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ANNUAL GROUNDWATER MONITORING REPORT SIXTH YEAR FEBRUARY 2011 EVENT AT OCALA F-18 CRASH SITE NAS CECIL FIELD FL

05/20/2011

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PITT-05-11-037

May 20, 2011

Project Number 112G02267

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

Reference: CLEAN Contract Number N62470-08-D-1001
Contract Task Order JM09

Subject: Annual Groundwater Monitoring Report, 6th Year – February 2011 Event
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Dear Mr. Grabka:

On behalf of the Navy, Tetra Tech, Inc. (Tetra Tech) is pleased to submit this Annual, 6th Year Groundwater Monitoring Report for the referenced Contract Task Order for Ocala F-18 Crash Site, located approximately 82 miles south of former Naval Air Station (NAS) Cecil Field, Jacksonville, Florida. This Annual Groundwater Monitoring Report was prepared for the United States Navy, Naval Facilities Engineering Command Southeast (NAVFAC SE), under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract Number N62470-08-D-1001.

The primary objective of the sampling activities detailed herein is to monitor groundwater associated with the shallow surficial aquifer at the site on an annual basis. The sampling activities were accomplished in general accordance with the Natural Attenuation Monitoring Plan Approval Order (NAMPAO) issued by the Florida Department of Environmental Protection (FDEP) under Chapter 62-770, Florida Administrative Code (F.A.C.) on October 21, 2005 (FDEP, 2005). A copy of the NAMPAO is provided in Attachment A.

This report summarizes the field operations and analytical results for the subject site for the Annual, 6th Year – February 2011 sampling event.

BACKGROUND

The Ocala F-18 Crash Site is located in the Ocala National Forest, approximately 82 miles south of former NAS Cecil Field, Jacksonville, Florida, and approximately 22 miles southeast of Ocala, Florida. The general site location is depicted on Figure 1.

In June 1994, a Navy F-18 jet, based at and flying from NAS Cecil Field, crashed in the Ocala National Forest. Initial remedial actions included the excavation of approximately 2,650 cubic yards of contaminated soil by Bechtel Environmental, Inc. (BEI) in September and November 1994. In February 1995, Bechtel completed a Site Assessment which included the installation and sampling of six soil borings, three piezometers, and one permanent monitoring well (CEF-CS1A). In January 1996, BEI removed an additional 576 tons of soil and installed five additional monitoring wells (CEF-CS2, CEF-CS3, CEF-CS4, CEF-CS5, and CEF-CS6). In September 1997, ABB-Environmental Services, Inc. (ABB-ES) sampled monitoring wells CEF-CS1A, CEF-CS2, and CEF-CS3 to re-evaluate groundwater quality at the site. Concentrations of benzene, ethylbenzene, total xylenes, and naphthalene detected in monitoring well

CEF-CS1A exceeded FDEP Groundwater Cleanup Target Levels (GCTLs) cited in Chapter 62-777, F.A.C. An additional monitoring well (CEF-CS7) was installed on November 20, 1997, to assess downgradient groundwater quality. ABB-ES submitted a Monitoring Only Natural Attenuation (MONA) Plan for the site, dated January 20, 1998, which was approved by the FDEP in April 1998 (ABB-ES, 1998). ABB-ES performed quarterly groundwater monitoring from May 4, 1998, through February 22, 1999. Tetra Tech began performing semi-annual monitoring activities after the February 1999 sampling event.

During the third year of semi-annual monitoring in October 2002, Tetra Tech recommended that a treatability study be conducted to evaluate the remediation of the site, since the concentrations of contaminants of concern (COCs) had not decreased to meet the MONA target levels. The Base Realignment and Closure (BRAC) Cleanup Team (BCT) decided to continue with monitoring instead of conducting the treatability study. The COCs, as defined in the MONA, were benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl-ether (MTBE), and polynuclear aromatic hydrocarbons (PAHs). Semi-annual monitoring continued in April 2003, and concentrations of COCs appeared to be less than milestones set by the MONA order; therefore, continued monitoring was recommended. FDEP requested the installation of three additional monitoring wells directly downgradient of the monitoring well CEF-CS1A. The FDEP also requested that these additional monitoring wells be sampled and included in all further reporting. Based on the FDEP requests for a more refined delineation of the plume centered on source well CEF-CS1A, Tetra Tech mobilized to the site in January 2005 to install three perimeter wells (CEF-CS8, CEF-CS9, and CEF-CS10).

Results of the sampling event conducted after the installation of the new monitoring wells in 2005 showed concentrations of benzene; 1,3,5-trimethylbenzene; 1,2,4-trimethylbenzene; 1-methylnaphthalene; 2-methylnaphthalene; and naphthalene in exceedance of FDEP GCTLs at monitoring well CEF-CS1A. A revised Natural Attenuation Monitoring Plan (NAMP) was proposed with new action levels for different monitoring wells and the following COCs: benzene; 1,3,5-trimethylbenzene; 1,2,4-trimethylbenzene; 1-methylnaphthalene; 2-methylnaphthalene; and naphthalene. FDEP approved the NAMP recommendations with a NAMPAO in October 2005 (see Attachment A).

Semi-annual sampling continued under the NAMPAO from March 2006 to February 2008. Sampling frequency was changed to annual after February 2008.

Records regarding the vertical and horizontal extent of the soil removal activities, including any confirmatory soil sampling locations and analyses, are not available. Because of the data gaps that exist related to the original soil excavation completed by BEI, additional soil sampling was recommended and approved during the July 2008 BCT meeting to further investigate the potential contributing source in the area surrounding monitoring well CEF-CS1A. Additionally, the BCT approved the removal of monitoring well CEF-CS1A and the installation of monitoring well CEF-CS1AR. Groundwater samples collected from the source well (CEF-CS1AR) during the March 2009 monitoring event had 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; and naphthalene concentrations greater than the End of Year 4 Action Levels as defined in the NAMPAO. Benzene, 1-methylnaphthalene, and 2-methylnaphthalene concentrations in the source well CEF-CS1AR were less than the End of Year 4 Action Levels. During the March 2009 monitoring event, soil samples collected from soil boring CEF-OCS-SB04 at a depth of 28 feet below ground surface (bgs) showed concentrations of 1,2,4-trimethylbenzene and 1-methylnaphthalene greater than their respective FDEP Soil Cleanup Target Levels (SCTLs) for leachability.

Groundwater samples collected from the source well (CEF-CS1AR) during the February 2010 monitoring event showed no exceedances of COCs. During the May 2010 BCT meeting, the team agreed that monitoring wells CEF-CS1AR and CEF-CS10 would be sampled for confirmation of results. During the May 2010 confirmatory sampling event, COCs were detected in the source well (CEF-CS1AR), but at concentrations less than their associated GCTLs. All results in downgradient well CEF-CS10 were non-detect.

A brief discussion of the sampling activities for the annual, 6th Year – February 2011 sampling event are provided below.

FIELD OPERATIONS

February 2011 field operations were performed in general accordance with FDEP and Tetra Tech Standard Operating Procedures (SOPs). Groundwater samples were collected on February 9, 2011, using low-flow methods, from the four monitoring wells (CEF-CS1AR, CEF-CS3, CEF-CS8, and CEF-CS10) listed in the 2005 NAMPAO. Following collection, the groundwater samples were placed on ice and delivered via FedEx under chain-of-custody to Empirical Laboratories in Nashville, Tennessee, for analysis. Groundwater samples were analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method SW-846 8260B; and PAHs using USEPA Method SW-846 8270C.

Prior to obtaining the February 2011 groundwater samples, synoptic water levels and total well depths were measured in the ten wells in the area (CEF-CS1AR, CEF-CS2 through CEF-CS10) and recorded on a site-specific groundwater level measurement sheet. The field data sheets are included in Attachment B. The depth-to-water measurements were subtracted from known top of casing elevations to calculate groundwater elevations.

RESULTS

Groundwater elevations in the perimeter wells ranged from 54.46 to 54.75 feet above mean sea level. The depth to water measured at CEF-CS1AR was 27.36 feet below top of casing (btoc), which corresponded to a groundwater elevation of 54.19 feet above mean sea level. This groundwater elevation is inconsistent with other results, thus the top of casing elevations for each well on site were confirmed using the survey results collected in 1996. The survey results, taken after soil removal actions were complete, are included as Attachment D. Table 1 provides the groundwater elevation data. Figure 2 shows that the direction of groundwater flow was to the northeast in February 2011. These results are consistent with previous measurements and calculations for the site.

The analytical results for this event are summarized in Table 2, historical results are included in Table 3, and the laboratory report is provided as Attachment C. Figure 3 presents the analytical results for this event. As indicated in Table 2, the GCTL for isopropylbenzene was exceeded in CEF-CS1AR during this sampling event. The GCTL for isopropylbenzene is 0.8 micrograms per liter (µg/L). The Natural Attenuation Default Concentration for isopropylbenzene (8 µg/L), as defined in Chapter 62-777, F.A.C., was not exceeded in the groundwater samples collected during this event. Isopropylbenzene concentrations in CEF-CS1AR decreased from 10.6 µg/L in the Year 4 Annual Event to not detected (ND) in Year 5. The concentration detected during Year 6 (2.12 µg/L) is greater than the Year 5 (2010) result, but less than the Year 4 (2009) result, and is also less than all other isopropylbenzene detections at the source well (CEF-CS1AR,and previously CEF-CS1A) since monitoring began.

All other COC concentrations in CEF-CS1AR, and all concentrations in CEF-CS3, CEF-CS8, and CEF-CS10 were detected at levels less than their respective GCTLs, or not detected.

CONCLUSIONS AND RECOMMENDATIONS

During the February 2011 sampling event, the isopropylbenzene concentration exceeded its GCTL at the source well (CEF-CS1AR). There have been no detections of any COCs at CEF-CS3 or CEF-CS8 greater than GCTLs since monitoring began, and there have been no COCs detected at CEF-CS10 during the last two consecutive annual sampling events.

Because COCs were detected, including the isopropylbenzene exceedance at CEF-CS1AR, it is recommended that long-term monitoring continue at Ocala F-18 Crash Site. Tetra Tech will prepare a Uniform Federal Policy – Sampling and Analysis Plan (UFP-SAP) for Long-Term Monitoring at Ocala F-18 Crash Site, and it is recommended that the UFP-SAP include monitoring at CEF-CS1AR, the source well, and CEF-CS10 only. CEF-CS3 and CEF-CS8 will be eliminated from the program because they are

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upgradient wells, and have not shown exceedances of any GCTLs since the monitoring program began. Historic potentiometric surface maps are included in Attachment E to verify that CEF-CS3 and CEF-CS8 are historically upgradient wells. CEF-CS10 will be included as a downgradient monitoring well to verify that contamination is not migrating downgradient. The two wells will be sampled and analyzed for the following parameters: benzene, ethylbenzene, toluene, xylenes, isopropylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene. It is proposed that the monitoring frequency be semi-annual, to monitor seasonal fluctuations. If the recommendation for continued monitoring is accepted, a new NAMPAO will be required.

The 1st semi-annual, Year 7 sampling event is scheduled for August 2011 and will be conducted in accordance with the UFP-SAP. Water levels will be measured in monitoring wells CEF-CS1AR, and CEF-CS2 through CEF-CS10 to evaluate groundwater flow at the site. A Year 7, 1st semi-annual Groundwater Monitoring Report will be prepared when the results from the sampling event have been received and evaluated.

If you have any questions with regard to this submittal, please contact me at (412) 921-8163 or by email at Robert.Simcik@tetratech.com.

Sincerely,

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

RFS/clm

Enclosures (7)

c: A. Sanford, BRAC PMO (electronic copy)
M. Davidson, BRAC PMO (electronic copy)
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D. Vaughn-Wright, USEPA (electronic copy)
M. Halil, CH2M Hill (electronic only)
S. Currie, Tetra Tech CTO JM09 project file (1 copy, unbound)
J. Trepanowski, Tetra Tech
J. Johnson, Tetra Tech (1 copy for Information Repository)

CERTIFICATION

The information contained herein is based on the geologic investigation and associated information detailed in the text and appended to this report. If conditions are determined to exist that differ from those described, the undersigned engineer should be notified to evaluate the effects of any additional information on the information described in this report. This Annual Groundwater Monitoring Report, 6th Year – February 2011, was developed for the Ocala F-18 Crash Site associated with Naval Air Station Cecil Field and should not be construed to apply to any other site.

ROBERT F. SIMCIK LICENSE No. 00061283 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert F. Simcik, P.E.
License Number 61263

REFERENCES

ABB-ES (ABB-Environmental Services, Inc.), 1998. Monitoring Only Proposal for Natural Attenuation, Ocala F-18 Crash Site, Jacksonville, Florida. January.

FDEP (Florida Department of Environmental Protection), 2005. Natural Attenuation Monitoring Plan Approval Order, Ocala F-18 Crash Site, Naval Air Station Cecil Field, Ocala National Forest, Marion County, Florida. October.

Tetra Tech (Tetra Tech NUS, Inc.), 2010. Annual Groundwater Monitoring Report, Year 5, Ocala F-18 Crash Site, Naval Air Station Cecil Field, Jacksonville, Florida. September.

TABLES

Table 1
Groundwater Elevation and Monitoring Well Construction Data

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification	Total Well Depth (ft bgs)	TOC Elevation (ft msl)	May 4, 1998		August 26, 1998		November 23, 1998		February 22, 1999	
			Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)
CEF-CS1A	30.2	81.30	20.30	61.00	21.85	59.45	20.23	61.07	22.39	58.91
CEF-CS2	32.3	83.54	22.52	61.02	24.17	59.37	22.42	61.12	24.60	58.94
CEF-CS3	34.0	80.98	20.08	60.90	21.60	59.38	20.00	60.98	22.16	58.82
CEF-CS4	32.6	79.88	19.05	60.83	20.55	59.33	18.96	60.92	21.12	58.76
CEF-CS5	32.4	80.66	19.79	60.87	21.06	59.60	19.50	61.16	21.68	58.98
CEF-CS6	53.8	81.59	20.61	60.98	22.15	59.44	20.52	61.07	22.67	58.92
CEF-CS7	29.65	80.89	20.11	60.78	21.64	59.25	20.00	60.89	22.15	58.74
CEF-CS8	32.4	81.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CEF-CS9	33.3	82.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CEF-CS10	32.6	82.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Monitoring Well Identification	Total Well Depth (ft bgs)	TOC Elevation (ft msl)	October 4, 1999		March 7, 2000		September 27, 2000		March 7, 2001	
			Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)
CEF-CS1A	30.2	81.30	25.05	56.25	25.98	55.32	28.49	52.81	30.29	51.01
CEF-CS2	32.3	83.54	27.33	56.21	28.28	55.26	30.77	52.77	31.91	51.63
CEF-CS3	34.0	80.98	24.84	56.14	25.82	55.16	28.26	52.72	30.07	50.91
CEF-CS4	32.6	79.88	23.79	56.09	24.80	55.08	27.19	52.69	29.02	50.86
CEF-CS5	32.4	80.66	24.33	56.33	25.35	55.31	27.77	52.89	29.6	51.06
CEF-CS6	53.8	81.59	25.37	56.22	26.33	55.26	28.78	52.81	30.59	51.00
CEF-CS7	29.65	80.89	24.84	56.05	25.81	55.08	28.27	52.62	DRY	<50.99
CEF-CS8	32.4	81.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CEF-CS9	33.3	82.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CEF-CS10	32.6	82.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1
Groundwater Elevation and Monitoring Well Construction Data

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Monitoring Well Identification	Total Well Depth (ft bgs)	TOC Elevation (ft msl)	October 4, 2002		April 21. 2003		January 19, 2005		March 15, 2006	
			Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)
CEF-CS1A	30.2	81.30	24.23	57.07	21.76	59.54	21.42	59.88	20.73	60.57
CEF-CS2	32.3	83.54	26.59	56.95	24.13	59.41	23.71	59.83	23.00	60.54
CEF-CS3	34.0	80.98	23.98	57.00	21.53	59.45	21.21	59.77	20.55	60.43
CEF-CS4	32.6	79.88	22.89	56.99	20.44	59.44	20.17	59.71	19.52	60.36
CEF-CS5	32.4	80.66	23.43	57.23	20.96	59.70	20.73	59.93	20.08	60.58
CEF-CS6	53.8	81.59	24.55	57.04	22.10	59.49	21.72	59.87	21.06	60.53
CEF-CS7	29.65	80.89	23.97	56.92	21.52	59.37	21.19	59.70	20.55	60.34
CEF-CS8	32.4	81.75	N/A	N/A	N/A	N/A	21.85	59.90	21.18	60.57
CEF-CS9	33.3	82.31	N/A	N/A	N/A	N/A	22.45	59.86	21.94	60.37
CEF-CS10	32.6	82.09	N/A	N/A	N/A	N/A	22.76	59.33	21.61	60.48

Monitoring Well Identification	Total Well Depth (ft bgs)	TOC Elevation (ft msl)	September 19, 2006		February 8, 2007		August 21, 2007		February 25, 2008	
			Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)
CEF-CS1A	30.2	81.30	22.72	58.58	24.76	56.54	25.65	55.65	26.02	55.28
CEF-CS2	32.3	83.54	25.08	58.46	27.07	56.47	28.02	55.52	28.33	55.21
CEF-CS3	34.0	80.98	22.58	58.40	24.56	56.42	25.43	55.55	25.81	55.17
CEF-CS4	32.6	79.88	21.50	58.38	23.52	56.36	24.36	55.52	24.76	55.12
CEF-CS5	32.4	80.66	22.07	58.59	24.08	56.58	24.91	55.75	25.32	55.34
CEF-CS6	53.8	81.59	23.04	58.55	25.09	56.50	25.97	55.62	26.32	55.27
CEF-CS7	29.65	80.89	22.54	58.35	24.55	56.34	25.39	55.50	25.79	55.10
CEF-CS8	32.4	81.75	23.22	58.53	25.23	56.52	26.15	55.60	26.47	55.28
CEF-CS9	33.3	82.31	23.83	58.48	25.81	56.50	26.73	55.58	27.07	55.24
CEF-CS10	32.6	82.09	23.65	58.44	25.61	56.48	NM	NM	26.86	55.23

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Ocala F-18 Crash Site
Naval Air Station Cecil Field
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Monitoring Well Identification	Total Well Depth (ft bgs)	TOC Elevation (ft msl)	March 12, 2009		February 17, 2010		May 10, 2010		February 9, 2011	
			Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)	Depth to Water (ft btoc)	Water Level Elevation (ft msl)
CEF-CS1AR	30.2	81.55	NM	NM	24.07	57.23	22.67	58.88	27.36	54.19
CEF-CS2	32.3	83.55	26.34	57.21	25.75	57.79	24.28	59.27	28.92	54.63
CEF-CS3	34.0	81.04	23.85	57.19	23.14	57.84	21.72	59.32	26.42	54.62
CEF-CS4	32.6	80.02	22.82	57.20	22.07	57.81	20.65	59.37	25.38	54.64
CEF-CS5	32.4	80.67	23.38	57.29	22.59	58.07	21.19	59.48	25.92	54.75
CEF-CS6	53.8	81.63	24.36	57.27	23.67	57.92	22.26	59.37	26.92	54.71
CEF-CS7	29.65	80.89	23.85	57.04	23.16	57.73	21.70	59.19	26.43	54.46
CEF-CS8	32.4	81.75	24.5	57.25	23.85	57.90	22.4	59.35	27.08	54.67
CEF-CS9	33.3	82.31	25.1	57.21	24.5	57.81	23.03	59.28	27.67	54.64
CEF-CS10	32.6	82.09	24.91	57.18	24.32	57.77	22.8	59.29	27.45	54.64

NM = Not measured.
N/A = Not applicable.
msl = Mean sea level.
bgs = Below ground surface.
msl = Mean sea level.
ft msl = Feet above mean sea level.
btoc = Below top of casing.
TOC = Top of casing.

Table 2
Summary of Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	Source Well	Perimeter Wells				Cleanup Criteria
	CEF-CS1AR	CEF-CS3	CEF-CS8	CEF-CS10		GCTL[1]
				Sample	Duplicate	
VOCs (USEPA Method 8260B) (µg/L)						
Benzene[2]	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1
Isopropylbenzene	**2.12**	0.25 U	0.25 U	0.25 U	0.25 U	0.8
Ethylbenzene	**1.25**	0.25 U	0.25 U	0.25 U	0.25 U	30
Toluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	40
Total Xylenes	**1.62**	0.75 U	0.75 U	0.75 U	0.75 U	20
1,3,5-Trimethylbenzene[2]	**1.25**	0.25 U	0.25 U	0.25 U	0.25 U	10
1,2,4-Trimethylbenzene[2]	**7.18**	0.25 U	0.25 U	0.25 U	0.25 U	10
PAHs (USEPA Method 8270C SIM) (µg/L)						
Acenaphthene	0.0467 U	0.0467 U	0.0467 U	0.0467 U	0.0467 U	20
Fluorene	0.0467 U	0.0467 U	0.0467 U	0.0467 U	0.0467 U	280
1-Methylnaphthalene[2]	**2.71**	0.0467 U	0.0467 U	0.0467 U	0.0467 U	28
2-Methylnaphthalene[2]	**2.75**	0.0467 U	0.0467 U	0.0467 U	0.0467 U	28
Naphthalene[3]	**2.79**	0.0467 U	0.0467 U	0.0467 U	0.0467 U	14

[1] GCTL as defined by Chapter 62-777, F.A.C., Table I (as amended April 2005).
[2]COC per NAMPAO.
U = Not detected in excess of laboratory method detection limit.
GCTL = Groundwater Cleanup Target Level.
NS = Not sampled.
NE = Not established.
NA = No value presented in the current NAMPAO.
J - Estimated value.
Bolded value indicates detected concentration.
Shaded value indicates concentration greater than criteria.

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS1A (Source)[2]									
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Aug-98	Nov-98	Feb-99	Oct-99	Mar-00	Mar-00	Sep-00	Mar-01	Oct-02	Oct-02
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	**16**	**14**	**13**	**16.9**	**16.6**	**16.6**	**42**	**39**	**1.0**	**1.2**
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	30	NE	NE	NE	NE	NE	**44**	**31**	**34**	**43.2**	**31.2**	**31.2**	**31**	**50**	**28.0**	**30.2**
Toluene	40	NE	NE	NE	NE	NE	**7.1**	**3.5**	**1.8**	**3.4**	**2.1**	**2.1**	**6**	**8.9**	ND	**0.61**
Total Xylenes	20	NE	NE	NE	NE	NE	**115**	**63**	**33**	**80.4**	**38.4**	**38.4**	**39**	**53**	**16.2**	**16.3**
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	**52**	**75**	**39**	**16**	**29.5**	**16.8**	**34**	**61**	**34.5**	**33.5**
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	**45**	**87**	**31**	**27**	**37.2**	**20.3**	**20**	**32**	**62.4**	**62.2**
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	**75**	**59**	**42**	**17**	**33.1**	**19.6**	**18**	**38**	**58.7**	**57.5**

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS1A (Source)[2]							CEF-CS1AR		
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Apr-03	Jan-05	Mar-06	Sep-06	Feb-07	Aug-07	Feb-08	Mar-09	Mar-09 Dup	Feb-10
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	ND	**1.5**	**0.745 J**	**1.4**	**2.0**	**0.8 J**	**1.6**	**0.72 J**	**0.63 J**	0.21 U
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	NS	**11**	NS	NS	NS	**24**	**16**	**10.6**	**10.2**	0.20 U
Ethylbenzene	30	NE	NE	NE	NE	NE	**10.6**	**22**	**0.8**	**19.4**	NS	**26**	**30**	**27.2**	**26.7**	0.20 U
Toluene	40	NE	NE	NE	NE	NE	**0.56**	**0.73**	**23**	**0**	NS	0.20 U	**0.76 J**	**2.9**	**2.8**	0.20 U
Total Xylenes	20	NE	NE	NE	NE	NE	**9.2**	**10**	**10.5**	**8.6**	NS	**2**	**7.5**	**48.4**	**47.2**	0.54 U
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	NS	**12**	1 U	**1.9**	**3.7**	**0.44 J**	**5.7**	**22.3**	**22.7**	0.21 U
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	NS	**48**	**74.65 J**	**115**	**49.2**	**14**	**29**	**98.5**	**97.4**	0.22 U
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	**13.4**	**20**	**9.05**	**13.5**	**20.1**	**40 J**	**33**	**29.9**	**31.9**	2.0 U
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	**30.7**	**31**	**19.95**	**22.5**	**32.8**	**81 J**	**50**	**26.1**	**27.8**	**0.74 J**
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	**30.4**	**32**	**19**	**23.4**	**32.2**	**90 J**	**54**	**24.5**	**24.8**	0.50 U

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS1AR			CEF-CS2			CEF-CS3 (perimeter)			
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Feb-10 Dup	May-10	Feb-11	Oct-99	Jan-05	Aug-98	Nov-98	Feb-99	Oct-99	Mar-00
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	0.21 U	0.27 U	0.25 U	ND	ND	ND	ND	ND	NS	ND
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	0.20 U	0.20 U	**2.12**	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	30	NE	NE	NE	NE	NE	0.20 U	0.26 U	**1.25**	ND	ND	ND	ND	ND	NS	ND
Toluene	40	NE	NE	NE	NE	NE	0.20 U	0.30 U	0.25 U	ND	ND	ND	ND	ND	NS	ND
Total Xylenes	20	NE	NE	NE	NE	NE	0.54 U	0.50 U	**1.62**	ND	ND	ND	ND	ND	NS	ND
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	0.21 U	0.26 U	**1.25**	NS	ND	NS	NS	NS	NS	NS
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	0.22 U	0.28 U	**7.18**	NS	ND	NS	NS	NS	NS	NS
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	0.074	0.0467 U	ND	ND	ND	ND	ND	NS	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	0.059	0.0467 U	ND	ND	ND	ND	ND	NS	ND
Naphthalene[3]	14	30	25	20	15	14 U	1.0 U	**0.17**	**2.79**	ND	ND	ND	ND	ND	NS	ND
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	**0.55 J**	**1.3**	**2.71**	ND	ND	ND	ND	ND	NS	ND
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.50 U	**0.61**	**2.75**	ND	ND	ND	ND	ND	NS	ND

