Blank	JWG0703732-3	NA	NA	1000ml	2.0ml	NA	
Lab Control Sample	JWG0703732-1	NA	NA	1000ml	2.0ml	NA	
Duplicate Lab Control Sample	JWG0703732-2	NA	NA	1000ml	2.0ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

FEBRUARY 2008

9143 Philips Highway, Suite 200 Jacksonville, FL 32256 (904) 739-2277 (904) 739-2011 fax

Columbia Analytical Services INC.
An Employee - Owned Company

February 21, 2008

Service Request No: J0800681

Amy Thomson
Tetra Tech NUS, Inc.
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220

RE: Cecil - 815 Wash Rack/112GN4093

Dear Amy:

Enclosed are the results of the sample(s) submitted to our laboratory on February 12, 2008. For your reference, these analyses have been assigned our service request number **J0800681**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please call if you have any questions. My extension is . You may also contact me via email at CMyers@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Craig Myers
Project Chemist

Laboratory Manager: Greg Jordan
Quality Assurance Officer: Kathy Brungard

CAS Jacksonville is NELAC-accredited by the State of Florida, #E82502 valid through 6/30/08. Other state accreditations include: Arkansas, #88-0600 valid through 1/12/06; Georgia, #958 valid through 6/30/08; Louisiana, #02086 valid through 6/30/08; Texas, #T104704197-06-TX valid through 5/31/08; North Carolina, #527 valid through 12/31/07; South Carolina, #96021001 valid through 6/30/07.

NELAP Accredited ACIL Seal of Excellence Award 100% Recycled

TABLE OF CONTENTS

CAS Lab Reference No.: J0800681
Non CLP Tier IV (w/ Raw Data)

	Page No.
Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Identification Cross-Reference	4
Data Qualifiers	5
Acronyms	6
Chain of Custody Documentation	7
Summary Package	11
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM	12
Total Petroleum Hydrocarbons by GC-FID	38
Validation Package	59
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM	60
Total Petroleum Hydrocarbons by GC-FID	90

This report contains a total of 115 pages

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Tetra Tech NUS, Inc.	**Service Request No.:**	J0800681
Project:	Cecil - 815 Wash Rack	**Date Received:**	2/12/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III data deliverables including validation summary forms. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Five water samples were received for analysis at Columbia Analytical Services on 2/12/08. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 4±2°C upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

Extractable Hydrocarbons by GC-FID

The samples were analyzed for TRPH using Method FLPRO. The following observations were made regarding this delivery group.

Surrogate Exceptions

The upper control criterion was exceeded for the following surrogate in Method Blank JWG0800579-3: n-Nonatriacontane. No target analytes were detected in the Method Blank. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Polynuclear Aromatic Hydrocarbons (PAHs) by GC-MS SIM

The samples were analyzed for PAHs using EPA Method 8270 SIM. No problems were observed.

Approved by Craig R. Hyg **Date** 2/21/08

Client: Tetra Tech NUS, Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
J0800681-001	NG-12S-2008211	02/11/08	13:33
J0800681-002	CEF-059-028-015-2008211	02/11/08	14:43
J0800681-003	CEF-815-5S-2008212	02/12/08	10:28
J0800681-004	CEF-815-1S-2008212	02/12/08	11:25
J0800681-005	CEF-815-DUP01-2008212	02/12/08	00:00

Florida DEP Data Qualifiers

B Results based upon colony counts outside the acceptable range.

D Measurement was made in the field.

H Value based on field kit determination; results may not be accurate.

i The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

J Estimated value (one of the following reasons is discussed in the project case narrative).
1. The result may be inaccurate because the surrogate recovery limits have been exceeded.
2. No known quality control criteria exists for the component.
3. The reported value failed to meet the established quality control criteria for either precision or accuracy.
4. The sample matrix interfered with the ability to make any accurate determination (e.g., primary and confirmation results show greater than 40% RPD).
5. The data is questionable because of improper laboratory or field protocols (e.g., GC/MS Tune did not meet method criteria).

K Off scale low. The value is less than the lowest calibration standard but greater than the method reporting limit (MRL).

L Off scale high. The analyte is above the upper limit of the linear calibration range.

M The MDL/MRL has been elevated because the analyte could not be accurately quantified due to matrix interference.

N Presumptive evidence of the analyte. Confirmation was not performed.

Q Sample held beyond the accepted holding time.

T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only.

U Indicates that the compound was analyzed for but not detected.

V Indicates that the analyte was detected in both the sample and the associated method blank.

Y The laboratory analysis was from an improperly preserved sample.

Z Too many colonies were present (TNTC). The numeric value represents the filtration volume.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Chain of Custody and Sample Receipt Documentation

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 2573 | PAGE 1 OF 1

J0800687

PROJECT NO: 112GN4093	FACILITY: Cecil-815 Wash Rack	PROJECT MANAGER: Kara Wimble	PHONE NUMBER 904-636-6125	LABORATORY NAME AND CONTACT: Columbia Analytical Svcs
SAMPLERS (SIGNATURE) Kara J. Wimble K-WZLF		FIELD OPERATIONS LEADER Kara Wimble	PHONE NUMBER 904-636-6125	ADDRESS 9143 Philips Hwy, Ste 200
		CARRIER/WAYBILL NUMBER hand-delivered		CITY, STATE Jacksonville, FL 32256

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: None, H2SO4

[redacted]

DATE YEAR 2008	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: PAHs-Naphthalene	TPH PIT						COMMENTS
2/11	1333	NG-125-20082111				GW	G	4	2	2						Cool to 4°C
2/11	1443	CEF-059-028-015-20082111				GW	G	4	2	2						
2/12	1028	CEF-815-SS-20082212				GW	G	4	2	2						
2/12	1125	CEF-815-IS-20082212				GW	G	4	2	2						
2/12	0000	CEF-815-DUO1-20082212				GW	G	4	2	2						