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS3 (perimeter)									
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Aug-00	Mar-01	Oct-02	Apr-03	Mar-06	Sep-06	Feb-07	Aug-07	Feb-08	Mar-09
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	ND	ND	ND	ND	0.5 U	0.2 U	0.5 U	0.2 U	0.20 U	0.4 U
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	0.1 U	0.36 U	0.20 U
Ethylbenzene	30	NE	NE	NE	NE	NE	ND	ND	ND	ND	0.5 U	0.3 U	NS	0.3 U	0.20 U	0.43 U
Toluene	40	NE	NE	NE	NE	NE	ND	ND	ND	ND	0.5 U	0.2 U	NS	0.2 U	0.14 U	0.35 U
Total Xylenes	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	0.5 U	0.3 U	NS	0.3 U	0.72 U	1.2 U
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	NS	NS	NS	NS	1 U	0.2 U	1 U	0.2 U	0.42 U	0.20 U
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	NS	NS	NS	NS	1 U	0.6	1 U	0.2 U	0.40 U	0.22 U
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	ND	ND	ND	ND	0.97 U	0.02 U	0.95 U	0.05 U	0.070 J	0.24 U
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	ND	ND	ND	ND	0.49 U	0.02 U	0.48 U	0.03 U	0.037 U	0.24 U
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	ND	ND	ND	ND	0.49 U	0.02 U	0.48 U	0.03 U	0.038 U	0.24 U

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS3 (perimeter)		CEF-CS4	CEF-CS5	CEF-CS6		CEF-CS7 (perimeter)[2]			
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Feb-10	Feb-11	Jan-05	Jan-05	Jan-05	Mar-09	Aug-98	Nov-98	Feb-99	Oct-99
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	0.21 U	0.25 U	ND	ND	ND	0.4 U	ND	ND	ND	ND
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	0.20 U	0.25 U	NS	NS	NS	0.20 U	NS	NS	NS	NS
Ethylbenzene	30	NE	NE	NE	NE	NE	0.20 U	0.25 U	ND	ND	ND	0.43 U	ND	ND	ND	ND
Toluene	40	NE	NE	NE	NE	NE	0.20 U	0.25 U	ND	ND	ND	0.35 U	ND	ND	ND	ND
Total Xylenes	20	NE	NE	NE	NE	NE	0.54 U	0.75 U	ND	ND	ND	1.2 U	1.2	ND	ND	ND
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	0.21 U	0.25 U	ND	ND	ND	0.20 U	NS	NS	NS	NS
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	0.22 U	0.25 U	ND	ND	ND	0.22 U	NS	NS	NS	NS
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	0.0467 U	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	0.0467 U	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	0.96 U	0.0467 U	ND	ND	ND	0.24 U	ND	ND	ND	ND
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.48 U	0.0467 U	ND	ND	ND	0.24 U	ND	ND	ND	ND
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.48 U	0.0467 U	ND	ND	ND	0.24 U	ND	ND	ND	ND

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS7						CEF-CS8			
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Mar-00	Sep-00	Mar-01	Oct-02	Apr-03	Jan-05	Jan-05	Mar-06	Sep-06	Feb-07
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	ND	ND	NS	ND	ND	ND	ND	0.5 U	0.2 U	0.5 U
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	30	NE	NE	NE	NE	NE	ND	ND	NS	ND	ND	ND	ND	0.5 U	0.3 U	NS
Toluene	40	NE	NE	NE	NE	NE	ND	ND	NS	ND	ND	ND	ND	0.5 U	0.2 U	NS
Total Xylenes	20	NE	NE	NE	NE	NE	ND	ND	NS	ND	ND	ND	ND	0.5 U	0.3 U	NS
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	NS	NS	NS	NS	NS	ND	ND	0.5 U	0.2 U	1 U
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	NS	NS	NS	NS	NS	ND	ND	0.5 U	0.6	1 U
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	ND	ND	NS	ND	ND	ND	ND	1 U	0.02 U	0.97 U
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	ND	ND	NS	ND	ND	ND	ND	0.52 U	0.02 U	0.49 U
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	ND	ND	NS	ND	ND	ND	ND	0.52 U	0.02 U	0.49 U

Table 3
Summary of Historical Detections in Groundwater

6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS8					CEF-CS9	CEF-CS10			
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Aug-07	Feb-08	Mar-09	Feb-10	Feb-11	Jan-05	Jan-05	Mar-06	Sep-06	Feb-07
VOCs (µg/L)																
Benzene[3]	1	3	2	1	1 U	1 U	0.2 U	0.20 U	0.4 U	0.21 U	0.25 U	ND	ND	0.5 U	0.2 U	0.5 U
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	0.1 U	0.36 U	0.20 U	0.20 U	0.25 U	NS	NS	NS	NS	NS
Ethylbenzene	30	NE	NE	NE	NE	NE	0.3 U	0.20 U	0.43 U	0.20 U	0.25 U	ND	ND	0.5 U	0.3 U	NS
Toluene	40	NE	NE	NE	NE	NE	0.2 U	0.14 U	0.35 U	0.20 U	0.25 U	ND	ND	0.5 U	0.2 U	NS
Total Xylenes	20	NE	NE	NE	NE	NE	0.3 U	0.72 U	1.2 U	0.54 U	0.75 U	ND	ND	0.5 U	0.3 U	NS
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	0.2 U	0.42 U	0.20 U	0.21 U	0.25 U	ND	ND	0.5 U	0.2 U	1 U
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	0.2 U	0.40 U	0.22 U	0.22 U	0.25 U	ND	ND	0.5 U	0.6	1 U
PAHs[2] (µg/L)																
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	ND	0.0467 U	ND	ND	ND	ND	ND
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	ND	0.0467 U	ND	ND	ND	ND	ND
Naphthalene[3]	14	30	25	20	15	14 U	0.05 U	0.061 J	0.24 U	0.98 U	0.0467 U	ND	ND	0.5 U	0.06	0.95 U
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.02 U	0.039 U	0.24 U	0.49 U	0.0467 U	ND	ND	0.5 U	0.35	0.48 U
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.02 U	0.040 U	0.24 U	0.49 U	0.0467 U	ND	ND	0.5 U	0.28	0.48 U

Table 3
Summary of Historical Detections in Groundwater

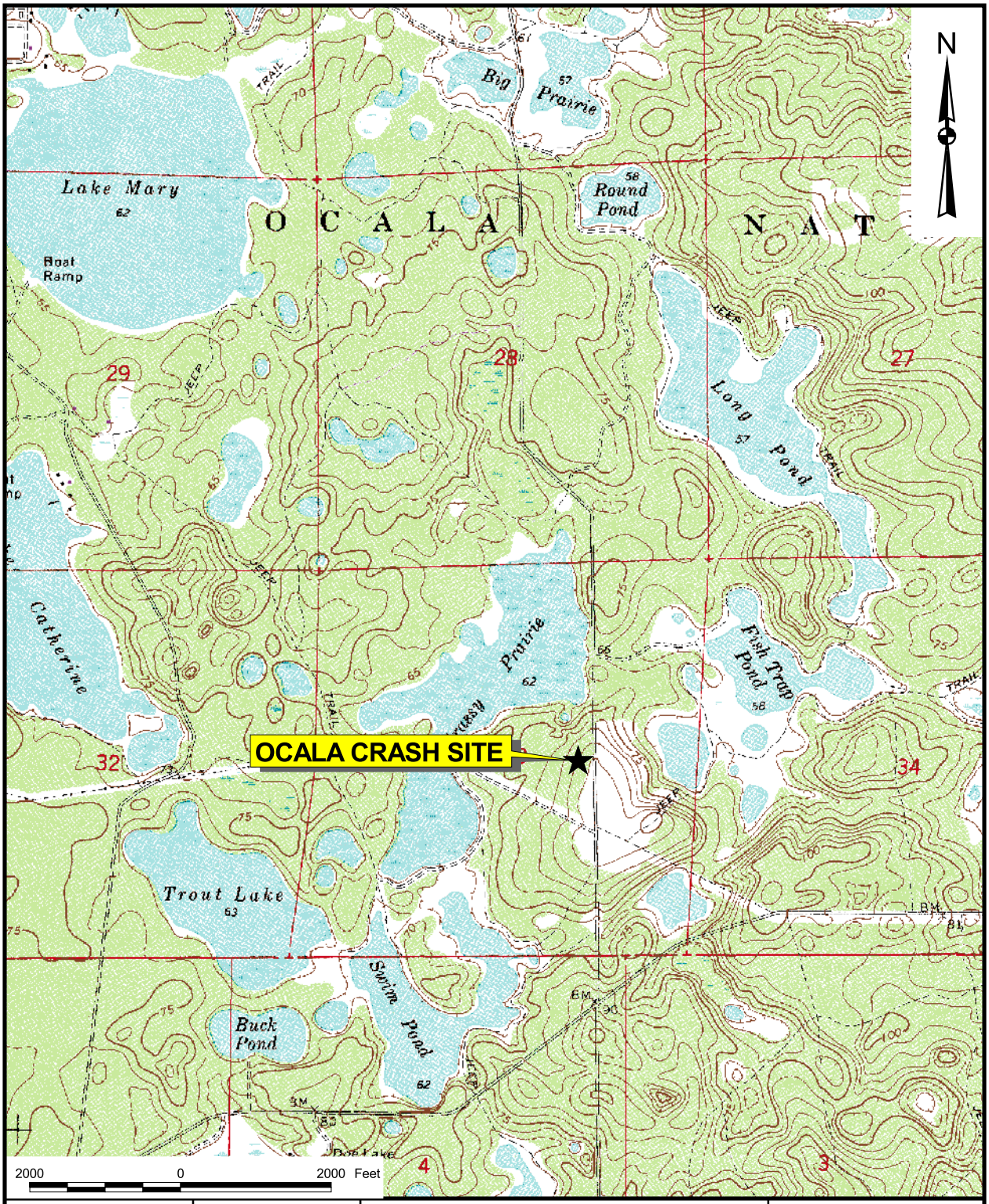
6th Year Annual Groundwater Monitoring Report
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Jacksonville, Florida

Contaminant	FDEP GCTL[1] (µg/L)	Action Level Objectives					CEF-CS10					
		End of Year 1 (2006)	End of Year 2 (2007)	End of Year 3 (2008)	End of Year 4 (2009)	End of Year 5 (2010)	Feb-08	Mar-09	Feb-10	May-10	Feb-11	Feb-11 Dup.
VOCs (µg/L)												
Benzene[3]	1	3	2	1	1 U	1 U	0.20 U	0.4 U	0.21 U	0.27 U	0.25 U	0.25 U
Isopropyl benzene	0.8	NE	NE	NE	NE	NE	0.36 U	**2.4**	0.20 U	0.20 U	0.25 U	0.25 U
Ethylbenzene	30	NE	NE	NE	NE	NE	0.20 U	0.43 U	0.20 U	0.26 U	0.25 U	0.25 U
Toluene	40	NE	NE	NE	NE	NE	0.14 U	0.35 U	0.20 U	0.30 U	0.25 U	0.25 U
Total Xylenes	20	NE	NE	NE	NE	NE	0.72 U	1.2 U	0.54 U	0.50 U	0.75 U	0.75 U
1,3,5-Trimethylbenzene[3]	10	15	14	13	12	10 U	0.42 U	0.20 U	0.21 U	0.26 U	0.25 U	0.25 U
1,2,4-Trimethylbenzene[3]	10	50	40	30	20	10 U	0.40 U	0.22 U	0.22 U	0.28 U	0.25 U	0.25 U
PAHs[2] (µg/L)												
Acenaphthene	20	NE	NE	NE	NE	NE	ND	ND	ND	0.03 U	0.0467 U	0.0467 U
Fluorene	280	NE	NE	NE	NE	NE	ND	ND	ND	0.03 U	0.0467 U	0.0467 U
Naphthalene[3]	14	30	25	20	15	14 U	**0.063 J**	0.24 U	0.96 U	0.03 U	0.0467 U	0.0467 U
1-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.037 U	0.24 U	0.48 U	0.03 U	0.0467 U	0.0467 U
2-Methylnaphthalene[3]	28	33	32	31	30	28 U	0.038 U	0.24 U	0.48 U	0.03 U	0.0467 U	0.0467 U

[1] GCTLs as defined in Chapter 62-777, F.A.C.
[2] May 1998 to February 1999, USEPA Method 625; October 1999 to March 2000; USEPA Method 8310; September 2000- March 2009, USEPA Method 8270C.
[3] COC per NAMPAO.

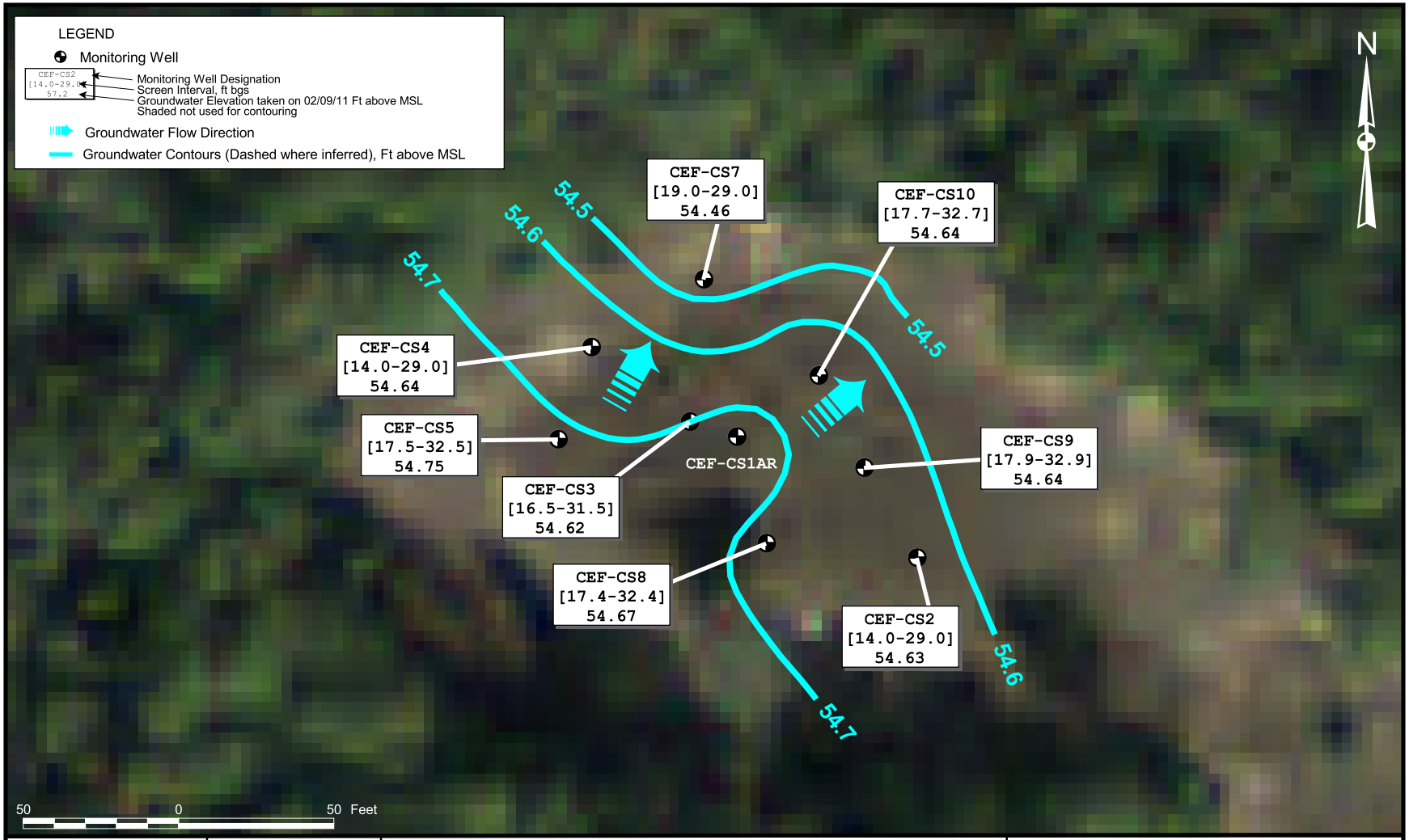
Bolded value indicates detected concentration.
Shaded value indicates concentration greater than criteria.
ND = Not detected.
NE = No value established in current approval order (October 2005).
NA = Not applicable.
J = Estimated value.
NS = Not sampled.
U = Not detected in excess of laboratory method detection limit.
I = Value between laboratory method detection limit and laboratory practical quantitation limit.

FIGURES



DRAWN BY MJJ	DATE 19Apr09	SITE LOCATION MAP YEAR 6 ANNUAL EVENT - FEBRUARY 2011 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NUMBER 2267
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1 / REV 0

:\GIS\NAS_CecilField\Ocala_20110209.apr 31Mar11 MJJ Layout0



MJJ — DATE 30Mar11		GROUNDWATER ELEVATION MAP	CONTRACT NUMBER 2267
CHECKED BY — DATE		YEAR 6 ANNUAL EVENT - FEBRUARY 2011	APPROVED BY — DATE
COST/SCHEDULE-AREA		OCALA F-18 CRASH SITE	APPROVED BY — DATE
SCALE AS NOTED	NAVFAC	OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	DRAWING NO. FIGURE 2 — REV 0

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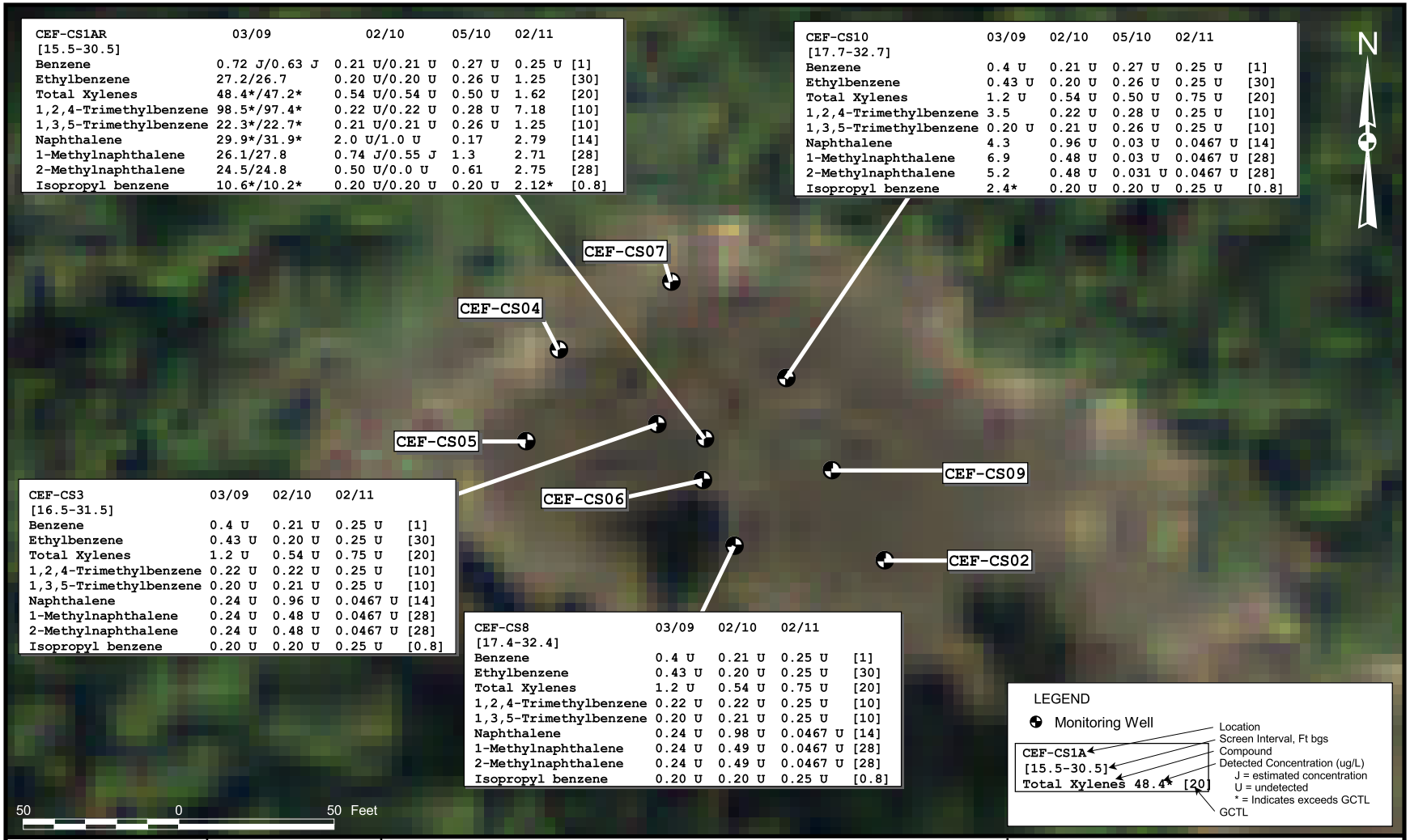


CEF-CS1AR [15.5-30.5]	03/09	02/10	05/10	02/11	
Benzene	0.72 J/0.63 J	0.21 U/0.21 U	0.27 U	0.25 U	[1]
Ethylbenzene	27.2/26.7	0.20 U/0.20 U	0.26 U	1.25	[30]
Total Xylenes	48.4*/47.2*	0.54 U/0.54 U	0.50 U	1.62	[20]
1,2,4-Trimethylbenzene	98.5*/97.4*	0.22 U/0.22 U	0.28 U	7.18	[10]
1,3,5-Trimethylbenzene	22.3*/22.7*	0.21 U/0.21 U	0.26 U	1.25	[10]
Naphthalene	29.9*/31.9*	2.0 U/1.0 U	0.17	2.79	[14]
1-Methylnaphthalene	26.1/27.8	0.74 J/0.55 J	1.3	2.71	[28]
2-Methylnaphthalene	24.5/24.8	0.50 U/0.0 U	0.61	2.75	[28]
Isopropyl benzene	10.6*/10.2*	0.20 U/0.20 U	0.20 U	2.12*	[0.8]

CEF-CS10 [17.7-32.7]	03/09	02/10	05/10	02/11	
Benzene	0.4 U	0.21 U	0.27 U	0.25 U	[1]
Ethylbenzene	0.43 U	0.20 U	0.26 U	0.25 U	[30]
Total Xylenes	1.2 U	0.54 U	0.50 U	0.75 U	[20]
1,2,4-Trimethylbenzene	3.5	0.22 U	0.28 U	0.25 U	[10]
1,3,5-Trimethylbenzene	0.20 U	0.21 U	0.26 U	0.25 U	[10]
Naphthalene	4.3	0.96 U	0.03 U	0.0467 U	[14]
1-Methylnaphthalene	6.9	0.48 U	0.03 U	0.0467 U	[28]
2-Methylnaphthalene	5.2	0.48 U	0.031 U	0.0467 U	[28]
Isopropyl benzene	2.4*	0.20 U	0.20 U	0.25 U	[0.8]

CEF-CS3 [16.5-31.5]	03/09	02/10	02/11	
Benzene	0.4 U	0.21 U	0.25 U	[1]
Ethylbenzene	0.43 U	0.20 U	0.25 U	[30]
Total Xylenes	1.2 U	0.54 U	0.75 U	[20]
1,2,4-Trimethylbenzene	0.22 U	0.22 U	0.25 U	[10]
1,3,5-Trimethylbenzene	0.20 U	0.21 U	0.25 U	[10]
Naphthalene	0.24 U	0.96 U	0.0467 U	[14]
1-Methylnaphthalene	0.24 U	0.48 U	0.0467 U	[28]
2-Methylnaphthalene	0.24 U	0.48 U	0.0467 U	[28]
Isopropyl benzene	0.20 U	0.20 U	0.25 U	[0.8]

CEF-CS8 [17.4-32.4]	03/09	02/10	02/11	
Benzene	0.4 U	0.21 U	0.25 U	[1]
Ethylbenzene	0.43 U	0.20 U	0.25 U	[30]
Total Xylenes	1.2 U	0.54 U	0.75 U	[20]
1,2,4-Trimethylbenzene	0.22 U	0.22 U	0.25 U	[10]
1,3,5-Trimethylbenzene	0.20 U	0.21 U	0.25 U	[10]
Naphthalene	0.24 U	0.98 U	0.0467 U	[14]
1-Methylnaphthalene	0.24 U	0.49 U	0.0467 U	[28]
2-Methylnaphthalene	0.24 U	0.49 U	0.0467 U	[28]
Isopropyl benzene	0.20 U	0.20 U	0.25 U	[0.8]

DRAWN BY MJJ	DATE 30Mar11
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

NAVFAC

GROUNDWATER SAMPLING RESULTS
YEAR 6 ANNUAL EVENT - FEBRUARY 2011
OCALA F-18 CRASH SITE
OCALA NATIONAL FOREST
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

CONTRACT NUMBER 2267	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 3	REV 0

:\GIS\NAS_CecilField\Ocala_20110209.apr 31Mar11 MJJ Layout2

ATTACHMENT A

NATURAL ATTENUATION MONITORING PLAN APPROVAL ORDER
OCTOBER, 2005

115-152

Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

October 21, 2005

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

RE: Supplemental Site Assessment Letter Report, Ocala F-18 Crash Site, Naval Air Station Cecil Field, Florida

Dear Mr. Magwood:

I have completed the review of the Supplemental Site Assessment Letter Report, Ocala F-18 Crash Site, Naval Air Station Cecil Field, dated August 3, 2005 (received August 5, 2005), prepared and submitted by Tetra Tech NUS, Inc. While the site is associated with Naval Air Station Cecil Field, the physical location of the site is within the Ocala National Forest. Based upon my review, the enclosed Natural Attenuation Monitoring Plan Approval Order (NAMPAO) was signed by Mr. Doug Jones, Chief, Bureau of Waste Cleanup.

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

Sincerely,

David P. Grabka

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

14 October 2005
Date

DAVID P. GRABKA
LICENSE
NO. 2192
STATE OF
FLORIDA
PROFESSIONAL GEOLOGIST

cc: Mark Davidson, SouthDiv, Charleston
Mike Fitzsimmons, FDEP, Northeast District
Doyle Brittain, USEPA Region 4

JJC JJC ESN for JJC

Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

October 21, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Subject: Natural Attenuation Monitorina Plan Approval Order
Ocala F-18 Crash Site
Naval Air Station Cecil Field
Ocala National Forest
Marion County

Dear Mr. Magwood:

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

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

Monitoring Wells	Contaminants of Concern	Frequency	Duration
CEF-CS1A; CEF-CS3; and CEF-CS-10	VOCs, PAHs	Semi-Annually	One year
CEF-CS8	PAHs		

The approved Remedial Action by Natural Attenuation monitoring period is five years. The sampling frequency will be evaluated following the submittal of the first annual report to determine whether semiannual or annual sampling may be appropriate.

The following are the expected annual reductions of concentrations of petroleum products' contaminants concern in monitoring wells that will be used for annual evaluation of remediation progress by natural attenuation. If the annual rate of expected cleanup progress is not achieved, then the monitoring report must include a proposal pursuant to paragraph 62-770.690(8)(f), F.A.C.:

	CEF-CS1A		CEF-CS1A
Benzene		Naphthalene	
End of year 1	3 µg/L	End of year 1	30 µg/L
End of year 2	2 µg/L	End of year 2	25 µg/L
End of year 3	1 µg/L	End of year 3	20 µg/L
End of year 4	<1 µg/L	End of year 4	15 µg/L
End of year 5	<1 µg/L	End of year 5	<14 µg/L
1,3,5-Trimethylbenzene		1-Methyl naphthalene	
End of year 1	15 µg/L	End of year 1	33 µg/L
End of year 2	14 µg/L	End of year 2	32 µg/L
End of year 3	13 µg/L	End of year 3	31 µg/L
End of year 4	12 µg/L	End of year 4	30 µg/L
End of year 5	<10 µg/L	End of year 5	<28 µg/L
1,2,4-Trimethylbenzene		2-Methyl naphthalene	
End of year 1	50 µg/L	End of year 1	33 µg/L
End of year 2	40 µg/L	End of year 2	32 µg/L
End of year 3	30 µg/L	End of year 3	31 µg/L
End of year 4	20 µg/L	End of year 4	30 µg/L
End of year 5	<10 µg/L	End of year 5	<28 µg/L

If concentrations of contaminants of concern in any of the designated wells increase above the action levels listed below, the well or wells must be resampled no later than 30 days after the initial positive results are known. If the results of the resampling confirm the initial sampling results, then the monitoring report referenced in paragraph 62-770.690(8)(d), F.A.C., must be signed and sealed by an appropriate registered professional pursuant to rule 62-770.490, F.A.C., and must include a proposal as described in paragraph 62-770.690(8)(e), F.A.C.

Contaminated wells:

CEF-CS1A: 100 μg/L Benzene; 100 μg/L 1,3,5-Trimethylbenzene; 100 μg/L 1,3,5-Trimethylbenzene ; 140 μg/L Naphthalene; 280 μg/L 1-Methylnaphthalene; 280 μg/L 2-Methylnaphthalene.

CEF-CS8: 5 μg/L Benzo(a)anthracene; 5 μg/L Benzo(b)fluoranthene.

Perimeter well[s] (temporary point[s] of compliance):

CEF-CS3 abd CEF-CS10: 1 μg/L Benzene; 10 pgIL 1,3,5-Trimethylbenzene; 10 μg/L 1,3,5-Trimethylbenzene ; 14 pgIL Naphthalene; 28 μg/L 1-Methylnaphthalene; 28 μg/L 2-Methylnaphthalene.

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

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. The procedures for petitioning for an administrative hearing are set forth below.

Persons affected by this Order have the following options:

(A) If you choose to accept the Department's decision regarding the Supplemental Site Assessment Letter Report and Natural Attenuation Monitoring Plan you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

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

(1) File a request for an extension of time to file a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order; such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for an administrative hearing; or

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

Please be advised that mediation of this decision pursuant to section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for an Administrative Hearing

For good cause shown, pursuant to subsection 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for an administrative hearing. Such a request must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Southern Division Naval Facilities Engineering Command, shall mail a copy of the request to Southern Division Naval Facilities Engineering Command at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for an administrative hearing must be made.

How to File a Petition for an Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from Southern Division Naval Facilities Engineering Command, shall mail a copy of the petition to Southern Division Naval Facilities Engineering Command at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under sections 120.569 and 120.57, F.S.

Pursuant to subsection 120.569(2), F.S. and rule 28-106.201, F.A.C., a petition for an administrative hearing shall contain the following information:

(a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the facility owner's name and address, if different from the petitioner; the FDEP facility number, and the name and address of the facility;
(b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
(c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
(d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
(e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for an administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under section 120.68, F.S., by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days after this Order is filed with the Department's clerk (see below).

Questions

Any questions regarding the Department's review of your Supplemental Site Assessment Letter Report and Natural Attenuation Monitoring Plan should be directed

to David P. Grabka at (850) 245-8997. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

Sincerely,

Douglas A. Jones, Chief
Bureau of Waste Cleanup
Division of Waste Management

DAJ/dpg

cc: David P. Grabka, FDEP – BWC
File

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Minnie S. Robinson — Clerk (or Deputy Clerk)

October 21, 2005 — Date

ATTACHMENT B

FIELD DATA SHEETS

Tetra Tech NUS, Inc.

YSI EQUIPMENT CALIBRATION SHEET

PROJECT NAME : Cecil Field - Ocala Crash Site

INSTRUMENT NAME/MODEL: YSI 556 MPS

SITE NAME: Ocala Crash Site

MANUFACTURER: YSI

PROJECT No.: 112G02267

SERIAL NUMBER: 09D101399

		Date of Calibration (mm/dd/yy)	Person Performing Calibration (Name)	Machine Serial No.	Machine Settings	Instrument Readings Pre-cal	Instrument Readings Post-cal	Calibration Standard (Lot#/Expiration Date)	Comments
pH (4)	(S.U.)	2/9/11	Jeff Kroe			3.84	4.00	Lot# 2004 Exp.Date: 4/12	
pH (7)	(S.U.)					9.65	10.00	Lot# 1007143 Exp.Date: 12/11	
D.O.	%			100%		105.6	100.7	Lot# Exp.Date:	
Cond.	(mS/cm)			1413		1376	1413	Lot# 8114 Exp.Date: 7/11	
Temp.	°C							Lot# Exp.Date:	
ORP	(mV)	2/9/11		240		219.1	240.0	Lot# 2741 Exp.Date: 10/15	
								Lot# Exp.Date:	
pH (4)	(S.U.)							Lot# Exp.Date:	
pH (7)	(S.U.)							Lot# Exp.Date:	
D.O.	%							Lot# Exp.Date:	
Cond.	(mS/cm)							Lot# Exp.Date:	
Temp.	°C							Lot# Exp.Date:	
ORP	(mV)							Lot# Exp.Date:	

Tetra Tech NUS, Inc.

DOCUMENTATION OF FIELD CALIBRATION

PROJECT NAME : NAS CECIL FIELD

SITE NAME: Ocala F-18 Crash Site

PROJECT No.: 112G02267

INSTRUMENT NAME/MODEL: Lamotte 2020e

MANUFACTURER: Lamotte

SERIAL NUMBER: ME 11480

Date of Calibration	Instrument Name and Model	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		
2/9/11			K	10 NTU		13.8	10.0		
2/9/11				1.0 NTU		1.46		error 2	

SAFE WORK PERMIT
MOBILIZATION AND DEMOBILIZATION ACTIVITIES
CECIL FIELD IR SITES

Permit No. 1 Date: 2/9/11 Time: From 0800 to 1800

I. Work limited to the following (description, area, equipment used): Mobilization and demobilization activities

II. Primary Hazards: Lifting; slips, trips and falls; vehicular and foot traffic; insect/animal bites and stings; poisonous plants; inclement weather.

III. Field Crew:

IV. On-site Inspection conducted ☒ Yes ☐ No Initials of Inspector K Tetra Tech
Equipment Inspection required ☐ Yes ☒ No Initials of Inspector Tetra Tech

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

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, or coveralls, safety, glasses and safety footwear. Hard hats and hearing protection will be worn when working near operating equipment.

VI. Chemicals of Concern None anticipated
Hazard Monitoring None
Action Level(s) None
Response Measures None

Primary Route(s) of Exposure/Hazard: NA

(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 – Work)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☒ No
Safety toe work shoes/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: Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET and tape up in such areas. Follow manufacturer's recommendations for proper application and reapplication. Hard hat when overhead hazards exist. Safety glasses when near eye hazards. Hearing protection when in high noise areas.

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: Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat/cold stress. Use sun block (SPF > 15) to prevent sunburn if necessary.

Permit Issued by: Permit Accepted by: T. Bell

SAFE WORK PERMIT
MULTI-MEDIA SAMPLING ACTIVITIES
CECIL FIELD IR SITES

Permit No. 2 Date: 2/9/11 Time: From 0800 to 1800

I. **Work limited to the following (description, area, equipment used):** Sampling activities, including groundwater surface water, and sediment sampling

II. **Primary Hazards:** Lifting; slips, trips and falls; vehicular and foot traffic; insect/animal bites and stings; poisonous plants; inclement weather, Chemical contamination.

III. **Field Crew:**

IV. **On-site Inspection conducted** ☒ Yes ☐ No Initials of Inspector JS Tetra Tech
Equipment Inspection required ☐ Yes ☐ No Initials of Inspector Tetra Tech

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

Respiratory equipment required
Yes ☐ Specify on the reverse
No ☒

Modifications/Exceptions: Minimum requirement include sleeved shirt and long pants, or coveralls, safety, glasses and safety footwear. Hard hats and hearing protection will be worn when working near operating equipment.

VI. **Chemicals of Concern**
VOCs

Hazard Monitoring / Action Level(s)
FID with a reading of 1.25 ppm above BG in BZ for more than 4 exps. of 5 mins in any one work day.

Response Measures
Suspend site activities and noreport to an unaffected area.

Primary Route(s) of Exposure/Hazard: ingestion, inhalation, direct contact

(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 – nitrile)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☒ No
Safety toe work shoes/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: Minimum requirement include sleeved shirt and long pants, safety footwear, and nitrile gloves Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET and tape up in such areas. Follow manufacturer's recommendations for proper application and reapplication. Hard hat when overhead hazards exist. Safety glasses when near eye hazards. Hearing protection when in high noise areas.

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:** Preview work locations to identify potential hazards (slips, trips, and falls, natural hazards, etc.) Review PPE needs based on activities being performed and the associated hazards. Use safe lifting procedures and obtain assistance when handling heavy or awkward objects. Suspend site activities in the event of inclement weather. Observe site workers for signs and symptoms of heat/cold stress. Use sun block (SPF > 15) to prevent sunburn if necessary.

Permit Issued by: Permit Accepted by:

SAFE WORK PERMIT
IDW MANAGEMENT
CECIL FIELD IR SITES

Permit No. 3 Date: 2/9/11 Time: From 0800 to 1800

SECTION I: General Job Scope

I. **Work limited to the following (description, area, equipment used):** IDW management activities includes containerization, staging, monitoring for leaks of IDW accumulated wastes. Wastes types include soil cutting, purge and decontamination wash waters.

II. **Primary Hazards:** Lifting, pinches and compressions; flying projectiles; slips, trips, and falls

III. **Field Crew:**

IV. **On-site Inspection conducted** ☒ Yes ☐ No Initials of Inspector JK Tetra Tech
Equipment Inspection required ☐ Yes ☒ No Initials of Inspector Tetra Tech

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 ☐ See Reverse
No ☒

Modifications/Exceptions: None anticipated

VI. **Chemicals of Concern** NA
Hazard Monitoring / Action Level(s) NA
Response Measures NA

Primary Route(s) of Exposure/Hazard: NA

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

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 – Leather/Cotton)	☒ Yes	☐ No
Impermeable apron	☐ Yes	☒ No	Work/rest regimen	☐ Yes	☒ No
Safety toe work shoes/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: If using pneumatic/electric power to open drums – Safety glasses are required; If power equipment is used to move drums or you are working near operating equipment hard hats will be worn. Tyvek coverall to protect against natural hazards (e.g., ticks) if working/walking through areas of high grass. Use insect repellants containing at least 10% DEET if necessary. Follow manufacturer's recommendations for proper application and reapplication. If working in areas where snakes are a threat, wear snake chaps to protect against bites.

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	☐	☐	☒
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:** Suspend site activities in the event of inclement weather. Use proper lifting techniques. When/where possible use heavy equipment to move and place containers. When placing drums – Place the label and retention ring nut on the outside where it is readily visible. Place 4-drums to a pallet. Maintain a minimum distance of 4-feet between pallet rows.

Permit Issued by: Permit Accepted by:

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 Cecil Field IR Sites 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
- 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
- Stop work procedures

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
Jeff Krone	2/9/11	6/92	7/10	7/10	8/10
Todd Thornburg	2/9/11	91	7/10		1/10

MEDICAL DATA SHEET

This Medical Data Sheet must be completed by all on-site personnel and kept in a central location during the execution of site operations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project Site 37

Name Jeff Kronc Home Telephone 904 260-6062

Address 3667 Torre Grande Drive, Jacksonville, Fl 32257

Age 52 Height 5' 11" Weight 210

Name of Next Kin Bonnie Kronc

Drug or other Allergies none

Particular Sensitivities none

Do You Wear Contacts?

Provide a Checklist of Previous Illnesses or Exposure to Hazardous Chemicals no

What medications are you presently using? metatoprolol

Do you have any medical restrictions? no

Name, Address, and Phone Number of personal physician: Dr Browning
10898 Baymeadows Road Suite 100
Jacksonville, Fl 32256 904 519 5338

I am the individual described above. I have read and understand this HASP.

Signature

2/9/11
Date

MEDICAL DATA SHEET

This Medical Data Sheet must be completed by on-site personnel and kept in the command post during the conduct of site operations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project: Site 37

Name: TOD THUMBULL Home Telephone: 716-623-8

Address: 2356 Crooked Pine Lane

Age: 47 Height: 6'2" Weight: 215

Person to notify in the event of an emergency: Name: TERRA THUMBULL

Phone: 873-5811

Drug or other Allergies: –

Particular Sensitivities : –

Do You Wear Contacts? –

What medications are you presently using? –

Name, Address, and Phone Number of personal physician: N/A

Note: Health Insurance Portability and Accountability Act (HIPAA) Requirements

HIPAA took effect in 1996 and was amended April 14, 2003. Loosely interpreted, HIPAA regulates the disclosure of Protected Health Information (PHI) by the entity collecting that information. PHI is any information about health status (such as that you may report on this Medical Data Sheet), provision of health care, or other information. HIPAA also requires TtNUS to ensure the confidentiality of PHI. This Act can affect the ability of the Medical Data Sheet to contain and convey information you would want a Doctor to know if you were incapacitated. So before you complete the Medical Data Sheet understand that this form will not be maintained in a secure location. It will be maintained in a file box or binder accessible to other members of the field crew so that the can accompany an injured party to the hospital.

DO NOT include information that you do not wish others to know, only information that may be pertinent in an emergency situation or treatment.

TOD THUMBULL
Name (Print clearly)

Signature

2/9/11
Date

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Cecil Field
Project No.: 112G02267
Location: Ocala F-18 Crash Site
Personnel: Tod Trumbull & J. Krone
Weather Conditions: Sunny 65º
Measuring De Solinst Water Level Meter (rental)
Tidally Influenced: Yes ___ No _x__
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Total Well Depth Confirmed (feet)*	Water Level dicator Readi (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
CEF-CS1AR	9-Feb-11	1109	81.30	31	30.20	27.36			
CEF-CS02	9-Feb-11	1101	83.54	29.5	32.31	28.92			
CEF-CS03	9-Feb-11	1112	80.98	32	34.00	26.42			
CEF-CS04	9-Feb-11	1117	79.88	29.5	32.55	25.38			
CEF-CS05	9-Feb-11	1114	80.66	33	32.44	25.92			
CEF-CS06	9-Feb-11	1107	81.59	53.5	53.8	26.92			
CEF-CS07	9-Feb-11	1120	80.89	29.9	29.65	26.43			
CEF-CS08	9-Feb-11	1105	81.75	32.47	32.40	27.08			
CEF-CS09	9-Feb-11	1057	82.31	32.9	33.30	27.67			
CEF-CS10	9-Feb-11	1124	82.09	32.75	32.60	27.45			

* All measurements to the nearest 0.01 foot
NM = not measured.

BH=borehole of well

BZ=breathing zone of worker

Tetra Tech NUS / FDEP Groundwater Sampling Sheet

SITE NAME: **Ocala F-18 Crash Site, NASCF**		SITE LOCATION: **Ocala National Forest**
WELL NO: CEF-CS1AR	SAMPLE ID: **CEF-GW-CS1AR-20110209**	DATE: 9 Feb 2011

PURGING DATA

WELL DIAMETER (in): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 15.5 ft. to 30.5 ft.	STATIC DEPTH TO WATER (ft): 27.36	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable) 30.2 - 27.36 x 0.16 → 0.45 gal
Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 29.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 28.25	PURGE INITIATED AT: 1130	PURGE ENDED AT: 1239	TOTAL VOLUME PURGED (Liters): 13.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ ODOR
1130	—	—	200	27.36	—	—	—	—	7.39	—	clear
1225	11.0	11.0	200	27.46	5.74	23.47	170	0.26	7.31	42.7	organic clear
1230	1.0	12.0	200	27.46	5.78	23.54	170	0.18	4.65	42.6	clear
1233	0.6	12.6	200	27.46	5.78	23.53	170	0.18	3.48	42.7	clear
1236	0.6	13.2	200	27.46	5.82	23.55	172	0.16	3.49	42.7	clear
1239	0.6	13.8	200	27.46	5.81	23.52	172	0.16	3.48	42.8	clear
				All Readings		stable					

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TtNUS/ T. Humbull	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1255
PUMP OR TUBING DEPTH IN WELL (feet): 28.25	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type: _____	MS/MSD: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40 mL	HCL	NONE	<2	SW-846 8260B	
PAH	2	AG	1 L	4C	NONE		SW-846 8310	

REMARKS:
CEF-CSDup-01

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech NUS / FDEP Groundwater Sampling Sheet

SITE NAME: **Ocala F-18 Crash Site, NASCF**	SITE LOCATION: **Ocala National Forest**
WELL NO: CEF-CS3	SAMPLE ID: **CEF-GW-CS3-201102**09 — DATE: 9 Feb 2011

PURGING DATA

WELL DIAMETER (in): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 16.5 ft. to 31.5 ft.	STATIC DEPTH TO WATER (ft): 26.42	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
34.00 – 26.42 = 7.58 · 0.16 = 1.21 gal.
Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 33.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27.5	PURGE INITIATED AT: 1300	PURGE ENDED AT: 1333	TOTAL VOLUME PURGED (Liters): 6.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ ODOR
1300	—	—	200	26.42	—	—	—	—	2.26	—	clear
1316	3.2	3.2	200	26.52	4.54	23.34	76	3.43	2.11	51.6	clear
1320	0.8	4.0	200	26.52	4.44	23.05	76	3.35	0.85	51.9	clear
1327	1.4	5.4	200	26.51	4.39	23.06	76	3.53	0.81	52.0	clear
1330	0.6	6.0	200	26.51	4.41	23.22	76	3.42	0.76	51.3	clear
1333	0.6	6.6	200	26.51	4.42	23.18	76	3.45	1.46	51.7	clear
				All	Readings	stable					

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TtNUS/ T. Rumbull	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1400
PUMP OR TUBING DEPTH IN WELL (feet): 27.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type: ____	MS/MSD: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40 mL	HCL	NONE	<2	SW-846 8260B	
PAH	2	AG	1 L	4C	NONE		SW-846 8310	

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech NUS / FDEP Groundwater Sampling Sheet

SITE NAME: **Ocala F-18 Crash Site, NASCF**	SITE LOCATION: **Ocala National Forest**	
WELL NO: CEF-CS8	SAMPLE ID: **CEF-GW-CS8-20110209**	DATE: 4 Feb 2011

PURGING DATA

WELL DIAMETER (in): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 17.4 ft. to 32.4 ft.	STATIC DEPTH TO WATER (ft): 27.08	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable) 32.40 - 27.08 = 5.32 · 0.16 = 0.85 gal
Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 31.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 28.0	PURGE INITIATED AT: 1315	PURGE ENDED AT: 1400	TOTAL VOLUME PURGED (Liters): 9.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ ODOR
1315	—	—	200	27.08	—	—	—	—	4.27	—	clear
1344	5.8	5.8	200	27.10	4.25	22.06	69	2.73	4.33	50.9	clear
1351	1.4	7.2	200	27.10	4.24	21.94	69	2.78	3.56	50.8	clear
1354	0.6	7.8	200	27.10	4.22	21.97	69	2.73	3.57	50.6	clear
1357	0.6	8.4	200	27.11	4.23	21.98	69	2.73	3.15	50.5	clear
1400	0.6	9.0	200	27.11	4.22	22.04	69	2.70	2.66	50.5	clear

ML Readings stable

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TtNUS/ T. Trumbull	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1415	SAMPLING ENDED AT: 1430
PUMP OR TUBING DEPTH IN WELL (feet): 28.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	MS/MSD: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40 mL	HCL	NONE	<2	SW-846 8260B	
PAH	2	AG	1 L	4C	NONE		SW-846 8310	

REMARKS: MS/MSD

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech NUS / FDEP Groundwater Sampling Sheet

SITE NAME: **Ocala F-18 Crash Site, NASCF**	SITE LOCATION: **Ocala National Forest**
WELL NO: CEF-CS10	SAMPLE ID: **CEF-GW-CS10-201102**09 — DATE: 9 Feb 2011

PURGING DATA

WELL DIAMETER (in): 2	TUBING DIAMETER (inches): 3/16	WELL SCREEN INTERVAL DEPTH: 17.7 ft. to 32.7 ft.	STATIC DEPTH TO WATER (ft): 27.45	PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) 32.60 - 27.45 x 0.16 → 0.82 gal
Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 28.5	PURGE INITIATED AT: 1135	PURGE ENDED AT: 1216	TOTAL VOLUME PURGED (Liters): 8.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR/ ODOR
1135	—	—	200	27.45	—	—	—	—	19.51	—	clear
1207	6.4	6.4	200	27.51	4.46	23.11	80	2.63	11.81	67.3	clear
1211	0.8	7.2	200	27.51	4.27	23.07	80	2.45	8.59	68.0	clear
1214	0.6	7.8	200	27.51	4.27	23.11	80	2.32	8.10	67.0	clear
1216	0.4	8.2	200	27.51	4.27	23.14	80	2.35	8.09	67.1	clear
			All Readings stable								

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: TtNUS/ T. Thumbull	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1220	SAMPLING ENDED AT: 1230
PUMP OR TUBING DEPTH IN WELL (feet): 28.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon	CEF-GW-D UP-01-20110209
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) Filtration Equipment Type: ____ FILTER SIZE: ____ µm		MS/MSD: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
VOC	3	CG	40 mL	HCL	NONE	<2	SW-846 8260B	
PAH	2	AG	1 L	4C	NONE		SW-846 8310	

REMARKS: Adjusted purge rate and tubing depth to lower turbidity.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Location Ocala Crash Site Date 2/9/11

Project / Client U.S. Navy

Personnel: Jeff Krone / Todd Thumbull
Truck: 2006 F250
PPE: Level D
Weather: Sunny 60°
Objective: Groundwater Sampling

0810 Depart office for Ocala
1040 Arrive at site, begin calibration and ground water level measurement.
1124 Complete water level activities. Completing calibration of flow cell equipment. Set up for sampling.
1130 begin pumping on CS-1AR, able to utilize peristaltic pumps.

WELL ID	Sample ID	START	STOP	Analysis
CS1AR	CRF-GW-CS1AR-2011102	1245	1255	VOC's PAH
CS10	CRF-GW-CS10-2011102	1220	1230	VOC's PAH
CS3	CRF-GW-CS3-2011102	1345	1400	VOC's PAH
CS8	CRF-GW-CS8-2011102	1415	1430	VOC's PAH

1430 Completed sampling activities.
1530 Packed equipment and samples for transport, departed site
1800 Relinquished samples to Empirical via FEDEX Airbill 866017301966.