1. RELINQUISHED BY Kevin Weichert	DATE 2-12-2008	TIME 1345	1. RECEIVED BY [signature]	DATE 2-12-08	TIME 1345
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

4/02R
FORM NO. TINUS-001

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client: Tetra Tech Service Request # J0800681

Project: 1126N4093

Cooler received on 2/12/08 and opened on 2/12/08 by SRO

COURIER: CAS UPS FEDEX DHL (CLIENT) Tracking #

1	Were custody seals on outside of cooler?	(Yes)	No	N/A
2	Were seals intact, signed and dated?	(Yes)	No	N/A
3	Were custody papers properly filled out?	(Yes)	No	N/A
4	Temperature of cooler(s) upon receipt (Should be 4 +/- 2 degrees C)	0.7 / 1.1		
5	Correct Temperature?	(Yes)	No	N/A
6	Were Ice or Ice Packs present	(Yes)	No	N/A
7	Did all bottles arrive in good condition (unbroken, etc....)?	(Yes)	No	N/A
8	Were all bottle labels complete (sample ID, preservation, etc....)?	(Yes)	No	N/A
9	Did all bottle labels and tags agree with custody papers?	(Yes)	No	N/A
10	Were the correct bottles used for the tests indicated?	(Yes)	No	N/A
11	Were all of the preserved bottles received with the appropriate preservative?	(Yes)	No	N/A

HNO3 pH<2 (H2SO4 pH<2) ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2

Preservative additions noted below

12	Were all samples received within analysis holding times?	(Yes)	No	N/A
13	Were VOA vials checked for absence of air bubbles? If present, note below	Yes	No	(N/A)
14	Where did the bottles originate?	(CAS)	Client	

Sample ID	Reagent	Manuf. Lot # or CAS Chem ID	ml added	Inititials

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted: Date 9

SR # : J 080681 Date: 2/12/08 Initials: SRD

Note that pH is checked and meets the required pH criterion listed in the column heading unless otherwise noted on cooler receipt form.

	Bottle Code																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	40mL	40mL	40mL	40mL	125mL	125mL	125mL	125mL	250mL	250mL	250mL	250mL	250mL	250mL	250mL	500mL	500mL	500mL	1L	1L	1L	1L	1L	2oz	4oz	8oz	16oz	5g	100mL	Misc.
Container	G	G	G	G	P	P	P	P	P	P	P	P	P	G	G	P	P	P	P	P	G	G	G	G	G	G	G	ENC	P	Misc.
Pres.		HCl	Sodium Thiosulfate	H2SO4		HCl	H2SO4	HNO3		H2SO4	HNO3	ZnAcetate NaOH	NaOH		HNO3		H2SO4	HNO3		HNO3		HCl	H2SO4						Sodium Thiosulfate	
Req. pH	N/A	<2	N/A	<2	N/A	<2	<2	<2	N/A	<2	<2	>9	>12	N/A	<2	N/A	<2	<2	N/A	<2	N/A	<2	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sample #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-038																														
-039																														
-040																														

10

Summary Package

Organic Analysis:
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Summary Package

Sample and QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name	Lab Code	Date Collected	Date Received
NG-12S-2008211	J0800681-001	02/11/2008	02/12/2008
CEF-059-028-015-2008211	J0800681-002	02/11/2008	02/12/2008
CEF-815-5S-2008212	J0800681-003	02/12/2008	02/12/2008
CEF-815-1S-2008212	J0800681-004	02/12/2008	02/12/2008
CEF-815-DUP01-2008212	J0800681-005	02/12/2008	02/12/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J Mink

Name: William J Mink

Date: 2/14/08

Title: Scientist III

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/11/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	NG-12S-2008211	**Units:**	ug/L
Lab Code:	J0800681-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**3.3**		0.11	0.046	1	02/12/08	02/13/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	69	22-105	02/13/08	Acceptable
p-Terphenyl-d14	78	25-127	02/13/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/11/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-059-028-015-2008211	**Units:**	ug/L
Lab Code:	J0800681-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.10**	I	0.11	0.046	1	02/12/08	02/14/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	57	22-105	02/14/08	Acceptable
p-Terphenyl-d14	68	25-127	02/14/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-815-5S-2008212	**Units:**	ug/L
Lab Code:	J0800681-003	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	37		0.54	0.24	5	02/12/08	02/14/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	66	22-105	02/14/08	Acceptable
p-Terphenyl-d14	79	25-127	02/14/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-815-1S-2008212	**Units:**	ug/L
Lab Code:	J0800681-004	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**69**		0.52	0.23	5	02/12/08	02/14/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	60	22-105	02/14/08	Acceptable
p-Terphenyl-d14	73	25-127	02/14/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	CEF-815-DUP01-2008212	**Units:**	ug/L
Lab Code:	J0800681-005	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**68**		0.52	0.23	5	02/12/08	02/14/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	59	22-105	02/14/08	Acceptable
p-Terphenyl-d14	70	25-127	02/14/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JWG0800550-3	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.10	0.044	1	02/11/08	02/13/08	JWG0800550	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorobiphenyl	83	22-105	02/13/08	Acceptable
p-Terphenyl-d14	87	25-127	02/13/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
NG-12S-2008211	J0800681-001	69	78
CEF-059-028-015-2008211	J0800681-002	57	68
CEF-815-5S-2008212	J0800681-003	66	79
CEF-815-1S-2008212	J0800681-004	60	73
CEF-815-DUP01-2008212	J0800681-005	59	70
Method Blank	JWG0800550-3	83	87
Lab Control Sample	JWG0800550-1	82	81
Duplicate Lab Control Sample	JWG0800550-2	75	76

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorobiphenyl	22-105
Sur2 =	p-Terphenyl-d14	25-127

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/13/2008
Time Analyzed: 13:47

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B13\021
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0800559-2
Analysis Lot: JWG0800559
Column : RTX-5MS

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	3,050,419	4.76	1,730,133	6.58	2,525,933	8.31
	Upper Limit ==>	6,100,838	5.26	3,460,266	7.08	5,051,866	8.81
	Lower Limit ==>	1,525,210	4.26	865,067	6.08	1,262,967	7.81
	ICAL Result ==>	2,587,216	4.76	1,458,647	6.58	2,159,418	8.31
Associated Analyses							
Method Blank	JWG0800550-3	2,592,960	4.76	1,513,474	6.58	2,231,857	8.30
Lab Control Sample	JWG0800550-1	2,632,429	4.76	1,519,929	6.58	2,243,397	8.30
Duplicate Lab Control Sample	JWG0800550-2	2,656,944	4.76	1,522,238	6.58	2,260,996	8.30
NG-12S-2008211	J0800681-001	2,139,273	4.76	1,250,799	6.58	1,864,381	8.31
CEF-059-028-015-2008211	J0800681-002	2,251,030	4.76	1,298,100	6.58	1,951,761	8.31
CEF-815-5S-2008212	J0800681-003	2,314,590	4.76	1,319,956	6.58	1,974,230	8.31
CEF-815-1S-2008212	J0800681-004	2,372,463	4.76	1,289,848	6.58	1,957,460	8.31

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/13/2008
Time Analyzed: 13:47

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B13\021
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0800559-2
Analysis Lot: JWG0800559
Column : RTX-5MS

		Chrysene-d12		Perylene-d12	
		Area	RT	Area	RT
	Results ==>	2,359,672	11.51	2,585,891	13.30
	Upper Limit ==>	4,719,344	12.01	5,171,782	13.80
	Lower Limit ==>	1,179,836	11.01	1,292,946	12.80
	ICAL Result ==>	2,078,708	11.51	2,287,458	13.30
Associated Analyses					
Method Blank	JWG0800550-3	2,111,922	11.51	2,309,250	13.30
Lab Control Sample	JWG0800550-1	2,095,435	11.51	2,311,893	13.30
Duplicate Lab Control Sample	JWG0800550-2	2,131,337	11.51	2,335,385	13.30
NG-12S-2008211	J0800681-001	1,997,832	11.51	2,196,875	13.30
CEF-059-028-015-2008211	J0800681-002	2,049,000	11.51	2,276,984	13.31
CEF-815-5S-2008212	J0800681-003	2,077,897	11.51	2,296,290	13.31
CEF-815-1S-2008212	J0800681-004	2,087,272	11.52	2,311,046	13.31

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/14/2008
Time Analyzed: 12:15

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B14\021
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0800562-2
Analysis Lot: JWG0800562
Column : RTX-5MS

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	2,398,507	4.76	1,369,530	6.58	1,981,451	8.31
	Upper Limit ==>	4,797,014	5.26	2,739,060	7.08	3,962,902	8.81
	Lower Limit ==>	1,199,254	4.26	684,765	6.08	990,726	7.81
	ICAL Result ==>	2,587,216	4.76	1,458,647	6.58	2,159,418	8.31
Associated Analyses							
CEF-815-5S-2008212DL	J0800681-003	2,436,679	4.76	1,407,161	6.58	2,079,353	8.30
CEF-815-1S-2008212DL	J0800681-004	2,312,843	4.76	1,314,625	6.58	1,938,283	8.31
CEF-815-DUP01-2008212	J0800681-005	2,663,103	4.76	1,465,710	6.58	2,210,987	8.31
CEF-815-DUP01-2008212DL	J0800681-005	2,342,663	4.75	1,335,411	6.58	1,953,950	8.31

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/14/2008
Time Analyzed: 12:15

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B14\021
Instrument ID: MS02.i
Analysis Method: 8270C SIM

Lab Code: JWG0800562-2
Analysis Lot: JWG0800562
Column : RTX-5MS

		Chrysene-d12		Perylene-d12	
		Area	RT	Area	RT
	Results ==>	1,925,311	11.51	2,176,852	13.30
	Upper Limit ==>	3,850,622	12.01	4,353,704	13.80
	Lower Limit ==>	962,656	11.01	1,088,426	12.80
	ICAL Result ==>	2,078,708	11.51	2,287,458	13.30
Associated Analyses					
CEF-815-5S-2008212DL	J0800681-003	2,104,126	11.51	2,382,543	13.30
CEF-815-1S-2008212DL	J0800681-004	1,994,435	11.51	2,258,374	13.30
CEF-815-DUP01-2008212	J0800681-005	2,319,830	11.51	2,628,553	13.31
CEF-815-DUP01-2008212DL	J0800681-005	2,025,663	11.51	2,302,281	13.30

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681
Date Extracted: 02/11/2008
Date Analyzed: 02/13/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: JWG0800550

	Lab Control Sample JWG0800550-1 Lab Control Spike			Duplicate Lab Control Sample JWG0800550-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	4.11	5.00	82	3.73	5.00	75	42-104	10	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Extracted:**	02/11/2008
Sample Matrix:	Water	**Date Analyzed:**	02/13/2008
		Time Analyzed:	17:31

Method Blank Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	Method Blank	**File ID:**	J:\MS02\DATA\MS028B13\0213-11.D
Lab Code:	JWG0800550-3	**Instrument ID:**	MS02.i
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	JWG0800550

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	JWG0800550-1	J:\MS02\DATA\MS028B13\0213-12.D	02/13/08	17:56
Duplicate Lab Control Sample	JWG0800550-2	J:\MS02\DATA\MS028B13\0213-13.D	02/13/08	18:21
NG-12S-2008211	J0800681-001	J:\MS02\DATA\MS028B13\0213-26.D	02/13/08	23:50
CEF-059-028-015-2008211	J0800681-002	J:\MS02\DATA\MS028B13\0213-27.D	02/14/08	00:15
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B13\0213-28.D	02/14/08	00:40
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B13\0213-29.D	02/14/08	01:05
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B14\0214-07.D	02/14/08	14:01
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B14\0214-08.D	02/14/08	14:26
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-09.D	02/14/08	14:51
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-10.D	02/14/08	15:16