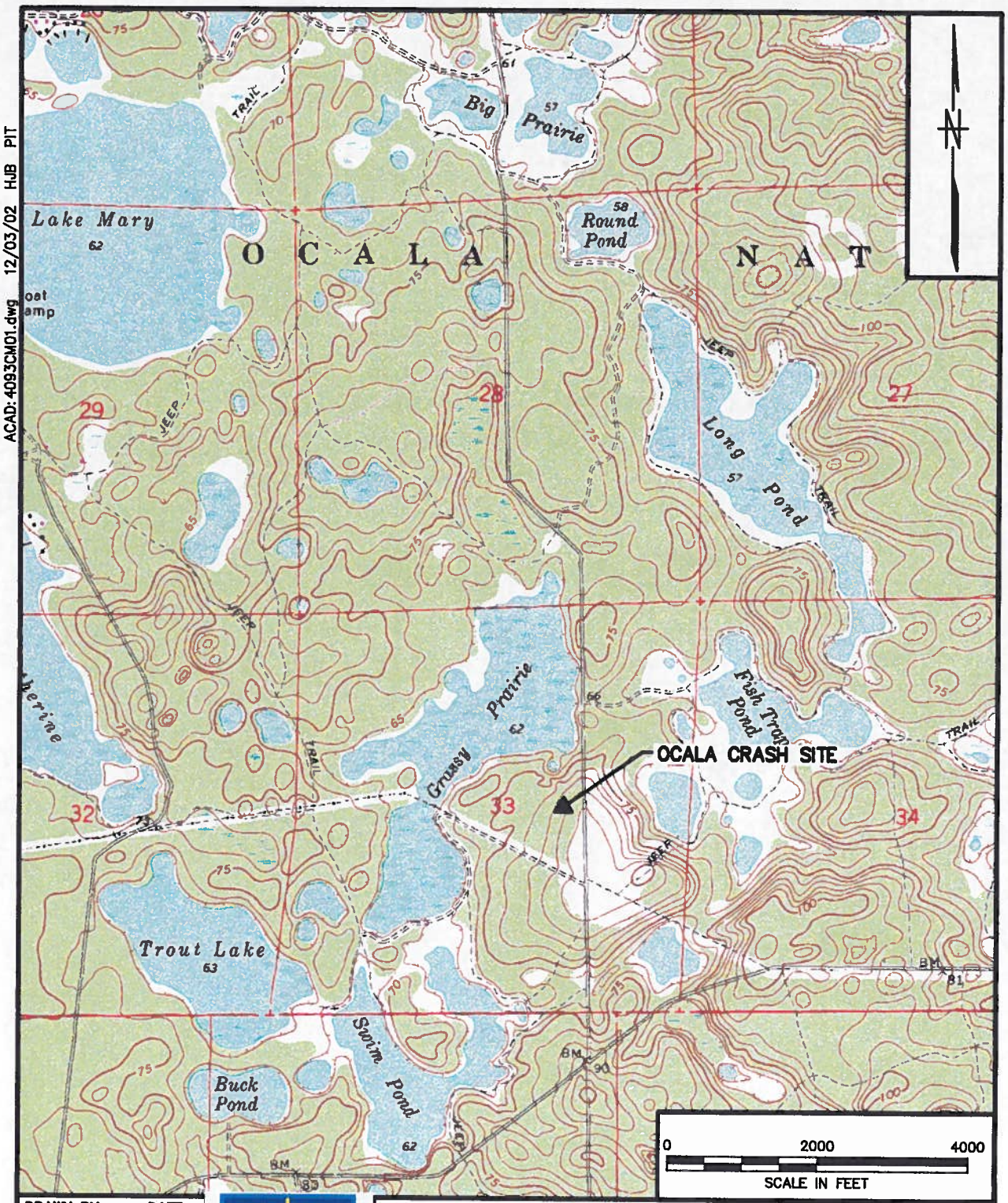
Location Ocala Crash Site Date 10 Feb 11

Project / Client U.S. Navy

Personnel: Jeff Krone
Truck: 2006 F-250
PPE: Level D
Weather: Cloudy 50°
Objective: IDW Storage

1300 Departed office with IDW to transfer to Tote 3
1400 Arrived at Cecil Field Drum Storage
1430 Transferred IDW to Tote 3 ~10 gal, PH 6.5, departed site
1530 Arrived at office

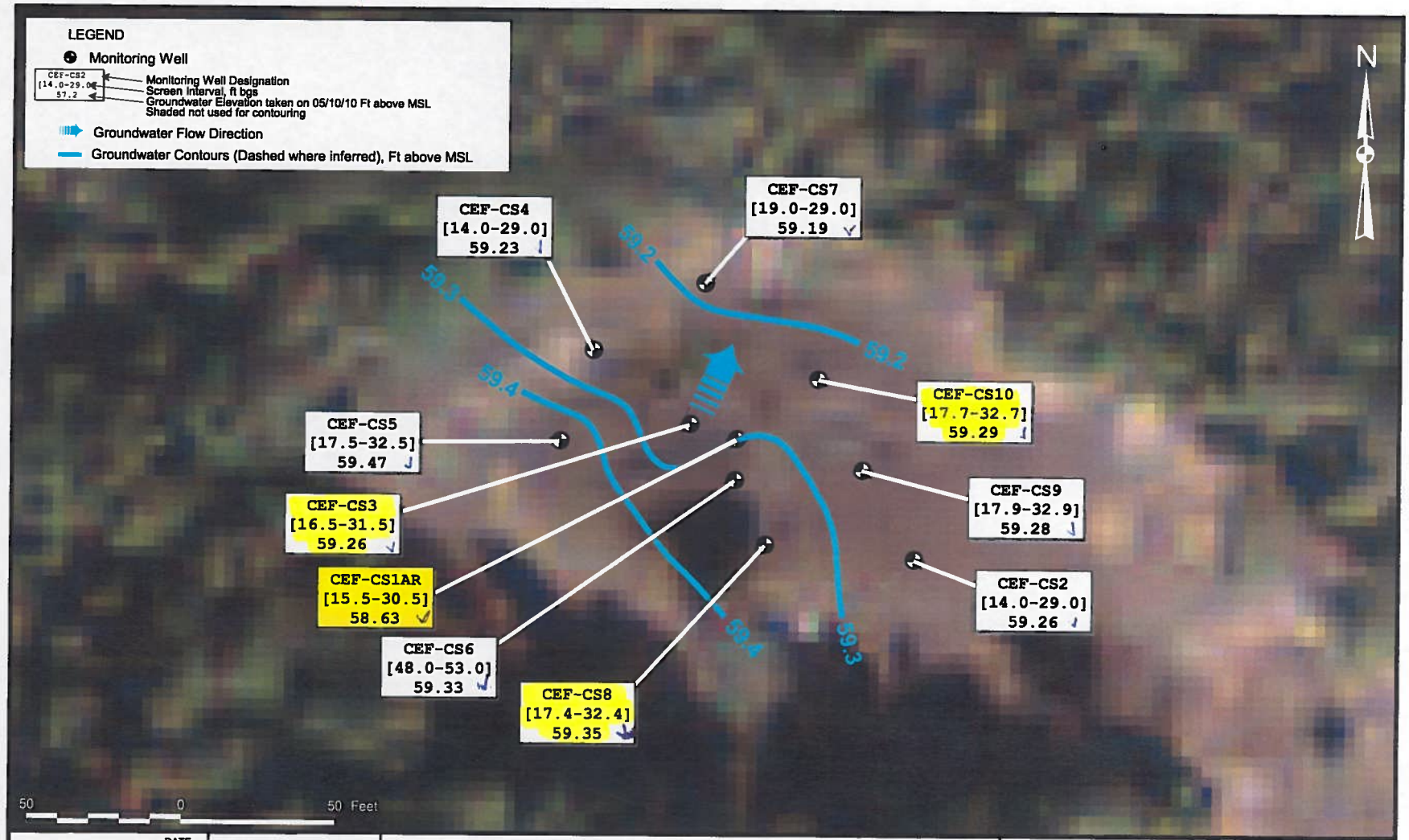
ACAD:4093CM01.dwg 12/03/02 HJB PIT



DRAWN BY HJB	DATE 12/2/02	SITE LOCATION MAP OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		APPROVED BY / DATE
COST/SCHED-AREA			APPROVED BY / DATE
SCALE AS NOTED	NAVFAC		DRAWING NO. FIGURE 1 / REV. 0

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

2.3.4



MJJ	DATE 19Apr09	GROUNDWATER ELEVATION MAP MAY 10, 2010 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST 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	NAVFAC		DRAWING NO FIGURE 2 / REV 0

P:\GIS\NAS_CecilField\Ocala_20100708.apr 08Jul10 MJJ Layout1

EMPIRICAL LABORATORIES, LLC BOTTLE KIT FORM

Completed By: KAK **Project:** **CTOJM09 Ocala F18 Crash Site**

Client / Job#: TTNUS/ CTOJM09

Contact Name/#: Kara Wimble 904-636-6125

Shipping Contact / Address / Tel#:

Jeff Krone
Tetra Tech NUS 8640
Phillips HWY Suite 16
Jacksonville, FL 32256
904-730-4667 ext 229

Shipping Method: Fed Ex Ground

Date to Client By: 2/4/2011

VOC Trip Blank Sets Needed: 2

Org. Free Water Litres Needed:

Number of Coolers Required:

MS/MSD Required: yes

Navy Stds. Bottle COA Required: yes

Please include blank labels, COCs, custody seals, temperature blanks, and return address labels.

Bottle Kit Method Listing

Individual Methods or Group of Methods	Matrix	# of Samples	# of Cont. per Sample	Container Type / Preservative	Initials (Kit Prep)	2nd Check (Kit Prep)
8270C PAH low level	water	7	2	1L glass/ cool @ 4 degrees C		
8260B	water	7	3	40mL vials/ HCL Cool@ 4 degrees C		

Special Instructions:

Questions, contact Kim Kostzer @ 877-345-1113

Cooler #1 → 14 ambers

Cooler #2 → 7 voa kits

TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER NG - 2132

PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G02267	Cecil Field Ocala Crash Site	Rob Simcik	412 921 8163	Empirical Labs / Kim Kostzer
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Jeff Kronz		Kara Wimble	904 636 6125	621 Mainstream Drive Suite 270
		CARRIER/WAYBILL NUMBER		CITY, STATE
		FEDEX Airbill 8660 1730 1966		Nashville, TN 37228

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

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G

PRESERVATIVE USED: HCl —

TYPE OF ANALYSIS: VOCs (SW-846 8260B) / PAH (SW 846 8310)

DATE YEAR 2011	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	VOCs (SW-846 8260B)	PAH (SW 846 8310)							COMMENTS
2/9	1220	CEF-GW-CS10-20110209				GW	G	5	X	X							Cool to 4°C
2/9	1245	CEF-GW-CS1AR-20110209				GW	G	5	X	X							
2/9	0000	CEF-GW-DUP01-20110209				GW	G	5	X	X							
2/9	1345	CEF-GW-CS03-20110209				GW	G	5	X	X							
2/9	1415	CEF-GW-CS08-20110209				GW	G	15	X	X							MS/MSD
2/9		Trip Blank						3	X								

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
	2/9/11	1800			
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

FedEx Express US Airbill

FedEx Tracking Number 8660 1730 1966

Form ID No.

1 From Please print and press hard.

Date 2/9/11

Sender's FedEx Account Number 1772-0315-7

Sender's Name DISTRIBUTION

Phone (904) 636-6125

Company TETRA TECH NUS INC/GOVT

Address 8640 PHILIPS HWY STE 16

Dept./Floor/Suite/Room

City JACKSONVILLE State FL ZIP 32256-1209

2 Your Internal Billing Reference First 24 characters will appear on invoice. 112602267

3 To

Recipient's Name Sample Receiving

Phone (615) 345-1115

Company Empirical Laboratories

Recipient's Address 621 Mainstream Drive

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address Suite 270

To request a package be held at a specific FedEx location, print FedEx address here.

City Nashville State TN ZIP 37228

0383105710

4a Express Pa

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shipments will be del
unless SATURDAY D

[ ] FedEx 2Day
Second business da
shipments will be del
unless SATURDAY D

FedEx Envelope r

4b Express Fre

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Next business day.**
shipments will be del
unless SATURDAY D

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5 Packaging

[ ] FedEx Envelope*

6 Special Ha

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Does this ship

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Dangerous goods (including

7 Payment

[X] Sender
Acct. No. in Section
1 will be billed.

FedEx Acct. No.
Credit Card No.

Total Packages 2

[1] Our liability is limited to $1
service conditions on the b

8 Residentia

[X] No Signature Required
Package may be left
without obtaining a
signature for deliver

Rev. Date 10/06 Part #1582

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vice ID: NRBKO-POS1
ployee: 2266431
ansaction: 76010851814

IORITY OVERNIGHT
56017301966 109.60 lb (S) 89.10
39754470230

heduled Delivery Date 02/10/2011

Shipment subtotal: 89.10

ATTACHMENT C

ANALYTICAL LABORATORY REPORT
FEBRUARY 2011

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**R. SIMCIK**	**DATE:**	**APRIL 8, 2011**
FROM:	**EDWARD SEDLMYER**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: VOC/PAH**
CTO JM09, NAS CECIL FIELD
SDG 1102102

SAMPLES: 6 / Aqueous / VOC/PAH

CEF-GW-CS03-20110209	CEF-GW-CS08-20110209	CEF-GW-CS10-20110209
CEF-GW-CS1A8-20110209	CEF-GW-DUP01-20110209	Trip Blank_20110209

OVERVIEW

The sample set for NAS Cecil Field CTO JM09, SDG 1102102 consists of one (1) aqueous trip blank and five (5) aqueous environmental samples including one (1) field duplicate pair. Samples were analyzed for volatile organic compounds (VOC) and polynuclear aromatic hydrocarbons (PAHs). The trip blank was analyzed for VOCs only. There was one (1) field duplicate pair associated with this sample delivery group (SDG); CEF-GW-CS10-20110209 / CEF-GW-DUP01-20110209.

The samples were collected by TetraTech NUS on February 9, 2011 and analyzed by Empirical Laboratories, LLC. The analyses were conducted in accordance with SW-846 Methods 8260B and 8270C sample analysis and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters:

- Data Completeness
- * Holding Times
- * GC/MS Tuning
- * Initial/Continuing Calibrations
- * Laboratory Method Blank Results
- * Field Duplicate Precision
- * Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

The text of this report is formatted to address only gross non-compliances resulting in the rejection of data and the elimination of false positives.

Volatiles

The following compound was detected in the trip blank:

Compound	Maximum Concentration	Blank Action Level
Methylene Chloride	0.5 ug/L	5.0 ug/L

Sample aliquot and dilution factors were taken into consideration when applying the blank action levels. Positive results for methylene chloride below the blank action level were qualified as non-detected, (U).

The matrix spike / matrix spike duplicate (MS/MSD) performed on sample CEF-GW-CS08-20110209 had percent recoveries greater than the quality control limit for bromodichloromethane and dichlorodifluoromethane. No action was taken on this basis because there were no detections for bromodichloromethane and dichlorodifluoromethane.

The MS/MSD had zero percent recoveries for 2-chloroethyl vinyl ether. The laboratory control sample had an acceptable recovery for 2-chloroethyl vinyl ether. The nondetected 2-chloroethyl vinyl ether result for sample CEF-GW-CS08-20110209 has been rejected (UR).

The continuing calibration performed on instrument MS-VOA3 on 02/09/11 @08:01 had percent differences greater than the 20% quality control limit for 1,1,1-trichloroethane, bromodichloromethane, bromoform, and dichlorodifluoromethane. Only nondetected results were reported for the aforementioned compounds and the results have been qualified as estimated (UJ).

Semi-Volatiles

The MS/MSD performed on sample CEF-GW-CS08-20110209 had relative percent differences (%RPDs) greater than the quality control limit for benzo(a)anthracene, benzo(g,h.i)perylene, chrysene, and indeno(1,2,3-cd)pyrene. No action was taken on this basis because there were no detections for the aforementioned compounds.

The continuing calibration performed on instrument MS-BNA4 on 02/21/11 @16:47 had percent differences greater than the 20% quality control limit for benzo(a)anthracene and chrysene. Only nondetected results were reported for the aforementioned compounds in samples CEF-GW-CS08-20110209, CEF-GW-CS10-20110209, and CEF-GW-CS1A8-20110209 and the results have been qualified as estimated (UJ).

The continuing calibration performed on instrument MS-BNA4 on 02/22/11 @03:55 had percent differences greater than the 20% quality control limit for benzo(k)fluoranthene. Only nondetected results were reported for benzo(k)fluoranthene in samples CEF-GW-CS03-20110209 and CEF-GW-DUP01-20110209 and the results have been qualified as estimated (UJ).

Notes

Trichloroethene was missing from all samples in this SDG. The compound was listed in the lab statement of work but was omitted from sample Form Is. Initial calibration summary forms include the compound but it was missing from continuing calibrations, method blanks, and blank spike summaries. The laboratory was requested to submit revised summaries for all samples and quality control fractions.

Positive results reported below the limit of quantitation (LOQ) but above the method detection limit (MDL) for the organic analyses were qualified as estimated, "J".

EXECUTIVE SUMMARY

Laboratory Performance Issues: Blank contamination in the VOC fraction resulted in the qualification of data for methylene chloride. Continuing calibration %D noncompliances resulted in the qualification of data in the VOC and PAH fractions. Trichloroethene results were omitted from sample results by the laboratory.

Other Factors Affecting Data Quality: Matrix spike percent recovery noncompliance resulted in the rejection of 2-chloroethyl vinyl ether in one sample.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Review", October 1999 and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", April 2009.

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

Tetra Tech NUS
Edward Sedlmyer
Chemist/Data Validator

TetraTech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

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

PROJ_NO: 02267	NSAMPLE	CEF-GW-CS03-20110209			CEF-GW-CS08-20110209			CEF-GW-CS10-20110209			CEF-GW-CS1A8-20110209		
SDG: 1102102	LAB_ID	1102102-04			1102102-05			1102102-01			1102102-02		
FRACTION: OV	SAMP_DATE	2/9/2011			2/9/2011			2/9/2011			2/9/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.25	UJ	C	0.25	UJ	C	0.25	UJ	C	0.25	UJ	C
1,1,2,2-TETRACHLOROETHANE		0.2	U		0.2	U		0.2	U		0.2	U	
1,1,2-TRICHLOROETHANE		0.25	U		0.25	U		0.25	U		0.25	U	
1,1-DICHLOROETHANE		0.25	U		0.25	U		0.25	U		0.25	U	
1,1-DICHLOROETHENE		0.25	U		0.25	U		0.25	U		0.25	U	
1,2,4-TRICHLOROBENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
1,2,4-TRIMETHYLBENZENE		0.25	U		0.25	U		0.25	U		7.18		
1,2-DICHLOROBENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
1,2-DICHLOROETHANE		0.25	U		0.25	U		0.25	U		0.25	U	
1,2-DICHLOROPROPANE		0.25	U		0.25	U		0.25	U		0.25	U	
1,3,5-TRIMETHYLBENZENE		0.25	U		0.25	U		0.25	U		1.25		
1,3-DICHLOROBENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
1,4-DICHLOROBENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
2-CHLOROETHYL VINYL ETHER		1.25	U		1.25	UR	D	1.25	U		1.25	U	
BENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
BROMODICHLOROMETHANE		0.25	UJ	C	0.25	UJ	C	0.25	UJ	C	0.25	UJ	C
BROMOFORM		0.25	UJ	C	0.25	UJ	C	0.25	UJ	C	0.25	UJ	C
BROMOMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
CARBON TETRACHLORIDE		0.25	U		0.25	U		0.25	U		0.25	U	
CHLOROBENZENE		0.25	U		0.25	U		0.25	U		0.25	U	
CHLORODIBROMOMETHANE		0.25	U		0.25	U		0.25	U		0.25	U	
CHLOROETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
CHLOROFORM		0.25	U		0.25	U		0.25	U		0.25	U	
CHLOROMETHANE		0.25	U		0.25	U		0.25	U		0.25	U	
CIS-1,2-DICHLOROETHENE		0.25	U		0.25	U		0.25	U		0.25	U	
CIS-1,3-DICHLOROPROPENE		0.25	U		0.25	U		0.25	U		0.25	U	
DICHLORODIFLUOROMETHANE		0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C
ETHYLBENZENE		0.25	U		0.25	U		0.25	U		1.25		
ISOPROPYLBENZENE		0.25	U		0.25	U		0.25	U		2.12		
M+P-XYLENES		0.5	U		0.5	U		0.5	U		1.05	J	P
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U		0.25	U		0.25	U	
METHYLENE CHLORIDE		2	U	B	3.6	U	B	2	U	B	2.11	U	B
O-XYLENE		0.25	U		0.25	U		0.25	U		0.567	J	P
TETRACHLOROETHENE		0.25	U		0.25	U		0.25	U		0.25	U	
TOLUENE		0.25	U		0.25	U		0.25	U		0.25	U	

PROJ_NO: 02267	NSAMPLE	CEF-GW-DUP01-20110209			Trip Blank_20110209		
SDG: 1102102	LAB_ID	1102102-03			1102102-06		
FRACTION: OV	SAMP_DATE	2/9/2011			2/9/2011		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	CEF-GW-CS10-20110209					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE		0.25	UJ	C	0.25	UJ	C
1,1,2,2-TETRACHLOROETHANE		0.2	U		0.2	U	
1,1,2-TRICHLOROETHANE		0.25	U		0.25	U	
1,1-DICHLOROETHANE		0.25	U		0.25	U	
1,1-DICHLOROETHENE		0.25	U		0.25	U	
1,2,4-TRICHLOROBENZENE		0.25	U		0.25	U	
1,2,4-TRIMETHYLBENZENE		0.25	U		0.25	U	
1,2-DICHLOROBENZENE		0.25	U		0.25	U	
1,2-DICHLOROETHANE		0.25	U		0.25	U	
1,2-DICHLOROPROPANE		0.25	U		0.25	U	
1,3,5-TRIMETHYLBENZENE		0.25	U		0.25	U	
1,3-DICHLOROBENZENE		0.25	U		0.25	U	
1,4-DICHLOROBENZENE		0.25	U		0.25	U	
2-CHLOROETHYL VINYL ETHER		1.25	U		1.25	U	
BENZENE		0.25	U		0.25	U	
BROMODICHLOROMETHANE		0.25	UJ	C	0.25	UJ	C
BROMOFORM		0.25	UJ	C	0.25	UJ	C
BROMOMETHANE		0.5	U		0.5	U	
CARBON TETRACHLORIDE		0.25	U		0.25	U	
CHLOROBENZENE		0.25	U		0.25	U	
CHLORODIBROMOMETHANE		0.25	U		0.25	U	
CHLOROETHANE		0.5	U		0.5	U	
CHLOROFORM		0.25	U		0.25	U	
CHLOROMETHANE		0.25	U		0.25	U	
CIS-1,2-DICHLOROETHENE		0.25	U		0.25	U	
CIS-1,3-DICHLOROPROPENE		0.25	U		0.25	U	
DICHLORODIFLUOROMETHANE		0.5	UJ	C	0.5	UJ	C
ETHYLBENZENE		0.25	U		0.25	U	
ISOPROPYLBENZENE		0.25	U		0.25	U	
M+P-XYLENES		0.5	U		0.5	U	
METHYL TERT-BUTYL ETHER		0.25	U		0.25	U	
METHYLENE CHLORIDE		2	U	B	0.5	J	P
O-XYLENE		0.25	U		0.25	U	
TETRACHLOROETHENE		0.25	U		0.25	U	
TOLUENE		0.25	U		0.25	U	

PROJ_NO: 02267	NSAMPLE	CEF-GW-CS03-20110209			CEF-GW-CS08-20110209			CEF-GW-CS10-20110209			CEF-GW-CS1A8-20110209		
SDG: 1102102	LAB_ID	1102102-04			1102102-05			1102102-01			1102102-02		
FRACTION: OV	SAMP_DATE	2/9/2011			2/9/2011			2/9/2011			2/9/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
TOTAL XYLENES		0.75	U		0.75	U		0.75	U		1.62	J	P
TRANS-1,2-DICHLOROETHENE		0.25	U		0.25	U		0.25	U		0.25	U	
TRANS-1,3-DICHLOROPROPENE		0.25	U		0.25	U		0.25	U		0.25	U	
TRICHLOROETHENE		0.25	U		0.25	U		0.25	U		0.25	U	
TRICHLOROFLUOROMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
VINYL CHLORIDE		0.25	U		0.25	U		0.25	U		0.25	U	

PROJ_NO: 02267	NSAMPLE	CEF-GW-DUP01-20110209			Trip Blank_20110209		
SDG: 1102102	LAB_ID	1102102-03			1102102-06		
FRACTION: OV	SAMP_DATE	2/9/2011			2/9/2011		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF	CEF-GW-CS10-20110209					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
TOTAL XYLENES		0.75	U		0.75	U	
TRANS-1,2-DICHLOROETHENE		0.25	U		0.25	U	
TRANS-1,3-DICHLOROPROPENE		0.25	U		0.25	U	
TRICHLOROETHENE		0.25	U		0.25	U	
TRICHLOROFLUOROMETHANE		0.5	U		0.5	U	
VINYL CHLORIDE		0.25	U		0.25	U	

PROJ_NO: 02267	NSAMPLE	CEF-GW-CS03-20110209			CEF-GW-CS08-20110209			CEF-GW-CS10-20110209			CEF-GW-CS1A8-20110209		
SDG: 1102102	LAB_ID	1102102-04			1102102-05			1102102-01			1102102-02		
FRACTION: PAH	SAMP_DATE	2/9/2011			2/9/2011			2/9/2011			2/9/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1-METHYLNAPHTHALENE		0.0467	U		0.0463	U		0.0467	U		2.71		
2-METHYLNAPHTHALENE		0.0467	U		0.0463	U		0.0467	U		2.75		
ACENAPHTHENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
ACENAPHTHYLENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
ANTHRACENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
BENZO(A)ANTHRACENE		0.0467	U		0.0463	UJ	C	0.0467	UJ	C	0.0467	UJ	C
BENZO(A)PYRENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
BENZO(B)FLUORANTHENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
BENZO(G,H,I)PERYLENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
BENZO(K)FLUORANTHENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
CHRYSENE		0.0467	U		0.0463	UJ	C	0.0467	UJ	C	0.0467	UJ	C
DIBENZO(A,H)ANTHRACENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
FLUORANTHENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
FLUORENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
INDENO(1,2,3-CD)PYRENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
NAPHTHALENE		0.0467	U		0.0463	U		0.0467	U		2.79		
PHENANTHRENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	
PYRENE		0.0467	U		0.0463	U		0.0467	U		0.0467	U	

PROJ_NO: 02267	NSAMPLE	CEF-GW-DUP01-20110209
SDG: 1102102	LAB_ID	1102102-03
FRACTION: PAH	SAMP_DATE	2/9/2011
MEDIA: WATER	QC_TYPE	NM
	UNITS	UG/L
	PCT_SOLIDS	0.0
	DUP_OF	CEF-GW-CS10-20110209

PARAMETER	RESULT	VQL	QLCD
1-METHYLNAPHTHALENE	0.0467	U	
2-METHYLNAPHTHALENE	0.0467	U	
ACENAPHTHENE	0.0467	U	
ACENAPHTHYLENE	0.0467	U	
ANTHRACENE	0.0467	U	
BENZO(A)ANTHRACENE	0.0467	U	
BENZO(A)PYRENE	0.0467	U	
BENZO(B)FLUORANTHENE	0.0467	U	
BENZO(G,H,I)PERYLENE	0.0467	U	
BENZO(K)FLUORANTHENE	0.0467	U	
CHRYSENE	0.0467	U	
DIBENZO(A,H)ANTHRACENE	0.0467	U	
FLUORANTHENE	0.0467	U	
FLUORENE	0.0467	U	
INDENO(1,2,3-CD)PYRENE	0.0467	U	
NAPHTHALENE	0.0467	U	
PHENANTHRENE	0.0467	U	
PYRENE	0.0467	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

ANALYSIS DATA SHEET

CEF-GW-CS03-20110209

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-04	File ID:	0210204.D
Sampled:	02/09/11 13:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.75	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U

ANALYSIS DATA SHEET

CEF-GW-CS03-20110209

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-04	File ID:	0210204.D
Sampled:	02/09/11 13:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.19	104	75 - 120	
Dibromofluoromethane	30.00	30.79	103	85 - 115	
1,2-Dichloroethane-d4	30.00	30.76	103	70 - 120	
Toluene-d8	30.00	29.55	98.5	85 - 120	