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681

Lab Control Sample/Duplicate Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Sample Name:	Lab Control Sample	**Sample Name:**	Duplicate Lab Control Sample
Lab Code:	JWG0800550-1	**Lab Code:**	JWG0800550-2
File ID:	J:\MS02\DATA\MS028B13\0213-12.D	**File ID:**	J:\MS02\DATA\MS028B13\0213-13.D
Instrument ID:	MS02.i	**Instrument ID:**	MS02.i
Date Extracted:	02/11/2008	**Date Extracted:**	02/11/2008
Date Analyzed:	02/13/2008	**Date Analyzed:**	02/13/2008
Time Analyzed:	17:56	**Time Analyzed:**	18:21

Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	8270C SIM	**Extraction Lot:**	JWG0800550

These Lab Control Samples apply to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	JWG0800550-3	J:\MS02\DATA\MS028B13\0213-11.D	02/13/08	17:31
NG-12S-2008211	J0800681-001	J:\MS02\DATA\MS028B13\0213-26.D	02/13/08	23:50
CEF-059-028-015-2008211	J0800681-002	J:\MS02\DATA\MS028B13\0213-27.D	02/14/08	00:15
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B13\0213-28.D	02/14/08	00:40
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B13\0213-29.D	02/14/08	01:05
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B14\0214-07.D	02/14/08	14:01
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B14\0214-08.D	02/14/08	14:26
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-09.D	02/14/08	14:51
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-10.D	02/14/08	15:16

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/13/2008
Time Analyzed: 13:28

Tune Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B13\0213-02.D
Instrument ID: MS02.i
Column:

Analysis Method: 8270C SIM
Analysis Lot: JWG0800559

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
70	69	0	2	0.3	203	PASS
69	198	0	100	40.5	72104	PASS
68	69	0	2	0.0	0	PASS
51	198	10	80	21.2	37712	PASS
443	442	15	24	20.0	67944	PASS
442	198	40	200	190.4	339392	PASS
441	443	0	200	86.1	58496	PASS
365	198	1	100	4.1	7371	PASS
275	198	10	60	32.2	57368	PASS
199	198	5	9	7.0	12554	PASS
198	198	100	100	100.0	178240	PASS
197	198	0	2	0.0	0	PASS
127	198	10	80	50.0	89096	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	JWG0800559-2	J:\MS02\DATA\MS028B13\0213-03.	02/13/2008	13:47	
Method Blank	JWG0800550-3	J:\MS02\DATA\MS028B13\0213-11.	02/13/2008	17:31	
Lab Control Sample	JWG0800550-1	J:\MS02\DATA\MS028B13\0213-12.	02/13/2008	17:56	
Duplicate Lab Control Sample	JWG0800550-2	J:\MS02\DATA\MS028B13\0213-13.	02/13/2008	18:21	
NG-12S-2008211	J0800681-001	J:\MS02\DATA\MS028B13\0213-26.	02/13/2008	23:50	
CEF-059-028-015-2008211	J0800681-002	J:\MS02\DATA\MS028B13\0213-27.	02/14/2008	00:15	
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B13\0213-28.	02/14/2008	00:40	
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B13\0213-29.	02/14/2008	01:05	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/14/2008
Time Analyzed: 11:58

Tune Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B14\0214-02.D
Instrument ID: MS02.i
Column:

Analysis Method: 8270C SIM
Analysis Lot: JWG0800562

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
70	69	0	2	0.0	0	PASS
69	198	0	100	37.0	54680	PASS
68	69	0	2	0.0	0	PASS
51	198	10	80	19.8	29224	PASS
443	442	15	24	20.4	57976	PASS
442	198	40	200	192.5	284416	PASS
441	443	0	200	84.2	48816	PASS
365	198	1	100	4.4	6454	PASS
275	198	10	60	32.6	48208	PASS
199	198	5	9	6.9	10173	PASS
198	198	100	100	100.0	147776	PASS
197	198	0	2	0.0	0	PASS
127	198	10	80	47.0	69408	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	JWG0800562-2	J:\MS02\DATA\MS028B14\0214-03.	02/14/2008	12:15	
CEF-815-5S-2008212	J0800681-003	J:\MS02\DATA\MS028B14\0214-07.	02/14/2008	14:01	
CEF-815-1S-2008212	J0800681-004	J:\MS02\DATA\MS028B14\0214-08.	02/14/2008	14:26	
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-09.	02/14/2008	14:51	
CEF-815-DUP01-2008212	J0800681-005	J:\MS02\DATA\MS028B14\0214-10.	02/14/2008	15:16	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
ICAL Date: 02/09/2008

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL ID: CAL1323
Instrument ID: MS02.i

Column: RTX-5MS

Level ID	File ID	Level ID	File ID
A	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-	F	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-
B	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-	G	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-
C	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-	H	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-
D	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-	I	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-
E	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	0.10	0.925	B	0.50	0.928	C	1.0	0.955	D	2.0	0.924	E	4.0	0.895
	F	5.0	0.877	G	8.0	0.854	H	10	0.840	I	20	0.708			
2-Fluorobiphenyl	A	0.10	1.06	B	0.50	1.10	C	1.0	1.15	D	2.0	1.13	E	4.0	1.12
	F	5.0	1.10	G	8.0	1.09	H	10	1.07	I	20	0.935			
p-Terphenyl-d14	A	0.10	0.756	B	0.50	0.892	C	1.0	0.951	D	2.0	0.922	E	4.0	0.905
	F	5.0	0.893	G	8.0	0.863	H	10	0.844	I	20	0.726			

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc. **Service Request:** J0800681
Project: Cecil - 815 Wash Rack/112GN4093 **ICAL Date:** 02/09/2008

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL ID: CAL1323 **Column:** RTX-5MS
Instrument ID: MS02.i

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	8.4		≤ 15	0.878		.01
2-Fluorobiphenyl	SURR	AverageRF	% RSD	5.8		≤ 15	1.08		.01
p-Terphenyl-d14	SURR	AverageRF	% RSD	8.7		≤ 15	0.861		.01

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**ICAL Date:**	02/09/2008
		Date Analyzed:	02/09/2008

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type:	Internal Standard	**ICAL ID:**	CAL1323
Analysis Method:	8270C SIM	**Units:**	ug/mL
File ID:	\\Jacksonville1\ACQUDATA\MS02\DATA\MS028B09\0209-12.D	**Column ID:**	RTX-5MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.2	0.878	0.949	8	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/13/2008

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type: Internal Standard
Analysis Method: 8270C SIM

ICAL Date: 02/09/2008
ICAL ID: CAL1323
Analysis Lot: JWG0800559
Units: ug/mL

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B13\0213-03.D

Column ID: RTX-5MS

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.3	.01	0.878	1.02	16	NA	± 30 %	AverageRF
2-Fluorobiphenyl	2.0	2.3	.01	1.08	1.27	17	NA	± 30 %	AverageRF
p-Terphenyl-d14	2.0	2.3	.01	0.861	0.998	16	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/14/2008

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

ICAL Type: Internal Standard
Analysis Method: 8270C SIM

ICAL Date: 02/09/2008
ICAL ID: CAL1323
Analysis Lot: JWG0800562
Units: ug/mL

File ID: \\JACKSONVILLE1\ACQUDATA\MS02\DATA\MS028B14\0214-03.D

Column ID: RTX-5MS

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	2.0	2.2	.01	0.878	0.947	8	NA	± 30 %	AverageRF
2-Fluorobiphenyl	2.0	2.1	.01	1.08	1.16	7	NA	± 30 %	AverageRF
p-Terphenyl-d14	2.0	2.2	.01	0.861	0.947	10	NA	± 30 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

Analysis Run Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Analysis Method: 8270C SIM

Analysis Lot: JWG0800559
Instrument ID: MS02.i
Column: RTX-5MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\0213-02.D	GC/MS Tuning - Generic	JWG0800559-1	2/13/2008	13:28		2/13/2008	13:28
\0213-03.D	Continuing Calibration Verification	JWG0800559-2	2/13/2008	13:47		2/13/2008	13:47
\0213-05.D	ZZZZZZ	ZZZZZZ	2/13/2008	14:57		2/13/2008	14:57
\0213-06.D	ZZZZZZ	ZZZZZZ	2/13/2008	15:22		2/13/2008	15:22
\0213-07.D	ZZZZZZ	ZZZZZZ	2/13/2008	15:48		2/13/2008	15:48
\0213-08.D	ZZZZZZ	ZZZZZZ	2/13/2008	16:14		2/13/2008	16:14
\0213-09.D	ZZZZZZ	ZZZZZZ	2/13/2008	16:39		2/13/2008	16:39
\0213-10.D	ZZZZZZ	ZZZZZZ	2/13/2008	17:05		2/13/2008	17:05
\0213-11.D	Method Blank	JWG0800550-3	2/13/2008	17:31		2/13/2008	17:31
\0213-12.D	Lab Control Sample	JWG0800550-1	2/13/2008	17:56		2/13/2008	17:56
\0213-13.D	Duplicate Lab Control Sample	JWG0800550-2	2/13/2008	18:21		2/13/2008	18:21
\0213-14.D	ZZZZZZ	ZZZZZZ	2/13/2008	18:46		2/13/2008	18:46
\0213-15.D	ZZZZZZ	ZZZZZZ	2/13/2008	19:11		2/13/2008	19:11
\0213-16.D	ZZZZZZ	ZZZZZZ	2/13/2008	19:36		2/13/2008	19:36
\0213-17.D	ZZZZZZ	ZZZZZZ	2/13/2008	20:01		2/13/2008	20:01
\0213-18.D	ZZZZZZ	ZZZZZZ	2/13/2008	20:27		2/13/2008	20:27
\0213-19.D	ZZZZZZ	ZZZZZZ	2/13/2008	20:53		2/13/2008	20:53
\0213-20.D	ZZZZZZ	ZZZZZZ	2/13/2008	21:19		2/13/2008	21:19
\0213-21.D	ZZZZZZ	ZZZZZZ	2/13/2008	21:44		2/13/2008	21:44
\0213-22.D	ZZZZZZ	ZZZZZZ	2/13/2008	22:10		2/13/2008	22:10
\0213-23.D	ZZZZZZ	ZZZZZZ	2/13/2008	22:35		2/13/2008	22:35
\0213-24.D	ZZZZZZ	ZZZZZZ	2/13/2008	23:00		2/13/2008	23:00
\0213-25.D	ZZZZZZ	ZZZZZZ	2/13/2008	23:25		2/13/2008	23:25
\0213-26.D	NG-12S-2008211	J0800681-001	2/13/2008	23:50		2/13/2008	23:50
\0213-27.D	CEF-059-028-015-2008211	J0800681-002	2/14/2008	00:15		2/14/2008	00:15
\0213-28.D	CEF-815-5S-2008212	J0800681-003	2/14/2008	00:40		2/14/2008	00:40
\0213-29.D	CEF-815-1S-2008212	J0800681-004	2/14/2008	01:05		2/14/2008	01:05

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

Analysis Run Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Analysis Method: 8270C SIM