ANALYSIS DATA SHEET

CEF-GW-CS08-20110209

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-05	File ID:	0210205.D
Sampled:	02/09/11 14:15	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:59
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	N, Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	N, U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	N, X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	3.60	0.500	1.00	2.00	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U

ANALYSIS DATA SHEET

CEF-GW-CS08-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-05	File ID:	0210205.D
Sampled:	02/09/11 14:15	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:59
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.40	105	75 - 120	
Dibromofluoromethane	30.00	30.77	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.07	96.9	70 - 120	
Toluene-d8	30.00	29.73	99.1	85 - 120	

ANALYSIS DATA SHEET

CEF-GW-CS10-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-01	File ID:	0210201.D
Sampled:	02/09/11 12:20	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 12:00
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.93	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U

ANALYSIS DATA SHEET

CEF-GW-CS10-20110209

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-01	File ID:	0210201.D
Sampled:	02/09/11 12:20	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 12:00
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.32	104	75 - 120	
Dibromofluoromethane	30.00	31.56	105	85 - 115	
1,2-Dichloroethane-d4	30.00	29.82	99.4	70 - 120	
Toluene-d8	30.00	30.04	100	85 - 120	

ANALYSIS DATA SHEET

CEF-GW-CS1A8-20110209

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-02	File ID:	0210202.D
Sampled:	02/09/11 12:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 12:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	1.25	0.250	0.500	1.00	
98-82-8	Isopropylbenzene	2.12	0.250	0.500	1.00	
75-09-2	Methylene chloride	2.11	0.500	1.00	2.00	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene	1.25	0.250	0.500	1.00	
95-63-6	1,2,4-Trimethylbenzene	7.18	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene	1.05	0.500	1.00	2.00	I

ANALYSIS DATA SHEET

CEF-GW-CS1A8-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-02	File ID:	0210202.D
Sampled:	02/09/11 12:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 12:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene	0.567	0.250	0.500	1.00	I
1330-20-7	Xylenes (total)	1.62	0.750	1.50	3.00	I

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
17059-48-2	1H-Indene, 2,3-dihydro-1,6-dimethyl-	16.6	2336076	20.007	70	N
27133-93-3	2,3-Dihydro-1-methylindene	7.73	1090094	19.508	90	N
2049-95-8	Benzene, (1,1-dimethylpropyl)-	7.53	1061201	19.399	78	N
95-93-2	Benzene, 1,2,4,5-tetramethyl-	14.5	2043302	19.119	94	N
527-84-4	Benzene, 1-methyl-2-(1-methylethyl)-	9.22	1300426	19.082	94	N
1758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	7.36	1037730	18.65	97	N
54120-62-6	Benzene, ethyl-1,2,4-trimethyl-	15.0	2120119	19.904	60	N
2809-64-5	Naphthalene, 1,2,3,4-tetrahydro-5-methyl	7.13	1005527	20.962	91	N
1680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6-methyl	8.63	1216409	21.418	86	N
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	30.10	100	75 - 120	
Dibromofluoromethane	30.00	31.19	104	85 - 115	
1,2-Dichloroethane-d4	30.00	31.07	104	70 - 120	
Toluene-d8	30.00	29.67	98.9	85 - 120	

ANALYSIS DATA SHEET

CEF-GW-DUP01-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-03	File ID:	0210203.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:00
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.95	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U

ANALYSIS DATA SHEET

CEF-GW-DUP01-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-03	File ID:	0210203.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:00
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.60	105	75 - 120	
Dibromofluoromethane	30.00	31.29	104	85 - 115	
1,2-Dichloroethane-d4	30.00	31.00	103	70 - 120	
Toluene-d8	30.00	29.92	99.7	85 - 120	

ANALYSIS DATA SHEET

Trip Blank

Laboratory:	Empirical Laboratories, LLC			SDG:	1102102
Client:	Tetra Tech NUS, Inc. (T010)			Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water	Laboratory ID:	1102102-06	File ID:	0210206.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 11:31
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X, U
75-25-2	Bromoform		0.250	0.500	1.00	X, U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X, U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	0.500	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X, U
79-01-6	Trichloroethene		0.250	0.500	1.00	U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U

ANALYSIS DATA SHEET

Trip Blank

Laboratory:	Empirical Laboratories, LLC		SDG:	1102102	
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-06	File ID:	0210206.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 11:31
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

CAS NO.	TICS	CONC. (ug/L)	Response	R.T.	% Match	Q
NA	Tentatively Identified Compounds	0.00				

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.22	104	75 - 120	
Dibromofluoromethane	30.00	31.49	105	85 - 115	
1,2-Dichloroethane-d4	30.00	30.20	101	70 - 120	
Toluene-d8	30.00	29.98	99.9	85 - 120	

ANALYSIS DATA SHEET

CEF-GW-CS03-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-04	File ID:	0210204.D
Sampled:	02/09/11 13:45	Prepared:	02/14/11 12:30	Analyzed:	02/22/11 04:48
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 1B12010 Sequence: 1B05408 Calibration: 1048001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0467	0.0935	0.187	U
208-96-8	Acenaphthylene		0.0467	0.0935	0.187	U
120-12-7	Anthracene		0.0467	0.0935	0.187	U
56-55-3	Benzo(a)anthracene		0.0467	0.0935	0.187	U
50-32-8	Benzo(a)pyrene		0.0467	0.0935	0.187	U
205-99-2	Benzo(b)fluoranthene		0.0467	0.0935	0.187	U
191-24-2	Benzo(g,h,i)perylene		0.0467	0.0935	0.187	U
207-08-9	Benzo(k)fluoranthene		0.0467	0.0935	0.187	X U
218-01-9	Chrysene		0.0467	0.0935	0.187	U
53-70-3	Dibenz(a,h)anthracene		0.0467	0.0935	0.187	U
206-44-0	Fluoranthene		0.0467	0.0935	0.187	U
86-73-7	Fluorene		0.0467	0.0935	0.187	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0467	0.0935	0.187	U
90-12-0	1-Methylnaphthalene		0.0467	0.0935	0.187	U
91-57-6	2-Methylnaphthalene		0.0467	0.0935	0.187	U
91-20-3	Naphthalene		0.0467	0.0935	0.187	U
85-01-8	Phenanthrene		0.0467	0.0935	0.187	U
129-00-0	Pyrene		0.0467	0.0935	0.187	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.73	30.59	65.5	34 - 167	
Terphenyl-d14	46.73	49.03	105	34 - 167	

ANALYSIS DATA SHEET

CEF-GW-CS08-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-05	File ID:	0210205.D
Sampled:	02/09/11 14:15	Prepared:	02/14/11 12:30	Analyzed:	02/22/11 02:11
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 1B12010 Sequence: 1B05309 Calibration: 1048001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0463	0.0926	0.185	U
208-96-8	Acenaphthylene		0.0463	0.0926	0.185	U
120-12-7	Anthracene		0.0463	0.0926	0.185	U
56-55-3	Benzo(a)anthracene		0.0463	0.0926	0.185	N, X U
50-32-8	Benzo(a)pyrene		0.0463	0.0926	0.185	U
205-99-2	Benzo(b)fluoranthene		0.0463	0.0926	0.185	U
191-24-2	Benzo(g,h,i)perylene		0.0463	0.0926	0.185	N U
207-08-9	Benzo(k)fluoranthene		0.0463	0.0926	0.185	U
218-01-9	Chrysene		0.0463	0.0926	0.185	N, X U
53-70-3	Dibenz(a,h)anthracene		0.0463	0.0926	0.185	U
206-44-0	Fluoranthene		0.0463	0.0926	0.185	U
86-73-7	Fluorene		0.0463	0.0926	0.185	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0463	0.0926	0.185	N U
90-12-0	1-Methylnaphthalene		0.0463	0.0926	0.185	U
91-57-6	2-Methylnaphthalene		0.0463	0.0926	0.185	U
91-20-3	Naphthalene		0.0463	0.0926	0.185	U
85-01-8	Phenanthrene		0.0463	0.0926	0.185	U
129-00-0	Pyrene		0.0463	0.0926	0.185	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.30	29.87	64.5	34 - 167	
Terphenyl-d14	46.30	43.76	94.5	34 - 167	

ANALYSIS DATA SHEET

CEF-GW-CS10-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-01	File ID:	0210201.D
Sampled:	02/09/11 12:20	Prepared:	02/14/11 12:30	Analyzed:	02/22/11 01:18
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 1B12010 Sequence: 1B05309 Calibration: 1048001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0467	0.0935	0.187	U
208-96-8	Acenaphthylene		0.0467	0.0935	0.187	U
120-12-7	Anthracene		0.0467	0.0935	0.187	U
56-55-3	Benzo(a)anthracene		0.0467	0.0935	0.187	X U
50-32-8	Benzo(a)pyrene		0.0467	0.0935	0.187	U
205-99-2	Benzo(b)fluoranthene		0.0467	0.0935	0.187	U
191-24-2	Benzo(g,h,i)perylene		0.0467	0.0935	0.187	U
207-08-9	Benzo(k)fluoranthene		0.0467	0.0935	0.187	U
218-01-9	Chrysene		0.0467	0.0935	0.187	X U
53-70-3	Dibenz(a,h)anthracene		0.0467	0.0935	0.187	U
206-44-0	Fluoranthene		0.0467	0.0935	0.187	U
86-73-7	Fluorene		0.0467	0.0935	0.187	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0467	0.0935	0.187	U
90-12-0	1-Methylnaphthalene		0.0467	0.0935	0.187	U
91-57-6	2-Methylnaphthalene		0.0467	0.0935	0.187	U
91-20-3	Naphthalene		0.0467	0.0935	0.187	U
85-01-8	Phenanthrene		0.0467	0.0935	0.187	U
129-00-0	Pyrene		0.0467	0.0935	0.187	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.73	27.28	58.4	34 - 167	
Terphenyl-d14	46.73	45.08	96.5	34 - 167	

ANALYSIS DATA SHEET

CEF-GW-CS1A8-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-02	File ID:	0210202.D
Sampled:	02/09/11 12:45	Prepared:	02/14/11 12:30	Analyzed:	02/22/11 01:45
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 1B12010 Sequence: 1B05309 Calibration: 1048001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0467	0.0935	0.187	U
208-96-8	Acenaphthylene		0.0467	0.0935	0.187	U
120-12-7	Anthracene		0.0467	0.0935	0.187	U
56-55-3	Benzo(a)anthracene		0.0467	0.0935	0.187	X U
50-32-8	Benzo(a)pyrene		0.0467	0.0935	0.187	U
205-99-2	Benzo(b)fluoranthene		0.0467	0.0935	0.187	U
191-24-2	Benzo(g,h,i)perylene		0.0467	0.0935	0.187	U
207-08-9	Benzo(k)fluoranthene		0.0467	0.0935	0.187	U
218-01-9	Chrysene		0.0467	0.0935	0.187	X U
53-70-3	Dibenz(a,h)anthracene		0.0467	0.0935	0.187	U
206-44-0	Fluoranthene		0.0467	0.0935	0.187	U
86-73-7	Fluorene		0.0467	0.0935	0.187	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0467	0.0935	0.187	U
90-12-0	1-Methylnaphthalene	2.71	0.0467	0.0935	0.187	
91-57-6	2-Methylnaphthalene	2.75	0.0467	0.0935	0.187	
91-20-3	Naphthalene	2.79	0.0467	0.0935	0.187	
85-01-8	Phenanthrene		0.0467	0.0935	0.187	U
129-00-0	Pyrene		0.0467	0.0935	0.187	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.73	31.60	67.6	34 - 167	
Terphenyl-d14	46.73	49.96	107	34 - 167	

ANALYSIS DATA SHEET

CEF-GW-DUP01-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-03	File ID:	0210203.D
Sampled:	02/09/11 00:00	Prepared:	02/14/11 12:30	Analyzed:	02/22/11 04:21
Solids:		Preparation:	EXT_3510	Dilution:	1

Batch: 1B12010 Sequence: 1B05408 Calibration: 1048001 Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0467	0.0935	0.187	U
208-96-8	Acenaphthylene		0.0467	0.0935	0.187	U
120-12-7	Anthracene		0.0467	0.0935	0.187	U
56-55-3	Benzo(a)anthracene		0.0467	0.0935	0.187	U
50-32-8	Benzo(a)pyrene		0.0467	0.0935	0.187	U
205-99-2	Benzo(b)fluoranthene		0.0467	0.0935	0.187	U
191-24-2	Benzo(g,h,i)perylene		0.0467	0.0935	0.187	U
207-08-9	Benzo(k)fluoranthene		0.0467	0.0935	0.187	X U
218-01-9	Chrysene		0.0467	0.0935	0.187	U
53-70-3	Dibenz(a,h)anthracene		0.0467	0.0935	0.187	U
206-44-0	Fluoranthene		0.0467	0.0935	0.187	U
86-73-7	Fluorene		0.0467	0.0935	0.187	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0467	0.0935	0.187	U
90-12-0	1-Methylnaphthalene		0.0467	0.0935	0.187	U
91-57-6	2-Methylnaphthalene		0.0467	0.0935	0.187	U
91-20-3	Naphthalene		0.0467	0.0935	0.187	U
85-01-8	Phenanthrene		0.0467	0.0935	0.187	U
129-00-0	Pyrene		0.0467	0.0935	0.187	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	46.73	29.42	63.0	34 - 167	
Terphenyl-d14	46.73	49.71	106	34 - 167	

APPENDIX C

SUPPORT DOCUMENTATION

HOLDTIM

SDG 1102102

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
OV	UG/L	CEF-GW-CS08-2011020	1102102-05	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
OV	UG/L	CEF-GW-CS10-2011020	1102102-01	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
OV	UG/L	CEF-GW-CS1A8-201102	1102102-02	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
OV	UG/L	CEF-GW-DUP01-201102	1102102-03	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
OV	UG/L	Trip Blank_20110209	1102102-06	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
OV	UG/L	CEF-GW-CS03-2011020	1102102-04	NM	02/09/2011	02/16/2011	02/16/2011	7	0	7
SIM	UG/L	CEF-GW-CS08-2011020	1102102-05	NM	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS03-2011020	1102102-04	SUR	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-DUP01-201102	1102102-03	SUR	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS08-2011020	1102102-05	SUR	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS10-2011020	1102102-01	NM	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS10-2011020	1102102-01	SUR	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS1A8-201102	1102102-02	NM	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-CS1A8-201102	1102102-02	SUR	02/09/2011	02/14/2011	02/22/2011	5	8	13
SIM	UG/L	CEF-GW-DUP01-201102	1102102-03	NM	02/09/2011	02/14/2011	02/22/2011	5	8	13

SORT	UNITS	NSAMPLE	LAB_ID	QC_TYPE	SAMP_DATE	EXTR_DATE	ANAL_DATE	SMP_EXTR	EXTR_ANL	SMP_ANL
SIM	UG/L	CEF-GW-CS03-2011020	1102102-04	NM	02/09/2011	02/14/2011	02/22/2011	5	8	13

ANALYTICAL DATA PACKAGE
SDG # 1102102

PROJECT NAME: CTOJM09 OCALA F18 CRASH SITE
PROJECT LOCATION: JACKSONVILLE, FL
CONTRACT #: N62470-08-D-1001

SUBMITTAL TO:
Tobrena Sedlmeyer
Tetra Tech NUS, Inc.
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220

SUBMITTAL BY:
Empirical Laboratories, LLC (EL)
621 Mainstream Drive, Suite 270
Nashville, TN 37228
Tel (615)345-1115
Fax (866)417-0548

LABORATORY CONTACT PERSON:
Project Manager: Kim Kostzer
Tel (615)345-1115
Fax (866)417-0548
Email: kkostzer@empirlabs.com

Original Report Date: February 24, 2011
Report Revision #: N/A
Revision Date: N/A
Total # of Pages: 104

THIS DOCUMENT MEETS DoD QSM 4.1 STANDARDS

The results relate to only the samples associated with the referenced SDG and the submitted data has been produced in accordance with laboratory procedures. The Laboratory's Technical Lab Director, Mr. Rick Davis, is responsible for the final data produced and reported. His signature is listed at the end of the Case Narrative within the Analytical Data Package. If applicable to this report package, details on report revisions and the information on subcontracted analysis are listed in the package Case Narrative. This report shall not be reproduced, except in full, without the written approval of Empirical Laboratories, LLC.

Sample Delivery Group Case Narrative

Receipt Information

The samples were received within the preservation guidelines for the associated methods. The information associated with sample receipt and the Sample Delivery Group (SDG) are included within section 4 of this package, which also provides information on the link between the client sample ID listed on the COC and laboratory's assigned unique sample ID or WorkOrder #. The sample is tracked through the laboratory for all analysis via the assigned WorkOrder #.

All samples that were received were analyzed and none of the samples were placed on hold without analyses. There were no subcontracted analyses for this SDG.

Changes to the Revision

This is an original submittal of the final report package.

Analytical Information

All samples were prepped (where applicable) and analyzed within the standard allowed holding times, unless noted within the exceptions listed below. The laboratory analyzed all samples within the program and method guidelines. The following information is provided specific to individual methods:

Chromatographic Flags for Manual Integration:

The following letters are used to denote manual integrations on the laboratory's raw data in association with chromatographic integrations:

A: The peak was manually integrated as it was not integrated in the original chromatogram.
B: The peak was manually integrated due to resolution or coelution issues in the original chromatogram.
C: The peak was manually integrated to correct the baseline from the original chromatogram.
D: The peak was manually integrated to identify the correct peak as the wrong peak was identified in the original chromatogram.
E: The peak was manually integrated to include the entire peak as the original chromatogram only integrated part of the peak.

SW8260B:

The batch spike associated to batch 1B16004 exceeded criteria with a positive bias for Bromodichloromethane.

The matrix spikes associated to sample 1102102-05 exceeded criteria with a positive bias for Bromodichloromethane and Dichlorodifluoromethane and no recovery for 2-Chloroethyl Vinyl Ether.

The initial calibration verification 1B04204-ICV1 exceeded criteria with a positive bias for Dichlorodifluoromethane.

The continuing calibration verification 1B04812-CCV1 exceeded criteria with a positive bias for Bromodichloromethane, Bromoform, Dichlorodifluoromethane and 1,1,1-Trichloroethane.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

SW8270C:
The continuing calibration verification 1B05309-CCV1 exceeded criteria with a positive bias for Benzo(a)anthracene and chrysene. The continuing calibration verification 1B05408-CCV1 exceeded criteria with a positive bias for Benzo(k)fluoranthene.

In the matrix spikes associated to sample 1102102-05, relative percent differences for Benzo(a)anthracene, Benzo(g,h,i)perylene, Chyrsene and Indeno(1,2,3-cd)perylene exceeded limits while all recoveries were within limits.

No additional anomalies or deviations are noted and the proper data qualifiers have been applied.

Data Qualifiers
As applicable and where required, the following general qualifiers are associated with the sample results. Additional qualifiers will be specified within the reporting sections of the data package or within the body of the Case Narrative.

Analytical Report Terms and Qualifiers

MDL: The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The MDL is determined from analysis of a sample containing the analyte in a given matrix. For DoD QSM 4.1 reporting purposes, this definition is also applied to the reported Detection Limit (DL).

LOD: The Limit of Detection is an estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. This definition is further clarified in the DoD QSM 4.1 revisions as the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

LOQ: The Limit of Quantitation is the minimum level, concentration, or quantity of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. This term is further clarified within the DoD QSM 4.1 as the lowest concentration that produces a quantitative result within specified limits of precision and bias.

*****: An exceeding quality control criteria is associated with the reported result.

B: The presence of a "B" to the right of an analytical value indicates that this compound was also detected in the method blank and the data should be interpreted with caution. One should consider the possibility that the correct sample result might be less than the reported result and, perhaps, zero. **For Florida DEP reports this qualifier is "V".**

D: When a sample (or sample extract) is rerun diluted because one of the compound concentrations exceeded the highest concentration range for the standard curve, all of the values obtained in the dilution run will be flagged with a "D".

E: The concentration for any compound found which exceeds the highest concentration level on the standard curve for that compound will be flagged with an "E". Usually the sample will be rerun at a dilution to quantitate the flagged compound. **For Florida DEP reports this qualifier is "L".**

H1: The result was analyzed outside of the EPA recommended holding time.

H2: The result was extracted outside of the EPA recommended holding time.

H3: The sample for this analyte was received outside of the EPA recommended holding time.

J: The presence of a "J" to the right of an analytical result indicates that the reported result is estimated. The mass spectral data pass the identification criteria showing that the compound is present, but the calculated result is less than the EQL. One should feel confident that the result is greater than zero and less than the EQL. **For Florida DEP reports this qualifier is "I".**

M: Indicates that the sample matrix interfered with the quantitation of the analyte. In dual column analysis the result is reported from the column with the lower concentration. In inorganics, it indicates that the parameters MDL/RL has been raised.

N: The MS/MSD accuracy and/or precision are outside criteria. The predigested spike recovery is not within control limits for the associated parameter.

P: The associated numerical value is an estimated quantity. There is greater than a 40% difference between the two GC columns for the detected concentrations. The higher of the two values is reported unless matrix interference is obvious or for HPLC analysis where the primary column is reported.

Q: The RPD and/or percent recovery exceeded limits in the associated Blank Spike and/or Blank Spike Duplicate.

S: The associated internal standard failed criteria.

U: The presence of a "U" indicates that the analyte was analyzed for but was not detected or the concentration of the analyte quantitated below the DL.

X: The parameter shows a potential positive bias on a reported concentration due to an ICV or CCV exceeding the upper control limit on the high side.

Y: The parameter shows a potential negative bias on a reported concentration due to an ICV or CCV exceeding the lower control limit on the low side.

Z: The parameter shows lack of confirmation/detection, which may be due to a negative bias in the ICV or CCV which exceeds the lower control limit.

LIMS Definitions / Naming Conventions:

The following are general naming conventions that are used throughout the laboratory; however, on a method by method basis, there are additional QAQC items that are named in a consistent format.

BLK: LIMS assigns a unique identifier to the Method Blank by naming it as the letters BLK appended to the Batch ID. A Method Blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample

processing. The Method Blank is used to assess for possible contamination during preparation and/or analysis steps. Method Blanks within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally.

BS: LIMS assigns a unique identifier to the Blank Spike by naming it as the letters BS appended to the Batch ID. The Blank Spike or Lab Control Sample is a controlled analyte-free matrix, which is spiked with known and verified concentrations of target analytes. Spiking concentrations can be referenced in the method SOP. The BS is used to evaluate the viability of analytes taken through the entire prep (when applicable) and analytical process. Blank Spikes within a Batch or Analytical sequence will be appended with a numerical value beginning with 1 that will increase incrementally. A duplicate Blank Spike will be designated as a BSD.

MS: The LIMS assigns each Client sample with a unique identifier. The Matrix Spike is designated with a MS at the end of the sample's unique identifier. The Matrix Spike sample is used to assess the effect of the sample matrix on the precision and accuracy of the results generated using the selected method. A duplicate Matrix Spike will be designated as a MSD.

IDs: The LIMS assigns each Client sample with a unique identifier. The letter "RE" may potentially be appended to the end of the LIMS Sample ID. And "**RE**" implies that the sample was either re-prepped, re-analyzed straight, or re-analyzed at a dilution. Subsequent re-analysis for the sample will be appended with a numerical value beginning with 1 that will increase incrementally. Eg: RE1, RE2, RE3, etc.

Statement of Data Authenticity:
I certify that, based upon my inquiry of those individuals immediately responsible for obtaining the information and to the best of my knowledge, the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the conditions detailed in this Case Narrative, as verified by my signature below. During absences, Ms. Marcia K. McGinnity is authorized to sign this Statement of Data Authenticity.

Mr. Rick D. Davis
Laboratory Technical Director / VP Operations

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER № 2132 | PAGE 1 OF 1

PROJECT NO: 112G02267	FACILITY: Cecil Field Ocala Crash Site	PROJECT MANAGER: Rob Simcik	PHONE NUMBER: 412 921 8163	LABORATORY NAME AND CONTACT: Empirical Labs / Kim Kostzer
SAMPLERS (SIGNATURE): Jeff Krone		FIELD OPERATIONS LEADER: Kara Wimble	PHONE NUMBER: 904 636 6125	ADDRESS: 621 Mainstream Drive Suite 270
		CARRIER/WAYBILL NUMBER: FedEx Airbill 8660 1730 1966		CITY, STATE: Nashville, TN 37228

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

DATE YEAR 2011	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	VOCs (SW-846 8260B)	PAH (SW 846 8310)							COMMENTS 1102102
CONTAINER TYPE PLASTIC (P) or GLASS (G)									G	G							
PRESERVATIVE USED									HCl	—							
2/9	1220	CEF-GW-CS10-20110209		✓		GW	G	5	X	X							Cool to 4°C -01
2/9	1245	CEF-GW-CS1AR-20110209		✓		GW	G	5	X	X							-02
2/9	0000	CEF-GW-DUP01-20110209		✓		GW	G	5	X	X							-03
2/9	1345	CEF-GW-CS03-20110209		✓		GW	G	5	X	X							-04
2/9	1415	CEF-GW-CS08-20110209		✓		GW	G	15	X	X							MS/MSD -05
2/9		Trip Blank						3	X								-06

1. RELINQUISHED BY	DATE 2/9/11	TIME 1800	1. RECEIVED BY 0.6°C	DATE 2-10-11	TIME 11:45
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

9

1102102

EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

LIMS Number: 1102102

Number of Coolers: 1 of 2

Client: Tetra Tech NUS INC

Project: 112G02267

Date/Time Received: 2-10-11 11:45

Date cooler(s) opened: 2.10.11

Opened By (print): Russ Townsend

(signature): Russ Townsend

Circle response below as appropriate

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

If applicable, enter airbill number here: 1966

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

How many: 1 Seal date: 2.9.11 Seal Initials: ?

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

Type of Coolant: (WET) DRY BLUE NONE

Temperature of Samples upon Receipt: Initial Value: 0.9 °C Correction Factor: -0.3 °C Final Value: 0.6 °C

Dates samples were logged-in: 2-11-11

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

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

EMPIRICAL LABORATORIES
COOLER RECEIPT FORM

LIMS Number: 1102102

Number of Coolers: 2 of 2

Client: TetraTech NUS INC

Project: 112G02267

Date/Time Received: 2-10-11 11:45

Date cooler(s) opened: 2-10-11

Opened By (print): Russ Townsend

(signature): [signature]

Circle response below as appropriate

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

If applicable, enter airbill number here: 0230

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

How many: 1 Seal date: 2-9-11 Seal Initials: ?

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

Type of Coolant: (WET) DRY BLUE NONE

Temperature of Samples upon Receipt: Initial Value: 1.3 °C Correction Factor: -0.3 °C Final Value: 1.0 °C

Dates samples were logged-in: 2-11-11

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

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

HOLDING TIME SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CEF-GW-CS10-20110209	02/09/11 12:20	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 12:00	6.99	14.00	
CEF-GW-CS1A8-20110209	02/09/11 12:45	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 12:30	6.99	14.00	
CEF-GW-DUP01-20110209	02/09/11 00:00	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 13:00	7.54	14.00	
CEF-GW-CS03-20110209	02/09/11 13:45	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 13:30	6.99	14.00	
CEF-GW-CS08-20110209	02/09/11 14:15	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 13:59	6.99	14.00	
Trip Blank	02/09/11 00:00	02/11/11 11:45	02/16/11 00:00	N/A	14.00	02/16/11 11:31	7.48	14.00	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG:
Client: Tetra Tech NUS, Inc. (T010)
Project: CTOJM09 Ocala F18 Crash Site
Sequence: 1B04812
Instrument: MS-VOA3
Calibration: 1042001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (1B04812-CCV1) ug/L				Lab File ID: 0216CCV1.D		Analyzed: 02/16/11 09:04		
Bromofluorobenzene	30.00	98.5	80 - 120	16.971	16.971	0.0000	+/-1.000	
Dibromofluoromethane	30.00	102	80 - 120	9.908	9.908	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	100	80 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	95.8	80 - 120	14.629	14.629	0.0000	+/-1.000	
LCS (1B16004-BS1) ug/L				Lab File ID: 0216LS1.D		Analyzed: 02/16/11 09:34		
Bromofluorobenzene	30.00	99.8	75 - 120	16.971	16.971	0.0000	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	9.908	9.908	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.0	70 - 120	10.984	10.991	-0.0070	+/-1.000	
Toluene-d8	30.00	98.1	85 - 120	14.628	14.629	-0.0010	+/-1.000	
Blank (1B16004-BLK1) ug/L				Lab File ID: 0216BL1.D		Analyzed: 02/16/11 11:01		
Bromofluorobenzene	30.00	104	75 - 120	16.971	16.971	0.0000	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	9.896	9.908	-0.0120	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.3	70 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	102	85 - 120	14.629	14.629	0.0000	+/-1.000	
Trip Blank (1102102-06) ug/L				Lab File ID: 0210206.D		Analyzed: 02/16/11 11:31		
Bromofluorobenzene	30.00	104	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	105	85 - 115	9.908	9.908	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	101	70 - 120	10.984	10.991	-0.0070	+/-1.000	
Toluene-d8	30.00	99.9	85 - 120	14.629	14.629	0.0000	+/-1.000	
CEF-GW-CS10-20110209 (1102102-01) ug/L				Lab File ID: 0210201.D		Analyzed: 02/16/11 12:00		
Bromofluorobenzene	30.00	104	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	105	85 - 115	9.908	9.908	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	99.4	70 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	100	85 - 120	14.629	14.629	0.0000	+/-1.000	
CEF-GW-CS1A8-20110209 (1102102-02) ug/L				Lab File ID: 0210202.D		Analyzed: 02/16/11 12:30		
Bromofluorobenzene	30.00	100	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	9.914	9.908	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	104	70 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	98.9	85 - 120	14.629	14.629	0.0000	+/-1.000	
CEF-GW-DUP01-20110209 (1102102-03) ug/L				Lab File ID: 0210203.D		Analyzed: 02/16/11 13:00		
Bromofluorobenzene	30.00	105	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	9.914	9.908	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	103	70 - 120	10.997	10.991	0.0060	+/-1.000	
Toluene-d8	30.00	99.7	85 - 120	14.629	14.629	0.0000	+/-1.000	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

Sequence: 1B04812

SDG:

Project: CTOJM09 Ocala F18 Crash Site

Instrument: MS-VOA3

Calibration: 1042001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
CEF-GW-CS03-20110209 (1102102-04) ug/L				Lab File ID: 0210204.D		Analyzed: 02/16/11 13:30		
Bromofluorobenzene	30.00	104	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	9.914	9.908	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	103	70 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	98.5	85 - 120	14.629	14.629	0.0000	+/-1.000	
CEF-GW-CS08-20110209 (1102102-05) ug/L				Lab File ID: 0210205.D		Analyzed: 02/16/11 13:59		
Bromofluorobenzene	30.00	105	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	103	85 - 115	9.908	9.908	0.0000	+/-1.000	
1,2-Dichloroethane-d4	30.00	96.9	70 - 120	10.991	10.991	0.0000	+/-1.000	
Toluene-d8	30.00	99.1	85 - 120	14.629	14.629	0.0000	+/-1.000	
Matrix Spike (1B16004-MS1) ug/L				Lab File ID: 0210205M.D		Analyzed: 02/16/11 19:27		
Bromofluorobenzene	30.00	103	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	104	85 - 115	9.914	9.908	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	98.8	70 - 120	10.997	10.991	0.0060	+/-1.000	
Toluene-d8	30.00	96.8	85 - 120	14.629	14.629	0.0000	+/-1.000	
Matrix Spike Dup (1B16004-MSD1) ug/L				Lab File ID: 0210205S.D		Analyzed: 02/16/11 19:57		
Bromofluorobenzene	30.00	103	75 - 120	16.977	16.971	0.0060	+/-1.000	
Dibromofluoromethane	30.00	105	85 - 115	9.914	9.908	0.0060	+/-1.000	
1,2-Dichloroethane-d4	30.00	101	70 - 120	10.99	10.991	-0.0010	+/-1.000	
Toluene-d8	30.00	97.2	85 - 120	14.628	14.629	-0.0010	+/-1.000	

PREPARATION BATCH SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Batch: 1B16004 Batch Matrix: Water Preparation: 5030B

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
CEF-GW-CS10-20110209	1102102-01	02/16/11 00:00	5.00	5.00
CEF-GW-CS1A8-20110209	1102102-02	02/16/11 00:00	5.00	5.00
CEF-GW-DUP01-20110209	1102102-03	02/16/11 00:00	5.00	5.00
CEF-GW-CS03-20110209	1102102-04	02/16/11 00:00	5.00	5.00
CEF-GW-CS08-20110209	1102102-05	02/16/11 00:00	5.00	5.00
Trip Blank	1102102-06	02/16/11 00:00	5.00	5.00
Blank	1B16004-BLK1	02/16/11 00:00	5.00	5.00
LCS	1B16004-BS1	02/16/11 00:00	5.00	5.00
CEF-GW-CS08-20110209	1B16004-MS1	02/16/11 00:00	5.00	5.00
CEF-GW-CS08-20110209	1B16004-MSD1	02/16/11 00:00	5.00	5.00

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B16004

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Benzene	50.00	ND	52.2	104		80 - 120
Bromodichloromethane	50.00	ND	66.1	132	*	75 - 120
Bromoform	50.00	ND	53.9	108		70 - 130
Bromomethane	50.00	ND	19.5	39.1		30 - 145
Carbon tetrachloride	50.00	ND	57.2	114		65 - 140
Chlorobenzene	50.00	ND	52.9	106		80 - 120
Chloroethane	50.00	ND	53.6	107		60 - 135
Chloroform	50.00	ND	55.7	111		65 - 135
2-Chloroethyl vinyl ether	99.75	ND	5.00 U	0	*	10 - 165
Chloromethane	50.00	ND	53.5	107		40 - 125
Dibromochloromethane	50.00	ND	55.8	112		60 - 135
1,2-Dichlorobenzene	50.00	ND	52.9	106		70 - 120
1,3-Dichlorobenzene	50.00	ND	49.9	99.7		75 - 125
1,4-Dichlorobenzene	50.00	ND	51.1	102		75 - 125
Dichlorodifluoromethane	50.00	ND	80.7	161	*	30 - 155
1,1-Dichloroethane	50.00	ND	54.8	110		70 - 135
1,2-Dichloroethane	50.00	ND	60.1	120		70 - 130
1,1-Dichloroethene	50.00	ND	56.5	113		70 - 130
cis-1,2-Dichloroethene	50.00	ND	52.6	105		70 - 125
trans-1,2-Dichloroethene	50.00	ND	53.4	107		60 - 140
1,2-Dichloropropane	50.00	ND	52.4	105		75 - 125
cis-1,3-Dichloropropene	50.00	ND	50.8	102		70 - 130
trans-1,3-Dichloropropene	50.00	ND	58.4	117		55 - 140
Ethylbenzene	50.00	ND	53.0	106		75 - 125
Isopropylbenzene	50.00	ND	56.3	113		75 - 125
Methylene chloride	50.00	3.60	55.3	103		55 - 140
Methyl t-Butyl Ether	100.0	ND	105	105		65 - 125
1,1,2,2-Tetrachloroethane	50.00	ND	49.8	99.7		65 - 130
Tetrachloroethene	50.00	ND	50.2	100		45 - 150
Toluene	50.00	ND	49.5	99.0		75 - 120
1,2,4-Trichlorobenzene	50.00	ND	46.3	92.6		65 - 135
1,1,2-Trichloroethane	50.00	ND	50.6	101		75 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B16004

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
1,1,1-Trichloroethane	50.00	ND	59.1	118		65 - 130
Trichlorofluoromethane	50.00	ND	62.5	125		60 - 145
1,3,5-Trimethylbenzene	50.00	ND	52.1	104		75 - 130
1,2,4-Trimethylbenzene	50.00	ND	52.8	106		75 - 130
Vinyl chloride	50.00	ND	54.5	109		50 - 145
m,p-Xylene	100.0	ND	97.8	97.8		75 - 130
o-Xylene	50.00	ND	50.9	102		80 - 120
Xylenes (total)	150.0	ND	149	99.1		75 - 130

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B16004

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Benzene	50.00	51.6	103	1.10		30	80 - 120
Bromodichloromethane	50.00	67.1	134	1.49	*	30	75 - 120
Bromoform	50.00	55.5	111	2.92		30	70 - 130
Bromomethane	50.00	25.1	50.2	24.9		30	30 - 145
Carbon tetrachloride	50.00	59.2	118	3.56		30	65 - 140
Chlorobenzene	50.00	52.9	106	0.00870		30	80 - 120
Chloroethane	50.00	58.3	117	8.38		30	60 - 135
Chloroform	50.00	56.3	113	0.995		30	65 - 135
2-Chloroethyl vinyl ether	99.75	5.00 U	0		*	30	10 - 165
Chloromethane	50.00	57.6	115	7.31		30	40 - 125
Dibromochloromethane	50.00	57.2	114	2.46		30	60 - 135
1,2-Dichlorobenzene	50.00	53.0	106	0.112		30	70 - 120
1,3-Dichlorobenzene	50.00	51.5	103	3.20		30	75 - 125
1,4-Dichlorobenzene	50.00	51.7	103	1.08		30	75 - 125
Dichlorodifluoromethane	50.00	85.6	171	5.93	*	30	30 - 155
1,1-Dichloroethane	50.00	54.4	109	0.782		30	70 - 135
1,2-Dichloroethane	50.00	59.3	119	1.21		30	70 - 130
1,1-Dichloroethene	50.00	58.3	117	3.15		30	70 - 130
cis-1,2-Dichloroethene	50.00	52.9	106	0.683		30	70 - 125
trans-1,2-Dichloroethene	50.00	55.2	110	3.25		30	60 - 140
1,2-Dichloropropane	50.00	52.0	104	0.860		30	75 - 125
cis-1,3-Dichloropropene	50.00	51.1	102	0.603		30	70 - 130
trans-1,3-Dichloropropene	50.00	59.0	118	1.10		30	55 - 140
Ethylbenzene	50.00	53.4	107	0.650		30	75 - 125
Isopropylbenzene	50.00	57.3	115	1.81		30	75 - 125
Methylene chloride	50.00	54.2	101	2.00		30	55 - 140
Methyl t-Butyl Ether	100.0	106	106	1.42		30	65 - 125
1,1,2,2-Tetrachloroethane	50.00	49.3	98.6	1.07		30	65 - 130
Tetrachloroethene	50.00	51.7	103	2.91		30	45 - 150
Toluene	50.00	50.7	101	2.48		30	75 - 120
1,2,4-Trichlorobenzene	50.00	47.8	95.6	3.12		30	65 - 135
1,1,2-Trichloroethane	50.00	51.3	103	1.35		30	75 - 125
1,1,1-Trichloroethane	50.00	61.0	122	3.15		30	65 - 130

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8260B

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B16004

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Trichlorofluoromethane	50.00	59.7	119	4.70		30	60 - 145
1,3,5-Trimethylbenzene	50.00	51.8	104	0.634		30	75 - 130
1,2,4-Trimethylbenzene	50.00	53.3	107	0.891		30	75 - 130
Vinyl chloride	50.00	61.9	124	12.7		30	50 - 145
m,p-Xylene	100.0	101	101	3.68		30	75 - 130
o-Xylene	50.00	51.0	102	0.151		30	80 - 120
Xylenes (total)	150.0	152	102	2.48		30	75 - 130

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water		
Batch:	1B16004	Laboratory ID:	1B16004-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Benzene	50.00	51.3	103	80 - 120
Bromodichloromethane	**50.00**	**68.9**	**138**	**75 - 120**
Bromoform	50.00	59.7	119	70 - 130
Bromomethane	50.00	42.1	84.1	30 - 145
Carbon tetrachloride	50.00	56.8	114	65 - 140
Chlorobenzene	50.00	54.5	109	80 - 120
Chloroethane	50.00	58.2	116	60 - 135
Chloroform	50.00	56.5	113	65 - 135
2-Chloroethyl vinyl ether	99.75	127	128	10 - 165
Chloromethane	50.00	61.3	123	40 - 125
Dibromochloromethane	50.00	61.1	122	60 - 135
1,2-Dichlorobenzene	50.00	55.2	110	70 - 120
1,3-Dichlorobenzene	50.00	55.9	112	75 - 125
1,4-Dichlorobenzene	50.00	52.8	106	75 - 125
Dichlorodifluoromethane	50.00	77.6	155	30 - 155
1,1-Dichloroethane	50.00	55.2	110	70 - 135
1,2-Dichloroethane	50.00	60.1	120	70 - 130
1,1-Dichloroethene	50.00	57.5	115	70 - 130
cis-1,2-Dichloroethene	50.00	55.1	110	70 - 125
trans-1,2-Dichloroethene	50.00	54.6	109	60 - 140
1,2-Dichloropropane	50.00	54.7	109	75 - 125
cis-1,3-Dichloropropene	50.00	56.7	113	70 - 130
trans-1,3-Dichloropropene	50.00	65.8	132	55 - 140
Ethylbenzene	50.00	53.3	107	75 - 125
Isopropylbenzene	50.00	56.1	112	75 - 125
Methylene chloride	50.00	54.0	108	55 - 140
Methyl t-Butyl Ether	100.0	112	112	65 - 125
1,1,2,2-Tetrachloroethane	50.00	54.9	110	65 - 130
Tetrachloroethene	50.00	51.8	104	45 - 150
Toluene	50.00	50.9	102	75 - 120

LCS / LCS DUPLICATE RECOVERY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water		
Batch:	1B16004	Laboratory ID:	1B16004-BS1
Preparation:	5030B	Initial/Final:	5 mL / 5 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
1,2,4-Trichlorobenzene	50.00	51.3	103	65 - 135
1,1,2-Trichloroethane	50.00	53.8	108	75 - 125
1,1,1-Trichloroethane	50.00	58.5	117	65 - 130
Trichlorofluoromethane	50.00	54.6	109	60 - 145
1,3,5-Trimethylbenzene	50.00	54.0	108	75 - 130
1,2,4-Trimethylbenzene	50.00	55.0	110	75 - 130
Vinyl chloride	50.00	58.6	117	50 - 145
m,p-Xylene	100.0	99.6	99.6	75 - 130
o-Xylene	50.00	52.7	105	80 - 120
Xylenes (total)	150.0	152	102	75 - 130

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

Sequence: 1B04204

Calibration: 1042001

SDG:

Project: CTOJM09 Ocala F18 Crash Site

Instrument: MS-VOA3

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1B04204-TUN1	0209TU1.D	02/09/11 07:36
Cal Standard	1B04204-CAL1	0209CAL1.D	02/09/11 08:01
Cal Standard	1B04204-CAL2	0209CAL2.D	02/09/11 08:31
Cal Standard	1B04204-CAL3	0209CAL3.D	02/09/11 09:01
Cal Standard	1B04204-CAL4	0209CAL4.D	02/09/11 09:31
Cal Standard	1B04204-CAL5	0209CAL5.D	02/09/11 10:01
Cal Standard	1B04204-CAL6	0209CAL6.D	02/09/11 10:30
Cal Standard	1B04204-CAL7	0209CAL7.D	02/09/11 11:00
Cal Standard	1B04204-CAL8	0209CAL8.D	02/09/11 11:30
Cal Standard	1B04204-CAL9	0209CAL9.D	02/09/11 12:00
Initial Cal Check	1B04204-ICV1	0209ICV1.D	02/09/11 12:30

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Lab File ID:	0209TU1.D	Injection Date:	02/09/11
Instrument ID:	MS-VOA3	Injection Time:	07:36
Sequence:	1B04204	Lab Sample ID:	1B04204-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	18.8	PASS
75	30 - 60% of 95	45.9	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.87	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	92.7	PASS
175	5 - 9% of 174	7.25	PASS
176	95 - 101% of 174	100	PASS
177	5 - 9% of 176	6.27	PASS

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC
SDG:
Client: Tetra Tech NUS, Inc. (T010)
Project: CTOJM09 Ocala F18 Crash Site
Calibration: 1042001
Instrument: MS-VOA3
Matrix: Water
Calibration Date: 2/9/2011 8:01:52AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Dichlorobenzene	1.153886	8.916754	17.993	1.058319E-02			15	
Dichlorodifluoromethane	0.1736804	12.6814	3.449667	0.0911626			15	
1,1-Dichloroethane	0.4157175	5.684783	7.742	5.272704E-02			SPCC (0.1)	
1,2-Dichloroethane	0.3303627	5.286019	11.13189	3.819698E-02			15	
1,1-Dichloroethene	0.1766574	5.439883	5.899556	6.016249E-02			CCC (20)	
cis-1,2-Dichloroethene	0.2378304	5.961484	9.068667	7.826884E-02			15	
trans-1,2-Dichloroethene	0.2137549	5.616217	7.240333	7.187083E-02			15	
1,2-Dichloroethene (total)	0.2257926	5.66826	0	0			15	
1,2-Dichloropropane	0.2562795	4.808453	12.895	2.236072E-02			CCC (20)	
1,3-Dichloropropane	0.7476228	6.565771	14.762	1.645115E-02			15	
2,2-Dichloropropane	0.3047453	7.536233	9.817	6.765373E-02			15	
1,1-Dichloropropene	0.3077578	6.277739	11.69733	3.520369E-02			15	
cis-1,3-Dichloropropene	0.3687261	6.715723	13.85867	2.725416E-02			15	
trans-1,3-Dichloropropene	0.6343731	7.849772	14.353	2.839321E-02			15	
Diisopropyl Ether	0.8328406	6.498419	8.845667	4.787607E-02			15	
Ethylbenzene	2.356804	14.6307	16.18733	2.521386E-02			CCC (20)	
Ethyl tert-Butyl Ether	0.6967914	8.80672	9.904556	4.608595E-02			15	
Ethyl Methacrylate	0.5504545	13.59658	14.83656	5.480763E-02			15	
Hexachlorobutadiene	0.3096349	16.75068	20.199	1.725689E-02	0.9992167		0.995	
2-Hexanone	0.3159287	19.62314	14.95788	0.1536743	0.9985677		0.995	
Iodomethane	0.2812665	19.26399	5.943	0.102056	0.9996984		0.995	
Isopropylbenzene	1.931811	13.91947	16.94	1.393468E-02			15	
p-Isopropyltoluene	1.341973	7.51519	17.70033	1.045186E-02			15	
Methylene chloride	0.2430347	7.249268	6.115889	6.876087E-02			15	
Methyl Acetate	0.1690587	5.282551	6.153333	0.1019137			15	
Methylcyclohexane	0.2740638	7.278646	13.64433	2.119816E-02			15	
Naphthalene	1.637823	5.048973	20.15867	1.530895E-02			15	
Methyl Methacrylate	0.2153219	10.65267	13.299	6.891426E-02			15	
4-Methyl-2-pentanone	0.2213585	14.68593	14.01325	5.837834E-02			15	
Methyl t-Butyl Ether	0.5783993	5.415197	7.494	8.264436E-02			15	
n-Propylbenzene	2.265422	12.4461	17.27367	1.504421E-02			15	
Styrene	1.55917	8.296739	16.606	2.160731E-02			15	

INITIAL CALIBRATION DATA (Continued)

SW8260B

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Calibration: 1042001

Instrument: MS-VOA3

Matrix: Water

Calibration Date: 2/9/2011 8:01:52AM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,2,2-Tetrachloroethane	0.5234688	3.543321	16.66756	6.055184E-03			SPCC (0.3)	
1,1,1,2-Tetrachloroethane	0.3922633	14.19435	15.965	1.611869E-02			15	
tert-Butyl alcohol	1.806783E-02	13.17667	5.901556	8.978124E-02			15	
Tetrachloroethene	0.5803178	9.212702	15.42567	1.615863E-02			15	
Toluene	1.266817	9.153244	14.69622	1.173103E-02			CCC (20)	
1,2,3-Trichlorobenzene	0.6692996	9.814259	20.39467	2.147976E-02			15	
1,2,4-Trichlorobenzene	0.7430317	10.34887	19.89633	1.991692E-02			15	
1,1,2-Trichloroethane	0.3774056	6.376428	14.50167	8.979918E-03			15	
1,1,1-Trichloroethane	0.3181209	9.211913	11.33911	4.512402E-02			15	
Tetrahydrofuran	6.750291E-02	15.92611	10.47212	0.1226981	0.9994273		0.995	
Trichloroethene	0.2462319	6.256117	12.97667	2.763548E-02			15	
Trichlorofluoromethane	0.3227014	7.743543	5.156222	6.336786E-02			15	
1,2,3-Trichloropropane	0.1759719	4.977682	16.77467	1.222676E-02			15	
1,3,5-Trimethylbenzene	1.631362	9.359366	17.476	2.218609E-02			15	
1,2,4-Trimethylbenzene	1.6879	8.163573	17.77867	7.414698E-03			15	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1765655	7.73711	6.211	8.515101E-02			15	
Vinyl chloride	0.211655	4.326316	3.853889	5.652913E-02			CCC (20)	
m,p-Xylene	1.94475	11.82239	16.344	2.217847E-02			15	
o-Xylene	2.049863	12.57041	16.66062	1.171739E-02			15	
Vinyl acetate	0.238094	16.4196	8.031333	0.1635173	0.9997745		0.995	
Xylenes (total)	1.933	14.44837	0	0			15	
Dibromofluoromethane	0.2525351	1.358663	9.895667	6.587298E-02			15	
1,2-Dichloroethane-d4	5.392485E-02	1.948573	10.978	4.105036E-02			15	
Toluene-d8	2.159642	3.19565	14.62256	6.619058E-03			15	
tert-Amyl alcohol	1.100569E-02	26.54099	10.834	5.509799E-02	0.9993611		0.995	
tert-Amyl ethyl ether	0.6344248	6.268733	13.53989	1.578894E-02			15	

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-VOA3	Calibration:	1042001
Lab File ID:	0209ICV1.D	Calibration Date:	02/09/11 08:01
Sequence:	1B04204	Injection Date:	02/09/11
Lab Sample ID:	1B04204-ICV1	Injection Time:	12:30

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Benzene	A	100.0	98.61	0.8877526	0.8754519		-1.4	20
Bromodichloromethane	A	100.0	116.9	0.2617577	0.3060053		16.9	20
Bromoform	L	100.0	101.8	0.2222152	0.3310082	0.1	1.8	20
Bromomethane	L	100.0	98.53	0.134767	0.1599718		-1.5	20
Carbon tetrachloride	L	100.0	99.47	0.2178602	0.2669694		-0.5	20
Chlorobenzene	A	100.0	95.93	1.436424	1.377992	0.3	-4.1	20
Chloroethane	A	100.0	106.0	0.1259794	0.133548		6.0	20
Chloroform	A	100.0	98.09	0.4027485	0.3950397		-1.9	20
2-Chloroethyl vinyl ether	A	199.5	228.1	0.1750304	0.199654		14.1	20
Chloromethane	A	100.0	112.9	0.2467998	0.2786856	0.1	12.9	20
Dibromochloromethane	L	100.0	105.6	0.3561249	0.4826405		5.6	20
1,2-Dichlorobenzene	A	100.0	95.69	1.083088	1.03646		-4.3	20
1,3-Dichlorobenzene	A	100.0	93.55	1.123795	1.051362		-6.4	20
1,4-Dichlorobenzene	A	100.0	92.63	1.153886	1.06889		-7.4	20
Dichlorodifluoromethane	A	100.0	143.0	0.1736804	0.2482943		43.0	20 *
1,1-Dichloroethane	A	100.0	101.1	0.4157175	0.4204233	0.1	1.1	20
1,2-Dichloroethane	A	100.0	101.2	0.3303627	0.3342831		1.2	20
1,1-Dichloroethene	A	100.0	109.3	0.1766574	0.1931641		9.3	20
cis-1,2-Dichloroethene	A	100.0	98.74	0.2378304	0.2348456		-1.3	20
trans-1,2-Dichloroethene	A	100.0	102.4	0.2137549	0.2188265		2.4	20
1,2-Dichloropropane	A	100.0	101.0	0.2562795	0.2588877		1.0	20
cis-1,3-Dichloropropene	A	100.0	102.0	0.3687261	0.3759799		2.0	20
trans-1,3-Dichloropropene	A	100.0	117.9	0.6343731	0.7477025		17.9	20
Ethylbenzene	A	100.0	93.26	2.356804	2.197843		-6.7	20
Isopropylbenzene	A	100.0	97.29	1.931811	1.879531		-2.7	20
Methylene chloride	A	100.0	97.27	0.2430347	0.2363881		-2.7	20
Methyl t-Butyl Ether	A	200.0	198.3	0.5783993	0.5734028		-0.9	20
1,1,2,2-Tetrachloroethane	A	100.0	98.64	0.5234688	0.5163364	0.3	-1.4	20
Tetrachloroethene	A	100.0	97.25	0.5803178	0.5643474		-2.8	20