Analysis Lot: JWG0800562
Instrument ID: MS02.i
Column: RTX-5MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\0214-02.D	GC/MS Tuning - Generic	JWG0800562-1	2/14/2008	11:58		2/14/2008	11:58
\0214-03.D	Continuing Calibration Verification	JWG0800562-2	2/14/2008	12:15		2/14/2008	12:15
\0214-04.D	ZZZZZZ	ZZZZZZ	2/14/2008	12:45		2/14/2008	12:45
\0214-05.D	ZZZZZZ	ZZZZZZ	2/14/2008	13:10		2/14/2008	13:10
\0214-06.D	ZZZZZZ	ZZZZZZ	2/14/2008	13:35		2/14/2008	13:35
\0214-07.D	CEF-815-5S-2008212	J0800681-003	2/14/2008	14:01		2/14/2008	14:01
\0214-08.D	CEF-815-1S-2008212	J0800681-004	2/14/2008	14:26		2/14/2008	14:26
\0214-09.D	CEF-815-DUP01-2008212	J0800681-005	2/14/2008	14:51		2/14/2008	14:51
\0214-10.D	CEF-815-DUP01-2008212	J0800681-005	2/14/2008	15:16		2/14/2008	15:16

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681
Date Extracted: 02/12/2008

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS SIM

Extraction Method: EPA 3510C
Analysis Method: 8270C SIM

Extraction Lot: JWG0800550
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
NG-12S-2008211	J0800681-001	02/11/08	02/12/08	970ml	1.0ml	NA	
CEF-059-028-015-2008211	J0800681-002	02/11/08	02/12/08	970ml	1.0ml	NA	
CEF-815-5S-2008212DL	J0800681-003	02/12/08	02/12/08	930ml	1.0ml	NA	
CEF-815-5S-2008212	J0800681-003	02/12/08	02/12/08	930ml	1.0ml	NA	
CEF-815-1S-2008212DL	J0800681-004	02/12/08	02/12/08	970ml	1.0ml	NA	
CEF-815-1S-2008212	J0800681-004	02/12/08	02/12/08	970ml	1.0ml	NA	
CEF-815-DUP01-2008212DL	J0800681-005	02/12/08	02/12/08	970ml	1.0ml	NA	
CEF-815-DUP01-2008212	J0800681-005	02/12/08	02/12/08	970ml	1.0ml	NA	
Method Blank	JWG0800550-3	NA	NA	1000ml	1.0ml	NA	
Lab Control Sample	JWG0800550-1	NA	NA	1000ml	1.0ml	NA	
Duplicate Lab Control Sample	JWG0800550-2	NA	NA	1000ml	1.0ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Total Petroleum Hydrocarbons (TPH) by GC-FID

Summary Package

Sample and QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

Cover Page - Organic Analysis Data Package
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name	Lab Code	Date Collected	Date Received
NG-12S-2008211	J0800681-001	02/11/2008	02/12/2008
CEF-059-028-015-2008211	J0800681-002	02/11/2008	02/12/2008
CEF-815-5S-2008212	J0800681-003	02/12/2008	02/12/2008
CEF-815-1S-2008212	J0800681-004	02/12/2008	02/12/2008
CEF-815-DUP01-2008212	J0800681-005	02/12/2008	02/12/2008

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J Mark
Name: William J Mark
Date: 2/21/8
Title: Service III

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/11/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	NG-12S-2008211	**Units:**	mg/L
Lab Code:	J0800681-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	ND	U	0.41	0.062	1	02/18/08	02/20/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	59	49-116	02/20/08	Acceptable
n-Nonatriacontane	126	19-141	02/20/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/11/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-059-028-015-2008211	**Units:**	mg/L
Lab Code:	J0800681-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	ND	U	0.41	0.062	1	02/18/08	02/20/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	63	49-116	02/20/08	Acceptable
n-Nonatriacontane	126	19-141	02/20/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-815-5S-2008212	**Units:**	mg/L
Lab Code:	J0800681-003	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	**0.48**		0.44	0.065	1	02/18/08	02/20/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	62	49-116	02/20/08	Acceptable
n-Nonatriacontane	120	19-141	02/20/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-815-1S-2008212	**Units:**	mg/L
Lab Code:	J0800681-004	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	**1.1**		0.41	0.062	1	02/18/08	02/20/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	66	49-116	02/20/08	Acceptable
n-Nonatriacontane	124	19-141	02/20/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	02/12/2008
Sample Matrix:	Water	**Date Received:**	02/12/2008

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	CEF-815-DUP01-2008212	**Units:**	mg/L
Lab Code:	J0800681-005	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	**0.88**		0.41	0.062	1	02/18/08	02/20/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	65	49-116	02/20/08	Acceptable
n-Nonatriacontane	126	19-141	02/20/08	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Method Blank	**Units:**	mg/L
Lab Code:	JWG0800579-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C8-C40 PRO	ND	U	0.40	0.060	1	02/18/08	02/19/08	JWG0800579	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	62	49-116	02/19/08	Acceptable
n-Nonatriacontane	143	19-141	02/19/08	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681

Surrogate Recovery Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method: METHOD
Analysis Method: FL-PRO

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2
NG-12S-2008211	J0800681-001	126		59
CEF-059-028-015-2008211	J0800681-002	126		63
CEF-815-5S-2008212	J0800681-003	120		62
CEF-815-1S-2008212	J0800681-004	124		66
CEF-815-DUP01-2008212	J0800681-005	126		65
Method Blank	JWG0800579-3	143	#	62
Lab Control Sample	JWG0800579-1	133		67
Duplicate Lab Control Sample	JWG0800579-2	135		65

Surrogate Recovery Control Limits (%)

Sur1 =	n-Nonatriacontane	19-141
Sur2 =	o-Terphenyl	49-116

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Extracted:**	02/18/2008
Sample Matrix:	Water	**Date Analyzed:**	02/19/2008

Lab Control Spike/Duplicate Lab Control Spike Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method:	METHOD	**Units:**	mg/L
Analysis Method:	FL-PRO	**Basis:**	NA
		Level:	Low
		Extraction Lot:	JWG0800579