INITIAL CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-VOA3	Calibration:	1042001
Lab File ID:	0209ICV1.D	Calibration Date:	02/09/11 08:01
Sequence:	1B04204	Injection Date:	02/09/11
Lab Sample ID:	1B04204-ICV1	Injection Time:	12:30

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Toluene	A	100.0	96.30	1.266817	1.219986		-3.7	20
1,2,4-Trichlorobenzene	A	100.0	92.86	0.7430317	0.6899524		-7.1	20
1,1,2-Trichloroethane	A	100.0	96.87	0.3774056	0.3655906		-3.1	20
1,1,1-Trichloroethane	A	100.0	106.3	0.3181209	0.3380254		6.3	20
Trichlorofluoromethane	A	100.0	103.8	0.3227014	0.3349294		3.8	20
1,3,5-Trimethylbenzene	A	100.0	96.25	1.631362	1.570187		-3.7	20
1,2,4-Trimethylbenzene	A	100.0	97.23	1.6879	1.641188		-2.8	20
Vinyl chloride	A	100.0	109.1	0.211655	0.2309513		9.1	20
m,p-Xylene	A	200.0	162.6	1.94475	1.580598		-18.7	20
o-Xylene	A	100.0	88.44	2.049863	1.812892		-11.6	20
Xylenes (total)	A	300.0	251.0	1.933	1.658029		-14.2	20
Bromofluorobenzene	A	30.00	29.31	0.9432064	0.9214516		-2.3	20
Dibromofluoromethane	A	30.00	29.50	0.2525351	0.248311		-1.7	20
1,2-Dichloroethane-d4	A	30.00	31.00	5.392485E-02	5.571539E-02		3.3	20
Toluene-d8	A	30.00	29.76	2.159642	2.142179		-0.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

ANALYSIS SEQUENCE SUMMARY

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Sequence:	1B04812	Instrument:	MS-VOA3
Calibration:	1042001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1B04812-TUN1	0216TU1.D	02/16/11 08:39
Calibration Check	1B04812-CCV1	0216CCV1.D	02/16/11 09:04
LCS	1B16004-BS1	0216LS1.D	02/16/11 09:34
Blank	1B16004-BLK1	0216BL1.D	02/16/11 11:01
Trip Blank	1102102-06	0210206.D	02/16/11 11:31
CEF-GW-CS10-20110209	1102102-01	0210201.D	02/16/11 12:00
CEF-GW-CS1A8-20110209	1102102-02	0210202.D	02/16/11 12:30
CEF-GW-DUP01-20110209	1102102-03	0210203.D	02/16/11 13:00
CEF-GW-CS03-20110209	1102102-04	0210204.D	02/16/11 13:30
CEF-GW-CS08-20110209	1102102-05	0210205.D	02/16/11 13:59
CEF-GW-CS08-20110209	1B16004-MS1	0210205M.D	02/16/11 19:27
CEF-GW-CS08-20110209	1B16004-MSD1	0210205S.D	02/16/11 19:57

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Lab File ID:	0216TU1.D	Injection Date:	02/16/11
Instrument ID:	MS-VOA3	Injection Time:	08:39
Sequence:	1B04812	Lab Sample ID:	1B04812-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22.3	PASS
75	30 - 60% of 95	51.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.92	PASS
173	Less than 2% of 174	0	PASS
174	50 - 200% of 95	78.4	PASS
175	5 - 9% of 174	7.6	PASS
176	95 - 101% of 174	95.6	PASS
177	5 - 9% of 176	7.36	PASS

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-VOA3	Calibration:	1042001
Lab File ID:	0216CCV1.D	Calibration Date:	02/09/11 08:01
Sequence:	1B04812	Injection Date:	02/16/11
Lab Sample ID:	1B04812-CCV1	Injection Time:	09:04

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Benzene	A	100.0	102.4	0.8877526	0.909326		2.4	20	
Bromodichloromethane	A	100.0	128.0	0.2617577	0.3351563		28.0	20	*
Bromoform	L	100.0	122.5	0.2222152	0.4012165	0.1	22.5	20	*
Bromomethane	L	100.0	93.50	0.134767	0.1516348		-6.5	20	
Carbon tetrachloride	L	100.0	116.6	0.2178602	0.314541		16.6	20	
Chlorobenzene	A	100.0	100.2	1.436424	1.438828	0.3	0.2	20	
Chloroethane	A	100.0	115.9	0.1259794	0.1460353		15.9	20	
Chloroform	A	100.0	110.6	0.4027485	0.4453182		10.6	20	
2-Chloroethyl vinyl ether	A	199.5	212.0	0.1750304	0.1855311		6.0	20	
Chloromethane	A	100.0	113.4	0.2467998	0.2798158	0.1	13.4	20	
Dibromochloromethane	L	100.0	115.8	0.3561249	0.5303871		15.8	20	
1,2-Dichlorobenzene	A	100.0	104.4	1.083088	1.130648		4.4	20	
1,3-Dichlorobenzene	A	100.0	104.2	1.123795	1.17143		4.2	20	
1,4-Dichlorobenzene	A	100.0	101.3	1.153886	1.169366		1.3	20	
Dichlorodifluoromethane	A	100.0	147.9	0.1736804	0.2568937		47.9	20	*
1,1-Dichloroethane	A	100.0	108.6	0.4157175	0.4513379	0.1	8.6	20	
1,2-Dichloroethane	A	100.0	117.6	0.3303627	0.388695		17.7	20	
1,1-Dichloroethene	A	100.0	109.4	0.1766574	0.193249		9.4	20	
cis-1,2-Dichloroethene	A	100.0	107.3	0.2378304	0.2551945		7.3	20	
trans-1,2-Dichloroethene	A	100.0	106.3	0.2137549	0.2272514		6.3	20	
1,2-Dichloropropane	A	100.0	106.0	0.2562795	0.2717482		6.0	20	
cis-1,3-Dichloropropene	A	100.0	116.9	0.3687261	0.4309022		16.9	20	
trans-1,3-Dichloropropene	A	100.0	115.6	0.6343731	0.7332797		15.6	20	
Ethylbenzene	A	100.0	97.49	2.356804	2.297732		-2.5	20	
Isopropylbenzene	A	100.0	99.93	1.931811	1.930384		-0.07	20	
Methylene chloride	A	100.0	104.7	0.2430347	0.2545154		4.7	20	
Methyl t-Butyl Ether	A	100.0	112.5	0.5783993	0.6506185		12.5	20	
1,1,2,2-Tetrachloroethane	A	100.0	103.2	0.5234688	0.5402574	0.3	3.2	20	
Tetrachloroethene	A	100.0	102.4	0.5803178	0.5943702		2.4	20	

CONTINUING CALIBRATION CHECK

SW8260B

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-VOA3	Calibration:	1042001
Lab File ID:	0216CCV1.D	Calibration Date:	02/09/11 08:01
Sequence:	1B04812	Injection Date:	02/16/11
Lab Sample ID:	1B04812-CCV1	Injection Time:	09:04

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Toluene	A	100.0	97.78	1.266817	1.238642		-2.2	20
1,2,4-Trichlorobenzene	A	100.0	104.4	0.7430317	0.7755176		4.4	20
1,1,2-Trichloroethane	A	100.0	103.0	0.3774056	0.3886871		3.0	20
1,1,1-Trichloroethane	A	100.0	121.3	0.3181209	0.3858014		21.3	20 *
Trichlorofluoromethane	A	100.0	114.9	0.3227014	0.3709049		14.9	20
1,3,5-Trimethylbenzene	A	100.0	102.5	1.631362	1.672345		2.5	20
1,2,4-Trimethylbenzene	A	100.0	102.4	1.6879	1.729353		2.5	20
Vinyl chloride	A	100.0	112.8	0.211655	0.2388254		12.8	20
m,p-Xylene	A	200.0	174.6	1.94475	1.697324		-12.7	20
o-Xylene	A	100.0	93.17	2.049863	1.909822		-6.8	20
Xylenes (total)	A	300.0	267.7	1.933	1.768157		-8.5	20
Bromofluorobenzene	A	30.00	29.54	0.9432064	0.9287852		-1.5	20
Dibromofluoromethane	A	30.00	30.64	0.2525351	0.2579643		2.1	20
1,2-Dichloroethane-d4	A	30.00	30.07	5.392485E-02	5.405323E-02		0.2	20
Toluene-d8	A	30.00	28.74	2.159642	2.069293		-4.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
SDG:
Client: Tetra Tech NUS, Inc. (T010)
Project: CTOJM09 Ocala F18 Crash Site
Sequence: 1B04812
Instrument: MS-VOA3
Calibration: 1042001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1B04812-CCV1)			Lab File ID: 0216CCV1.D			Analyzed: 02/16/11 09:04			
Fluorobenzene	1153807	12.366	1314641	12.359	88	50 - 200	0.0070	+/-0.50	
Chlorobenzene-d5	609775	15.997	660505	15.997	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	663055	17.975	723449	17.974	92	50 - 200	0.0010	+/-0.50	
LCS (1B16004-BS1)			Lab File ID: 0216LS1.D			Analyzed: 02/16/11 09:34			
Fluorobenzene	1155896	12.359	1153807	12.366	100	50 - 200	-0.0070	+/-0.50	
Chlorobenzene-d5	596380	15.997	609775	15.997	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	667130	17.974	663055	17.975	101	50 - 200	-0.0010	+/-0.50	
Blank (1B16004-BLK1)			Lab File ID: 0216BL1.D			Analyzed: 02/16/11 11:01			
Fluorobenzene	1152185	12.366	1153807	12.366	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	561509	15.997	609775	15.997	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	644591	17.975	663055	17.975	97	50 - 200	0.0000	+/-0.50	
Trip Blank (1102102-06)			Lab File ID: 0210206.D			Analyzed: 02/16/11 11:31			
Fluorobenzene	1133971	12.365	1153807	12.366	98	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	559973	15.997	609775	15.997	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	652754	17.975	663055	17.975	98	50 - 200	0.0000	+/-0.50	
CEF-GW-CS10-20110209 (1102102-01)			Lab File ID: 0210201.D			Analyzed: 02/16/11 12:00			
Fluorobenzene	1145427	12.366	1153807	12.366	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	568349	15.997	609775	15.997	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	655179	17.981	663055	17.975	99	50 - 200	0.0060	+/-0.50	
CEF-GW-CS1A8-20110209 (1102102-02)			Lab File ID: 0210202.D			Analyzed: 02/16/11 12:30			
Fluorobenzene	1122062	12.365	1153807	12.366	97	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	561998	15.997	609775	15.997	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	657805	17.975	663055	17.975	99	50 - 200	0.0000	+/-0.50	
CEF-GW-DUP01-20110209 (1102102-03)			Lab File ID: 0210203.D			Analyzed: 02/16/11 13:00			
Fluorobenzene	1175658	12.372	1153807	12.366	102	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5	582430	16.003	609775	15.997	96	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	685185	17.981	663055	17.975	103	50 - 200	0.0060	+/-0.50	
CEF-GW-CS03-20110209 (1102102-04)			Lab File ID: 0210204.D			Analyzed: 02/16/11 13:30			
Fluorobenzene	1160536	12.365	1153807	12.366	101	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	580386	16.003	609775	15.997	95	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	664640	17.981	663055	17.975	100	50 - 200	0.0060	+/-0.50	
CEF-GW-CS08-20110209 (1102102-05)			Lab File ID: 0210205.D			Analyzed: 02/16/11 13:59			
Fluorobenzene	1121180	12.366	1153807	12.366	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	551224	16.004	609775	15.997	90	50 - 200	0.0070	+/-0.50	
1,4-Dichlorobenzene-d4	641502	17.981	663055	17.975	97	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
SW8260B

Laboratory: Empirical Laboratories, LLC
Client: Tetra Tech NUS, Inc. (T010)
Sequence: 1B04812

SDG:
Project: CTOJM09 Ocala F18 Crash Site
Instrument: MS-VOA3
Calibration: 1042001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (1B16004-MS1)			Lab File ID: 0210205M.D			Analyzed: 02/16/11 19:27			
Fluorobenzene	1109231	12.366	1153807	12.366	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	573404	16.003	609775	15.997	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	656682	17.981	663055	17.975	99	50 - 200	0.0060	+/-0.50	
Matrix Spike Dup (1B16004-MSD1)			Lab File ID: 0210205S.D			Analyzed: 02/16/11 19:57			
Fluorobenzene	1085291	12.365	1153807	12.366	94	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5	558818	16.003	609775	15.997	92	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4	647802	17.98	663055	17.975	98	50 - 200	0.0050	+/-0.50	

PREPARATION BENCH SHEET

1B16004

Empirical Laboratories, LLC

Printed: 2/24/2011 10:35:17AM

Matrix: Water **Prepared using: MS - 5030B** **Surrogate used: 11A0564**

Lab Number	Test Code	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Extraction Comments
1102089-03RE1	VOC_8260B_REG	02/16/2011 00:00	5	5				1	RR 5x-cis/tce-ADM
1102102-01	VOC_8260B_REG	02/16/2011 00:00	5	5				1	1122TCA at 0.2ppb! report TIC
1102102-02	VOC_8260B_REG	02/16/2011 00:00	5	5				1	1122TCA at 0.2ppb! report TIC
1102102-03	VOC_8260B_REG	02/16/2011 00:00	5	5				1	1122TCA at 0.2ppb! report TIC
1102102-04	VOC_8260B_REG	02/16/2011 00:00	5	5				1	1122TCA at 0.2ppb! report TIC
1102102-05	VOC_8260B_REG	02/16/2011 00:00	5	5				1	MS/MSD 1122TCA at 0.2ppb! report TIC
1102102-06	VOC_8260B_REG	02/16/2011 00:00	5	5				1	1122TCA at 0.2ppb! report TIC
1102110-05	VOC_8260B_REG	02/16/2011 00:00	5	5				1	
1102110-06	VOC_8260B_REG	02/16/2011 00:00	5	5				1	
1102111-01	VOC_8260B_REG	02/16/2011 00:00	5	5				1	
1102113-01	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1102113-02	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1102113-03	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1102113-04	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1102113-05	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1102113-06	VOC_8260B_REG	02/16/2011 00:00	5	5				1	Client list
1B16004-BLK1	QC	02/16/2011 00:00	5	5				1	
1B16004-BS1	QC	02/16/2011 00:00	5	5	11B0258		2.5	1	
1B16004-MS1	QC	02/16/2011 00:00	5	5	11B0258	1102102-05	2.5	1	
1B16004-MSD1	QC	02/16/2011 00:00	5	5	11B0258	1102102-05	2.5	1	

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

71

1102102

HOLDING TIME SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
CEF-GW-CS10-20110209	02/09/11 12:20	02/11/11 11:45	02/14/11 12:30	5.01	7.00	02/22/11 01:18	7.53	40.00	
CEF-GW-CS1A8-20110209	02/09/11 12:45	02/11/11 11:45	02/14/11 12:30	4.99	7.00	02/22/11 01:45	7.55	40.00	
CEF-GW-DUP01-20110209	02/09/11 00:00	02/11/11 11:45	02/14/11 12:30	5.52	7.00	02/22/11 04:21	7.66	40.00	
CEF-GW-CS03-20110209	02/09/11 13:45	02/11/11 11:45	02/14/11 12:30	4.95	7.00	02/22/11 04:48	7.68	40.00	
CEF-GW-CS08-20110209	02/09/11 14:15	02/11/11 11:45	02/14/11 12:30	4.93	7.00	02/22/11 02:11	7.57	40.00	

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Matrix: Laboratory ID: 1B16004-BLK1 File ID: 0216BL1.D

Sampled: Prepared: Analyzed: 02/16/11 11:01

Solids: Preparation: 5030B Dilution:

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride		0.500	1.00	2.00	U
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U
1330-20-7	Xylenes (total)		0.750	1.50	3.00	U

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Matrix: Laboratory ID: 1B16004-BLK1 File ID: 0216BL1.D

Sampled: Prepared: Analyzed: 02/16/11 11:01

Solids: Preparation: 5030B Dilution:

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Bromofluorobenzene	30.00	31.26	104	75 - 120	
Dibromofluoromethane	30.00	30.76	103	85 - 115	
1,2-Dichloroethane-d4	30.00	29.80	99.3	70 - 120	
Toluene-d8	30.00	30.74	102	85 - 120	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

Sequence: 1B05309

SDG:

Project: CTOJM09 Ocala F18 Crash Site

Instrument: MS-BNA4

Calibration: 1048001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (1B05309-CCV1) ug/mL				Lab File ID: SEQ-CCV1.D		Analyzed: 02/21/11 16:47		
2-Fluorobiphenyl	5.000	98.8	80 - 120	8.967	8.967	0.0000	+/-0.500	
Terphenyl-d14	5.000	118	80 - 120	13.615	13.615	0.0000	+/-0.500	
LCS (1B12010-BS1) ug/L				Lab File ID: B12010L1.D		Analyzed: 02/21/11 22:11		
2-Fluorobiphenyl	50.00	69.1	34 - 167	8.967	8.967	0.0000	+/-0.500	
Terphenyl-d14	50.00	79.8	34 - 167	13.615	13.615	0.0000	+/-0.500	
Blank (1B12010-BLK1) ug/L				Lab File ID: B12010B1.D		Analyzed: 02/21/11 22:37		
2-Fluorobiphenyl	50.00	43.1	34 - 167	8.967	8.967	0.0000	+/-0.500	
Terphenyl-d14	50.00	86.8	34 - 167	13.615	13.615	0.0000	+/-0.500	
CEF-GW-CS10-20110209 (1102102-01) ug/L				Lab File ID: 0210201.D		Analyzed: 02/22/11 01:18		
2-Fluorobiphenyl	46.73	58.4	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	46.73	96.5	34 - 167	13.615	13.615	0.0000	+/-0.500	
CEF-GW-CS1A8-20110209 (1102102-02) ug/L				Lab File ID: 0210202.D		Analyzed: 02/22/11 01:45		
2-Fluorobiphenyl	46.73	67.6	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	46.73	107	34 - 167	13.615	13.615	0.0000	+/-0.500	
CEF-GW-CS08-20110209 (1102102-05) ug/L				Lab File ID: 0210205.D		Analyzed: 02/22/11 02:11		
2-Fluorobiphenyl	46.30	64.5	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	46.30	94.5	34 - 167	13.615	13.615	0.0000	+/-0.500	
Matrix Spike (1B12010-MS1) ug/L				Lab File ID: 0210205M.D		Analyzed: 02/22/11 02:38		
2-Fluorobiphenyl	50.00	73.1	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	50.00	56.6	34 - 167	13.615	13.615	0.0000	+/-0.500	
Matrix Spike Dup (1B12010-MSD1) ug/L				Lab File ID: 0210205S.D		Analyzed: 02/22/11 03:05		
2-Fluorobiphenyl	50.00	69.8	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	50.00	37.5	34 - 167	13.615	13.615	0.0000	+/-0.500	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

Sequence: 1B05408

SDG:

Project: CTOJM09 Ocala F18 Crash Site

Instrument: MS-BNA4

Calibration: 1048001

Surrogate Compound	Spike Level	% Recovery	Recovery Limits	RT	CCV RT	RT Diff	RT Diff Limit	Q
Calibration Check (1B05408-CCV1) ug/mL				Lab File ID: SEQ-CCV2.D		Analyzed: 02/22/11 03:55		
2-Fluorobiphenyl	5.000	88.9	80 - 120	8.967	8.967	0.0000	+/-0.500	
Terphenyl-d14	5.000	111	80 - 120	13.615	13.615	0.0000	+/-0.500	
CEF-GW-DUP01-20110209 (1102102-03) ug/L				Lab File ID: 0210203.D		Analyzed: 02/22/11 04:21		
2-Fluorobiphenyl	46.73	63.0	34 - 167	8.976	8.967	0.0090	+/-0.500	
Terphenyl-d14	46.73	106	34 - 167	13.615	13.615	0.0000	+/-0.500	
CEF-GW-CS03-20110209 (1102102-04) ug/L				Lab File ID: 0210204.D		Analyzed: 02/22/11 04:48		
2-Fluorobiphenyl	46.73	65.5	34 - 167	8.967	8.967	0.0000	+/-0.500	
Terphenyl-d14	46.73	105	34 - 167	13.615	13.615	0.0000	+/-0.500	

PREPARATION BATCH SUMMARY

SW8270C

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Batch: 1B12010 Batch Matrix: Water Preparation: EXT_3510

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT	FINAL VOL.
CEF-GW-CS10-20110209	1102102-01	02/14/11 12:30	1,070.00	1.00
CEF-GW-CS1A8-20110209	1102102-02	02/14/11 12:30	1,070.00	1.00
CEF-GW-DUP01-20110209	1102102-03	02/14/11 12:30	1,070.00	1.00
CEF-GW-CS03-20110209	1102102-04	02/14/11 12:30	1,070.00	1.00
CEF-GW-CS08-20110209	1102102-05	02/14/11 12:30	1,080.00	1.00
Blank	1B12010-BLK1	02/14/11 12:30	1,000.00	1.00
LCS	1B12010-BS1	02/14/11 12:30	1,000.00	1.00
CEF-GW-CS08-20110209	1B12010-MS1	02/14/11 12:30	1,000.00	1.00
CEF-GW-CS08-20110209	1B12010-MSD1	02/14/11 12:30	1,000.00	1.00

ANALYSIS DATA SHEET

Blank

Laboratory: Empirical Laboratories, LLC
SDG:
Client: Tetra Tech NUS, Inc. (T010)
Project: CTOJM09 Ocala F18 Crash Site
Matrix:
Laboratory ID: 1B12010-BLK1
File ID: B12010B1.D
Sampled:
Prepared:
Analyzed: 02/21/11 22:37
Solids:
Preparation: EXT_3510
Dilution:
Batch: 1B12010
Sequence: 1B05309
Calibration: 1048001
Instrument: MS-BNA4

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
83-32-9	Acenaphthene		0.0500	0.100	0.200	U
208-96-8	Acenaphthylene		0.0500	0.100	0.200	U
120-12-7	Anthracene		0.0500	0.100	0.200	U
56-55-3	Benzo(a)anthracene		0.0500	0.100	0.200	X U
50-32-8	Benzo(a)pyrene		0.0500	0.100	0.200	U
205-99-2	Benzo(b)fluoranthene		0.0500	0.100	0.200	U
191-24-2	Benzo(g,h,i)perylene		0.0500	0.100	0.200	U
207-08-9	Benzo(k)fluoranthene		0.0500	0.100	0.200	U
218-01-9	Chrysene		0.0500	0.100	0.200	X U
53-70-3	Dibenz(a,h)anthracene		0.0500	0.100	0.200	U
206-44-0	Fluoranthene		0.0500	0.100	0.200	U
86-73-7	Fluorene		0.0500	0.100	0.200	U
193-39-5	Indeno(1,2,3-cd)pyrene		0.0500	0.100	0.200	U
90-12-0	1-Methylnaphthalene		0.0500	0.100	0.200	U
91-57-6	2-Methylnaphthalene		0.0500	0.100	0.200	U
91-20-3	Naphthalene		0.0500	0.100	0.200	U
85-01-8	Phenanthrene		0.0500	0.100	0.200	U
129-00-0	Pyrene		0.0500	0.100	0.200	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorobiphenyl	50.00	21.56	43.1	34 - 167	
Terphenyl-d14	50.00	43.38	86.8	34 - 167	

LCS / LCS DUPLICATE RECOVERY

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Matrix:	Water		
Batch:	1B12010	Laboratory ID:	1B12010-BS1
Preparation:	EXT_3510	Initial/Final:	1000 mL / 1 mL

ANALYTE	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC.	QC LIMITS REC.
Acenaphthene	1.000	0.8041	80.4	41 - 132
Acenaphthylene	1.000	0.7298	73.0	43 - 140
Anthracene	1.000	0.9106	91.1	50 - 139
Benzo(a)anthracene	1.000	0.9582	95.8	58 - 141
Benzo(a)pyrene	1.000	0.6753	67.5	31 - 142
Benzo(b)fluoranthene	1.000	0.6783	67.8	42 - 156
Benzo(g,h,i)perylene	1.000	0.7600	76.0	12 - 171
Benzo(k)fluoranthene	1.000	0.9212	92.1	49 - 165
Chrysene	1.000	1.121	112	51 - 155
Dibenz(a,h)anthracene	1.000	0.7223	72.2	28 - 153
Fluoranthene	1.000	0.9683	96.8	47 - 158
Fluorene	1.000	0.8429	84.3	40 - 140
Indeno(1,2,3-cd)pyrene	1.000	0.6379	63.8	20 - 167
1-Methylnaphthalene	1.000	0.6002	60.0	35 - 131
2-Methylnaphthalene	1.000	0.6292	62.9	36 - 121
Naphthalene	1.000	0.7462	74.6	39 - 125
Phenanthrene	1.000	0.8751	87.5	46 - 144
Pyrene	1.000	1.014	101	39 - 158

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8270C

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B12010

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC.	Q	QC LIMITS REC.
Acenaphthene	1.000	ND	0.8386	83.9		41 - 132
Acenaphthylene	1.000	ND	0.7542	75.4		43 - 140
Anthracene	1.000	ND	0.9759	97.6		50 - 139
Benzo(a)anthracene	1.000	ND	0.8664	86.6		58 - 141
Benzo(a)pyrene	1.000	ND	0.6990	69.9		31 - 142
Benzo(b)fluoranthene	1.000	ND	0.7231	72.3		42 - 156
Benzo(g,h,i)perylene	1.000	ND	0.6588	65.9		12 - 171
Benzo(k)fluoranthene	1.000	ND	0.9605	96.1		49 - 165
Chrysene	1.000	ND	1.174	117		51 - 155
Dibenz(a,h)anthracene	1.000	ND	0.5030	50.3		28 - 153
Fluoranthene	1.000	ND	1.013	101		47 - 158
Fluorene	1.000	ND	0.8536	85.4		40 - 140
Indeno(1,2,3-cd)pyrene	1.000	ND	0.5123	51.2		20 - 167
1-Methylnaphthalene	1.000	ND	0.5966	59.7		35 - 131
2-Methylnaphthalene	1.000	ND	0.5875	58.8		36 - 121
Naphthalene	1.000	ND	0.8013	80.1		39 - 125
Phenanthrene	1.000	ND	0.8826	88.3		46 - 144
Pyrene	1.000	ND	1.038	104		39 - 158

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SW8270C

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC

SDG:

Client: Tetra Tech NUS, Inc. (T010)

Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water

Batch: 1B12010

% Solids:

Source Sample Name: **1102102-05**

ANALYTE	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC. #	% RPD	Q	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	1.000	0.7952	79.5	5.31		30	41 - 132
Acenaphthylene	1.000	0.6962	69.6	8.00		30	43 - 140
Anthracene	1.000	0.8589	85.9	12.7		30	50 - 139
Benzo(a)anthracene	1.000	0.6342	63.4	31.0	*	30	58 - 141
Benzo(a)pyrene	1.000	0.5585	55.9	22.3		30	31 - 142
Benzo(b)fluoranthene	1.000	0.5612	56.1	25.2		30	42 - 156
Benzo(g,h,i)perylene	1.000	0.4769	47.7	32.0	*	30	12 - 171
Benzo(k)fluoranthene	1.000	0.8644	86.4	10.5		30	49 - 165
Chrysene	1.000	0.7456	74.6	44.7	*	30	51 - 155
Dibenz(a,h)anthracene	1.000	0.4188	41.9	18.3		30	28 - 153
Fluoranthene	1.000	0.7513	75.1	29.7		30	47 - 158
Fluorene	1.000	0.7878	78.8	8.02		30	40 - 140
Indeno(1,2,3-cd)pyrene	1.000	0.3605	36.0	34.8	*	30	20 - 167
1-Methylnaphthalene	1.000	0.5652	56.5	5.41		30	35 - 131
2-Methylnaphthalene	1.000	0.5776	57.8	1.71		30	36 - 121
Naphthalene	1.000	0.7926	79.3	1.09		30	39 - 125
Phenanthrene	1.000	0.8075	80.8	8.88		30	46 - 144
Pyrene	1.000	0.8638	86.4	18.3		30	39 - 158

ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Sequence:	1B03911	Instrument:	MS-BNA4
Calibration:	1048001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1B03911-TUN1	SEQ-TUN1.D	02/07/11 18:14
Cal Standard	1B03911-CAL1	SEQ-CAL1.D	02/07/11 18:33
Cal Standard	1B03911-CAL2	SEQ-CAL2.D	02/07/11 19:06
Cal Standard	1B03911-CAL3	SEQ-CAL3.D	02/07/11 19:39
Cal Standard	1B03911-CAL4	SEQ-CAL4.D	02/07/11 20:12
Cal Standard	1B03911-CAL5	SEQ-CAL5.D	02/07/11 20:45
Cal Standard	1B03911-CAL6	SEQ-CAL6.D	02/07/11 21:18
Cal Standard	1B03911-CAL7	SEQ-CAL7.D	02/07/11 21:51
Cal Standard	1B03911-CAL8	SEQ-CAL8.D	02/07/11 22:24
Cal Standard	1B03911-CAL9	SEQ-CAL9.D	02/07/11 22:57
Cal Standard	1B03911-CALA	SEQ-CALA.D	02/07/11 23:30
Cal Standard	1B03911-CALB	SEQ-CALB.D	02/08/11 00:03
Initial Cal Check	1B03911-ICV2	SEQ-ICV2.D	02/08/11 01:10
Initial Cal Check	1B03911-ICV3	SEQ-ICV3.D	02/08/11 01:43

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Lab File ID:	SEQ-TUN1.D	Injection Date:	02/07/11
Instrument ID:	MS-BNA4	Injection Time:	18:14
Sequence:	1B03911	Lab Sample ID:	1B03911-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	50.4	PASS
68	Less than 2% of 69	1.6	PASS
69	Less than 200% of 198	48.3	PASS
70	Less than 2% of 69	0.382	PASS
127	40 - 60% of 198	54.8	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.54	PASS
275	10 - 30% of 198	26.1	PASS
365	1 - 200% of 198	3.76	PASS
441	0.001 - 100% of 443	83.9	PASS
442	40 - 200% of 198	121	PASS
443	17 - 23% of 442	19.9	PASS

INITIAL CALIBRATION DATA (Continued)

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Calibration:	1048001	Instrument:	MS-BNA4
Matrix:	Water	Calibration Date:	2/7/2011 6:33:21PM

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	0.7926954	5.318234	10.39527	5.971224E-02			CCC (30)	
Acenaphthylene	1.198573	5.154891	10.18691	4.731456E-02			15	
Anthracene	1.085076	2.663468	12.29609	3.862814E-02			15	
Benzo(a)anthracene	0.6763585	8.358676	15.60309	2.142343E-02			15	
Benzo(a)pyrene	0.9878261	6.547324	18.24164	5.668756E-02			CCC (30)	
Benzo(b)fluoranthene	1.092912	10.27405	17.56236	5.894665E-02			15	
Benzo(g,h,i)perylene	0.8305083	10.43963	21.38382	7.386433E-02			15	
Benzo(k)fluoranthene	1.229142	6.280104	17.61618	6.153129E-02			15	
Chrysene	0.7213402	9.894529	15.663	4.825978E-02			15	
Dibenz(a,h)anthracene	0.7676577	16.54231	20.81327	7.143003E-02	0.9994472		0.995	
Fluoranthene	0.9866036	4.66066	13.70827	3.573892E-02			CCC (30)	
Fluorene	0.7802025	7.667299	11.03864	6.130489E-02			15	
2-Fluorobiphenyl	0.8853237	8.766314	9.524182	0.1068576			15	
Indeno(1,2,3-cd)pyrene	0.9671145	14.07617	20.77682	7.155087E-02			15	
1-Methylnaphthalene	0.8429092	6.545285	9.193818	9.234948E-02			15	
2-Methylnaphthalene	0.7808299	7.097333	9.071273	0.1155369			15	
Naphthalene	1.279867	6.104298	8.222455	7.228635E-02			15	
Phenanthrene	1.044549	2.946851	12.23027	5.301422E-02			15	
Pyrene	0.9987664	3.320125	13.98973	3.049288E-02			15	
Terphenyl-d14	0.5971292	4.255474	14.17245	0.0236856			15	
2,4,6-Tribromophenol	0.1258515	30.46799	11.34973	5.292164E-02	0.9985944		0.995	

INITIAL CALIBRATION CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-BNA4	Calibration:	1048001
Lab File ID:	SEQ-ICV3.D	Calibration Date:	02/07/11 18:33
Sequence:	1B03911	Injection Date:	02/08/11
Lab Sample ID:	1B03911-ICV3	Injection Time:	01:43

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	ICV	ICAL	ICV	MIN (#)	ICV	LIMIT (#)
Acenaphthene	A	5.000	5.043	0.7926954	0.7995186		0.9	20
Acenaphthylene	A	5.000	4.931	1.198573	1.182003		-1.4	20
Anthracene	A	5.000	4.980	1.085076	1.080634		-0.4	20
Benzo(a)anthracene	A	5.000	5.070	0.6763585	0.6858315		1.4	20
Benzo(a)pyrene	A	5.000	5.149	0.9878261	1.017329		3.0	20
Benzo(b)fluoranthene	A	5.000	5.268	1.092912	1.151497		5.4	20
Benzo(g,h,i)perylene	A	5.000	5.258	0.8305083	0.8733713		5.2	20
Benzo(k)fluoranthene	A	5.000	5.144	1.229142	1.264612		2.9	20
Chrysene	A	5.000	4.973	0.7213402	0.7174082		-0.5	20
Dibenz(a,h)anthracene	L	5.000	4.922	0.7676577	0.799063		-1.6	20
Fluoranthene	A	5.000	5.223	0.9866036	1.030623		4.5	20
Fluorene	A	5.000	5.079	0.7802025	0.7926011		1.6	20
Indeno(1,2,3-cd)pyrene	A	5.000	5.202	0.9671145	1.006173		4.0	20
1-Methylnaphthalene	A	5.000	4.700	0.8429092	0.7924099		-6.0	20
2-Methylnaphthalene	A	5.000	5.839	0.7808299	0.9118984		16.8	20
Naphthalene	A	5.000	5.195	1.279867	1.329684		3.9	20
Phenanthrene	A	5.000	5.000	1.044549	1.044453		-0.009	20
Pyrene	A	5.000	5.175	0.9987664	1.033722		3.5	20
2-Fluorobiphenyl	A	5.000	4.983	0.8853237	0.8823667		-0.3	20
Terphenyl-d14	A	5.000	5.238	0.5971292	0.6255041		4.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Sequence:	1B05309	Instrument:	MS-BNA4
Calibration:	1048001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1B05309-TUN1	SEQ-TUN1.D	02/21/11 16:26
Calibration Check	1B05309-CCV1	SEQ-CCV1.D	02/21/11 16:47
LCS	1B12010-BS1	B12010L1.D	02/21/11 22:11
Blank	1B12010-BLK1	B12010B1.D	02/21/11 22:37
CEF-GW-CS10-20110209	1102102-01	0210201.D	02/22/11 01:18
CEF-GW-CS1A8-20110209	1102102-02	0210202.D	02/22/11 01:45
CEF-GW-CS08-20110209	1102102-05	0210205.D	02/22/11 02:11
CEF-GW-CS08-20110209	1B12010-MS1	0210205M.D	02/22/11 02:38
CEF-GW-CS08-20110209	1B12010-MSD1	0210205S.D	02/22/11 03:05

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Lab File ID:	SEQ-TUN1.D	Injection Date:	02/21/11
Instrument ID:	MS-BNA4	Injection Time:	16:26
Sequence:	1B05309	Lab Sample ID:	1B05309-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	53.5	PASS
68	Less than 2% of 69	1.44	PASS
69	Less than 200% of 198	51	PASS
70	Less than 2% of 69	0.417	PASS
127	40 - 60% of 198	55.6	PASS
197	Less than 1% of 198	0.424	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.69	PASS
275	10 - 30% of 198	28.1	PASS
365	1 - 200% of 198	4.22	PASS
441	0.001 - 100% of 443	84.3	PASS
442	40 - 200% of 198	149	PASS
443	17 - 23% of 442	19.6	PASS

CONTINUING CALIBRATION CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-BNA4	Calibration:	1048001
Lab File ID:	SEQ-CCV1.D	Calibration Date:	02/07/11 18:33
Sequence:	1B05309	Injection Date:	02/21/11
Lab Sample ID:	1B05309-CCV1	Injection Time:	16:47

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acenaphthene	A	5.000	5.250	0.7926954	0.8323289		5.0	20
Acenaphthylene	A	5.000	5.409	1.198573	1.296735		8.2	20
Anthracene	A	5.000	5.336	1.085076	1.157978		6.7	20
Benzo(a)anthracene	A	5.000	6.431	0.6763585	0.8699181		28.6	20 *
Benzo(a)pyrene	A	5.000	5.265	0.9878261	1.040118		5.3	20
Benzo(b)fluoranthene	A	5.000	5.663	1.092912	1.237915		13.3	20
Benzo(g,h,i)perylene	A	5.000	5.392	0.8305083	0.8956655		7.8	20
Benzo(k)fluoranthene	A	5.000	5.442	1.229142	1.337752		8.8	20
Chrysene	A	5.000	6.573	0.7213402	0.948245		31.5	20 *
Dibenz(a,h)anthracene	L	5.000	4.657	0.7676577	0.816892		-6.9	20
Fluoranthene	A	5.000	5.813	0.9866036	1.147049		16.3	20
Fluorene	A	5.000	5.184	0.7802025	0.8088418		3.7	20
Indeno(1,2,3-cd)pyrene	A	5.000	5.558	0.9671145	1.074967		11.2	20
1-Methylnaphthalene	A	5.000	5.109	0.8429092	0.8613629		2.2	20
2-Methylnaphthalene	A	5.000	5.396	0.7808299	0.8426376		7.9	20
Naphthalene	A	5.000	5.280	1.279867	1.351531		5.6	20
Phenanthrene	A	5.000	5.455	1.044549	1.139578		9.1	20
Pyrene	A	5.000	5.860	0.9987664	1.170543		17.2	20
2-Fluorobiphenyl	A	5.000	4.942	0.8853237	0.8750195		-1.2	20
Terphenyl-d14	A	5.000	5.913	0.5971292	0.7062039		18.3	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

ANALYSIS SEQUENCE SUMMARY

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Sequence:	1B05408	Instrument:	MS-BNA4
Calibration:	1048001		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	1B05408-TUN1	SEQ-TUN2.D	02/22/11 03:35
Calibration Check	1B05408-CCV1	SEQ-CCV2.D	02/22/11 03:55
CEF-GW-DUP01-20110209	1102102-03	0210203.D	02/22/11 04:21
CEF-GW-CS03-20110209	1102102-04	0210204.D	02/22/11 04:48

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Lab File ID:	SEQ-TUN2.D	Injection Date:	02/22/11
Instrument ID:	MS-BNA4	Injection Time:	03:35
Sequence:	1B05408	Lab Sample ID:	1B05408-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30 - 60% of 198	45.2	PASS
68	Less than 2% of 69	1.41	PASS
69	Less than 200% of 198	45.1	PASS
70	Less than 2% of 69	0.484	PASS
127	40 - 60% of 198	53.9	PASS
197	Less than 1% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.71	PASS
275	10 - 30% of 198	26.7	PASS
365	1 - 200% of 198	3.64	PASS
441	0.001 - 100% of 443	83.5	PASS
442	40 - 200% of 198	119	PASS
443	17 - 23% of 442	19.9	PASS

CONTINUING CALIBRATION CHECK

SW8270C

Laboratory:	Empirical Laboratories, LLC	SDG:	
Client:	Tetra Tech NUS, Inc. (T010)	Project:	CTOJM09 Ocala F18 Crash Site
Instrument ID:	MS-BNA4	Calibration:	1048001
Lab File ID:	SEQ-CCV2.D	Calibration Date:	02/07/11 18:33
Sequence:	1B05408	Injection Date:	02/22/11
Lab Sample ID:	1B05408-CCV1	Injection Time:	03:55

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acenaphthene	A	5.000	4.593	0.7926954	0.7282128		-8.1	20
Acenaphthylene	A	5.000	4.672	1.198573	1.119847		-6.6	20
Anthracene	A	5.000	4.864	1.085076	1.055644		-2.7	20
Benzo(a)anthracene	A	5.000	5.803	0.6763585	0.7850107		16.1	20
Benzo(a)pyrene	A	5.000	4.993	0.9878261	0.9865254		-0.1	20
Benzo(b)fluoranthene	A	5.000	4.632	1.092912	1.012532		-7.4	20
Benzo(g,h,i)perylene	A	5.000	5.152	0.8305083	0.855767		3.0	20
Benzo(k)fluoranthene	A	5.000	6.032	1.229142	1.482746		20.6	20 *
Chrysene	A	5.000	5.638	0.7213402	0.8134364		12.8	20
Dibenz(a,h)anthracene	L	5.000	4.384	0.7676577	0.7662452		-12.3	20
Fluoranthene	A	5.000	5.479	0.9866036	1.081216		9.6	20
Fluorene	A	5.000	4.853	0.7802025	0.7573257		-2.9	20
Indeno(1,2,3-cd)pyrene	A	5.000	4.942	0.9671145	0.955853		-1.2	20
1-Methylnaphthalene	A	5.000	4.560	0.8429092	0.768796		-8.8	20
2-Methylnaphthalene	A	5.000	4.434	0.7808299	0.6924709		-11.3	20
Naphthalene	A	5.000	4.577	1.279867	1.171638		-8.5	20
Phenanthrene	A	5.000	5.014	1.044549	1.047469		0.3	20
Pyrene	A	5.000	5.514	0.9987664	1.101347		10.3	20
2-Fluorobiphenyl	A	5.000	4.444	0.8853237	0.7869501		-11.1	20
Terphenyl-d14	A	5.000	5.535	0.5971292	0.6610139		10.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

INTERNAL STANDARD AREA AND RT SUMMARY
SW8270C

Laboratory: Empirical Laboratories, LLC
Client: Tetra Tech NUS, Inc. (T010)
Sequence: 1B05309

SDG:
Project: CTOJM09 Ocala F18 Crash Site
Instrument: MS-BNA4
Calibration: 1048001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1B05309-CCV1)			Lab File ID: SEQ-CCV1.D			Analyzed: 02/21/11 16:47			
Phenanthrene-d10	128436	11.653	156632	12.199	82	50 - 200	-0.5460	+/-0.50	
Perylene-d12	95951	16.785	99936	18.353	96	50 - 200	-1.5680	+/-0.50	
LCS (1B12010-BS1)			Lab File ID: B12010L1.D			Analyzed: 02/21/11 22:11			
Phenanthrene-d10	109144	11.644	128436	11.653	85	50 - 200	-0.0090	+/-0.50	
Perylene-d12	80759	16.785	95951	16.785	84	50 - 200	0.0000	+/-0.50	
Blank (1B12010-BLK1)			Lab File ID: B12010B1.D			Analyzed: 02/21/11 22:37			
Phenanthrene-d10	124304	11.653	128436	11.653	97	50 - 200	0.0000	+/-0.50	
Perylene-d12	80795	16.785	95951	16.785	84	50 - 200	0.0000	+/-0.50	
CEF-GW-CS10-20110209 (1102102-01)			Lab File ID: 0210201.D			Analyzed: 02/22/11 01:18			
Phenanthrene-d10	117428	11.653	128436	11.653	91	50 - 200	0.0000	+/-0.50	
Perylene-d12	79546	16.785	95951	16.785	83	50 - 200	0.0000	+/-0.50	
CEF-GW-CS1A8-20110209 (1102102-02)			Lab File ID: 0210202.D			Analyzed: 02/22/11 01:45			
Phenanthrene-d10	105925	11.653	128436	11.653	82	50 - 200	0.0000	+/-0.50	
Perylene-d12	64322	16.785	95951	16.785	67	50 - 200	0.0000	+/-0.50	
CEF-GW-CS08-20110209 (1102102-05)			Lab File ID: 0210205.D			Analyzed: 02/22/11 02:11			
Phenanthrene-d10	101257	11.653	128436	11.653	79	50 - 200	0.0000	+/-0.50	
Perylene-d12	70353	16.794	95951	16.785	73	50 - 200	0.0090	+/-0.50	
Matrix Spike (1B12010-MS1)			Lab File ID: 0210205M.D			Analyzed: 02/22/11 02:38			
Phenanthrene-d10	138732	11.653	128436	11.653	108	50 - 200	0.0000	+/-0.50	
Perylene-d12	90498	16.785	95951	16.785	94	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (1B12010-MSD1)			Lab File ID: 0210205S.D			Analyzed: 02/22/11 03:05			
Phenanthrene-d10	125479	11.653	128436	11.653	98	50 - 200	0.0000	+/-0.50	
Perylene-d12	72939	16.785	95951	16.785	76	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
SW8270C

Laboratory: Empirical Laboratories, LLC

Client: Tetra Tech NUS, Inc. (T010)

Sequence: 1B05408

SDG:

Project: CTOJM09 Ocala F18 Crash Site

Instrument: MS-BNA4

Calibration: 1048001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (1B05408-CCV1)			Lab File ID: SEQ-CCV2.D			Analyzed: 02/22/11 03:55			
Phenanthrene-d10	142315	11.653	156632	12.199	91	50 - 200	-0.5460	+/-0.50	
Perylene-d12	101153	16.785	99936	18.353	101	50 - 200	-1.5680	+/-0.50	
CEF-GW-DUP01-20110209 (1102102-03)			Lab File ID: 0210203.D			Analyzed: 02/22/11 04:21			
Phenanthrene-d10	116210	11.653	142315	11.653	82	50 - 200	0.0000	+/-0.50	
Perylene-d12	60101	16.794	101153	16.785	59	50 - 200	0.0090	+/-0.50	
CEF-GW-CS03-20110209 (1102102-04)			Lab File ID: 0210204.D			Analyzed: 02/22/11 04:48			
Phenanthrene-d10	98072	11.653	142315	11.653	69	50 - 200	0.0000	+/-0.50	
Perylene-d12	58243	16.794	101153	16.785	58	50 - 200	0.0090	+/-0.50	

PREPARATION BENCH SHEET

1B12010

Empirical Laboratories, LLC

Printed: 2/24/2011 5:01:47PM

Matrix: Water **Prepared using: EXT - EXT_3510** **Surrogate used: 11B0236**

Lab Number	Test Code	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Extraction Comments
1102098-01	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1000	1				500	Client list
1102098-03	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1020	1				500	Client list
1102098-05	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1040	1				500	Client list
1102098-07	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	900	1				500	Client list
1102098-09	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1020	1				500	Client list
1102102-01	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	
1102102-02	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	
1102102-03	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	
1102102-04	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	
1102102-05	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1080	1				500	MS/MSD
1102116-02	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1102116-03	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1060	1				500	AFCEE, Watch PAH hold time!!!
1102116-04	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1102116-05	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1102117-02	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1060	1				500	AFCEE, Watch PAH hold time!!!
1102117-03	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1060	1				500	AFCEE, Watch PAH hold time!!!
1102117-04	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1102117-05	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1060	1				500	AFCEE, Watch PAH hold time!!!
1102118-02	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1102118-03	SMS_PAH_8270C_3510_LOW	02/14/2011 12:30	1070	1				500	AFCEE, Watch PAH hold time!!!
1B12010-BLK1	QC	02/14/2011 12:30	1000	1				500	
1B12010-BS1	QC	02/14/2011 12:30	1000	1	11B0063		1000	500	
1B12010-MS1	QC	02/14/2011 12:30	1000	1	11B0063	1102102-05	1000	500	

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

103

1102102

PREPARATION BENCH SHEET

1B12010

Empirical Laboratories, LLC

Printed: 2/24/2011 5:01:47PM

Matrix: Water **Prepared using: EXT - EXT_3510** **Surrogate used: 11B0236**

Lab Number	Test Code	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Extraction Comments
1B12010-MSD1	QC	02/14/2011 12:30	1000	1	11B0063	1102102-05	1000	500	

Spiking Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

104

1102102

ANALYSIS DATA SHEET

CEF-GW-CS03-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-04	File ID:	0210204.D
Sampled:	02/09/11 13:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.75	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

missing TCE

ANALYSIS DATA SHEET

CEF-GW-CS08-20110209

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water Laboratory ID: 1102102-05 File ID: 0210205.D

Sampled: 02/09/11 14:15 Prepared: 02/16/11 00:00 Analyzed: 02/16/11 13:59

Solids: Preparation: 5030B Dilution: 1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	N, Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	N U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	N, X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	3.60	0.500	1.00	2.00	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

missing RE

ANALYSIS DATA SHEET

CEF-GW-CS10-20110209

Laboratory: Empirical Laboratories, LLC SDG:

Client: Tetra Tech NUS, Inc. (T010) Project: CTOJM09 Ocala F18 Crash Site

Matrix: Water Laboratory ID: 1102102-01 File ID: 0210201.D

Sampled: 02/09/11 12:20 Prepared: 02/16/11 00:00 Analyzed: 02/16/11 12:00

Solids: Preparation: 5030B Dilution: 1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.93	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

Missing RCE

ANALYSIS DATA SHEET

CEF-GW-CS1A8-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-02	File ID:	0210202.D
Sampled:	02/09/11 12:45	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 12:30
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene	1.25	0.250	0.500	1.00	
98-82-8	Isopropylbenzene	2.12	0.250	0.500	1.00	
75-09-2	Methylene chloride	2.11	0.500	1.00	2.00	
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	~~1,1,1-Trichloroethane~~		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene	1.25	0.250	0.500	1.00	
95-63-6	1,2,4-Trimethylbenzene	7.18	0.250	0.500	1.00	
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
~~108-38-3/106-42-~~	~~m,p-Xylene~~	1.05	0.500	1.00	2.00	I
95-47-6	o-Xylene	0.567	0.250	0.500	1.00	I

Missing RE

ANALYSIS DATA SHEET

CEF-GW-DUP01-20110209

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-03	File ID:	0210203.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 13:00
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	1.95	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

missing RE

ANALYSIS DATA SHEET

Trip Blank

Laboratory:	Empirical Laboratories, LLC		SDG:		
Client:	Tetra Tech NUS, Inc. (T010)		Project:	CTOJM09 Ocala F18 Crash Site	
Matrix:	Water	Laboratory ID:	1102102-06	File ID:	0210206.D
Sampled:	02/09/11 00:00	Prepared:	02/16/11 00:00	Analyzed:	02/16/11 11:31
Solids:		Preparation:	5030B	Dilution:	1

Batch: 1B16004 Sequence: 1B04812 Calibration: 1042001 Instrument: MS-VOA3

CAS NO.	COMPOUND	CONC. (ug/L)	DL	LOD	LOQ	Q
71-43-2	Benzene		0.250	0.500	1.00	U
75-27-4	Bromodichloromethane		0.250	0.500	1.00	Q, X U
75-25-2	Bromoform		0.250	0.500	1.00	X U
74-83-9	Bromomethane		0.500	1.00	2.00	U
56-23-5	Carbon tetrachloride		0.250	0.500	1.00	U
108-90-7	Chlorobenzene		0.250	0.500	1.00	U
75-00-3	Chloroethane		0.500	1.00	2.00	U
67-66-3	Chloroform		0.250	0.500	1.00	U
110-75-8	2-Chloroethyl vinyl ether		1.25	2.50	5.00	U
74-87-3	Chloromethane		0.250	0.500	1.00	U
124-48-1	Dibromochloromethane		0.250	0.500	1.00	U
95-50-1	1,2-Dichlorobenzene		0.250	0.500	1.00	U
541-73-1	1,3-Dichlorobenzene		0.250	0.500	1.00	U
106-46-7	1,4-Dichlorobenzene		0.250	0.500	1.00	U
75-71-8	Dichlorodifluoromethane		0.500	1.00	2.00	X U
75-34-3	1,1-Dichloroethane		0.250	0.500	1.00	U
107-06-2	1,2-Dichloroethane		0.250	0.500	1