	Lab Control Sample JWG0800579-1 Lab Control Spike			Duplicate Lab Control Sample JWG0800579-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
C8-C40 PRO	4.16	5.00	83	4.11	5.00	82	49-124	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Tetra Tech NUS,Inc.	**Service Request:**	J0800681
Project:	Cecil - 815 Wash Rack/112GN4093	**Date Extracted:**	02/18/2008
Sample Matrix:	Water	**Date Analyzed:**	02/19/2008
		Time Analyzed:	15:15

Method Blank Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Method Blank	**File ID:**	J:\GC02\DATA\GC028B19\0219-11.D
Lab Code:	JWG0800579-3	**Instrument ID:**	GC02
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO	**Extraction Lot:**	JWG0800579

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	JWG0800579-1	J:\GC02\DATA\GC028B19\0219-12.D	02/19/08	15:51
Duplicate Lab Control Sample	JWG0800579-2	J:\GC02\DATA\GC028B19\0219-13.D	02/19/08	16:27
NG-12S-2008211	J0800681-001	J:\GC02\DATA\GC028B19\0219-27.D	02/20/08	01:09
CEF-059-028-015-2008211	J0800681-002	J:\GC02\DATA\GC028B19\0219-28.D	02/20/08	01:45
CEF-815-5S-2008212	J0800681-003	J:\GC02\DATA\GC028B19\0219-29.D	02/20/08	02:22
CEF-815-1S-2008212	J0800681-004	J:\GC02\DATA\GC028B19\0219-30.D	02/20/08	02:58
CEF-815-DUP01-2008212	J0800681-005	J:\GC02\DATA\GC028B19\0219-31.D	02/20/08	03:35

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681

Lab Control Sample/Duplicate Lab Control Sample Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

Sample Name:	Lab Control Sample	**Sample Name:**	Duplicate Lab Control Sample
Lab Code:	JWG0800579-1	**Lab Code:**	JWG0800579-2
File ID:	J:\GC02\DATA\GC028B19\0219-12.D	**File ID:**	J:\GC02\DATA\GC028B19\0219-13.D
Instrument ID:	GC02	**Instrument ID:**	GC02
Date Extracted:	02/18/2008	**Date Extracted:**	02/18/2008
Date Analyzed:	02/19/2008	**Date Analyzed:**	02/19/2008
Time Analyzed:	15:51	**Time Analyzed:**	16:27

Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	FL-PRO	**Extraction Lot:**	JWG0800579

These Lab Control Samples apply to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	JWG0800579-3	J:\GC02\DATA\GC028B19\0219-11.D	02/19/08	15:15
NG-12S-2008211	J0800681-001	J:\GC02\DATA\GC028B19\0219-27.D	02/20/08	01:09
CEF-059-028-015-2008211	J0800681-002	J:\GC02\DATA\GC028B19\0219-28.D	02/20/08	01:45
CEF-815-5S-2008212	J0800681-003	J:\GC02\DATA\GC028B19\0219-29.D	02/20/08	02:22
CEF-815-1S-2008212	J0800681-004	J:\GC02\DATA\GC028B19\0219-30.D	02/20/08	02:58
CEF-815-DUP01-2008212	J0800681-005	J:\GC02\DATA\GC028B19\0219-31.D	02/20/08	03:35

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
ICAL Date: 02/12/2008

Initial Calibration Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL ID: CAL1333
Instrument ID: GC02

Column: DB-5

Level ID	File ID	Level ID	File ID
A	J:\GC02\DATA\GC028B12\0212-02.D	D	J:\GC02\DATA\GC028B12\0212-05.D
B	J:\GC02\DATA\GC028B12\0212-03.D	E	J:\GC02\DATA\GC028B12\0212-06.D
C	J:\GC02\DATA\GC028B12\0212-04.D	F	J:\GC02\DATA\GC028B12\0212-07.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
n-Nonatriacontane	A	15	4670	B	60	5620	C	150	4510	D	300	4610	E	600	4900
	F	1500	5490												
o-Terphenyl	A	2.5	16200	B	10	18500	C	25	15100	D	50	14400	E	100	14500
	F	250	14500												
C8-C40 PRO	A	170	19700	B	850	12200	C	1700	11500	D	3400	10900	E	8500	11000
	F	17000	11000												

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
ICAL Date: 02/12/2008

Initial Calibration Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL ID: CAL1333
Instrument ID: GC02

Column: DB-5

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
n-Nonatriacontane	SURR	AverageRF	% RSD	9.6		≤ 20
o-Terphenyl	SURR	AverageRF	% RSD	10.5		≤ 20
C8-C40 PRO	MS	Linear	R2	1.000		≥ 0.990

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
ICAL Date: 02/12/2008
Date Analyzed: 02/12/2008

Second Source Calibration Verification
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL ID: CAL1333
Units: ug/mL

File ID: J:\GC02\DATA\GC028B12\0212-08.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
C8-C40 PRO	3400	3400	12700	11200	NA	1	± 20 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/19/2008

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 02/12/2008
ICAL ID: CAL1333
Analysis Lot: JWG0800623
Units: ug/mL

File ID: J:\GC02\DATA\GC028B19\0219-02A.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	47	15500	14600	-6	NA	± 25 %	AverageRF
n-Nonatriacontane	300	340	4970	5640	14	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3300	12700	11000	NA	-2	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/19/2008

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 02/12/2008
ICAL ID: CAL1333
Analysis Lot: JWG0800623
Units: ug/mL

File ID: J:\GC02\DATA\GC028B19\0219-15.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	48	15500	14900	-4	NA	± 25 %	AverageRF
n-Nonatriacontane	300	350	4970	5810	17	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3000	12700	9950	NA	-11	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/20/2008

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 02/12/2008
ICAL ID: CAL1333
Analysis Lot: JWG0800623
Units: ug/mL

File ID: J:\GC02\DATA\GC028B19\0219-26.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	46	15500	14400	-7	NA	± 25 %	AverageRF
n-Nonatriacontane	300	350	4970	5790	17	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3500	12700	11500	NA	4	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681
Date Analyzed: 02/20/2008

Continuing Calibration Verification Summary
Total Petroleum Hydrocarbons (TPH) by GC-FID

ICAL Type: External Standard
Analysis Method: FL-PRO

ICAL Date: 02/12/2008
ICAL ID: CAL1333
Analysis Lot: JWG0800623
Units: ug/mL

File ID: J:\GC02\DATA\GC028B19\0219-36.D

Column ID: DB-5

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
o-Terphenyl	50	46	15500	14400	-7	NA	± 25 %	AverageRF
n-Nonatriacontane	300	350	4970	5830	17	NA	± 25 %	AverageRF
C8-C40 PRO	3400	3500	12700	11400	NA	2	± 25 %	Linear

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093

Service Request: J0800681

Analysis Run Log
Total Petroleum Hydrocarbons (TPH) by GC-FID

Analysis Method: FL-PRO

Analysis Lot: JWG0800623
Instrument ID: GC02
Column: DB-5

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0219-02A.D	Continuing Calibration Verification	JWG0800623-1	2/19/2008	09:46		2/19/2008	10:14
\0219-07.D	ZZZZZZ	ZZZZZZ	2/19/2008	12:50		2/19/2008	13:18
\0219-08.D	ZZZZZZ	ZZZZZZ	2/19/2008	13:26		2/19/2008	13:54
\0219-09.D	ZZZZZZ	ZZZZZZ	2/19/2008	14:02		2/19/2008	14:30
\0219-10.D	ZZZZZZ	ZZZZZZ	2/19/2008	14:38		2/19/2008	15:06
\0219-11.D	Method Blank	JWG0800579-3	2/19/2008	15:15		2/19/2008	15:43
\0219-12.D	Lab Control Sample	JWG0800579-1	2/19/2008	15:51		2/19/2008	16:19
\0219-13.D	Duplicate Lab Control Sample	JWG0800579-2	2/19/2008	16:27		2/19/2008	16:55
\0219-15.D	Continuing Calibration Verification	JWG0800623-2	2/19/2008	17:54		2/19/2008	18:22
\0219-25.D	ZZZZZZ	ZZZZZZ	2/19/2008	23:56		2/20/2008	00:24
\0219-26.D	Continuing Calibration Verification	JWG0800623-3	2/20/2008	00:33		2/20/2008	01:01
\0219-27.D	NG-12S-2008211	J0800681-001	2/20/2008	01:09		2/20/2008	01:37
\0219-28.D	CEF-059-028-015-2008211	J0800681-002	2/20/2008	01:45		2/20/2008	02:13
\0219-29.D	CEF-815-5S-2008212	J0800681-003	2/20/2008	02:22		2/20/2008	02:50
\0219-30.D	CEF-815-1S-2008212	J0800681-004	2/20/2008	02:58		2/20/2008	03:26
\0219-31.D	CEF-815-DUP01-2008212	J0800681-005	2/20/2008	03:35		2/20/2008	04:03
\0219-32.D	ZZZZZZ	ZZZZZZ	2/20/2008	04:10		2/20/2008	04:38
\0219-33.D	ZZZZZZ	ZZZZZZ	2/20/2008	04:47		2/20/2008	05:15
\0219-34.D	ZZZZZZ	ZZZZZZ	2/20/2008	05:23		2/20/2008	05:51
\0219-35.D	ZZZZZZ	ZZZZZZ	2/20/2008	05:59		2/20/2008	06:27
\0219-36.D	Continuing Calibration Verification	JWG0800623-4	2/20/2008	07:12		2/20/2008	07:40
\0219-37.D	ZZZZZZ	ZZZZZZ	2/20/2008	07:48		2/20/2008	08:16
\0219-38.D	ZZZZZZ	ZZZZZZ	2/20/2008	08:24		2/20/2008	08:52
\0219-39.D	ZZZZZZ	ZZZZZZ	2/20/2008	09:00		2/20/2008	09:28
\0219-40.D	ZZZZZZ	ZZZZZZ	2/20/2008	09:36		2/20/2008	10:04
\0219-41.D	ZZZZZZ	ZZZZZZ	2/20/2008	10:12		2/20/2008	10:40
\0219-42.D	ZZZZZZ	ZZZZZZ	2/20/2008	10:48		2/20/2008	11:16
\0219-43.D	Continuing Calibration Verification	JWG0800623-5	2/20/2008	12:01		2/20/2008	12:29

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Tetra Tech NUS,Inc.
Project: Cecil - 815 Wash Rack/112GN4093
Sample Matrix: Water

Service Request: J0800681
Date Extracted: 02/18/2008

Extraction Prep Log
Total Petroleum Hydrocarbons (TPH) by GC-FID

Extraction Method: METHOD
Analysis Method: FL-PRO

Extraction Lot: JWG0800579
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
NG-12S-2008211	J0800681-001	02/11/08	02/12/08	980ml	2.0ml	NA	
CEF-059-028-015-2008211	J0800681-002	02/11/08	02/12/08	980ml	2.0ml	NA	
CEF-815-5S-2008212	J0800681-003	02/12/08	02/12/08	930ml	2.0ml	NA	
CEF-815-1S-2008212	J0800681-004	02/12/08	02/12/08	980ml	2.0ml	NA	
CEF-815-DUP01-2008212	J0800681-005	02/12/08	02/12/08	980ml	2.0ml	NA	
Method Blank	JWG0800579-3	NA	NA	1000ml	2.0ml	NA	
Lab Control Sample	JWG0800579-1	NA	NA	1000ml	2.0ml	NA	
Duplicate Lab Control Sample	JWG0800579-2	NA	NA	1000ml	2.0ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis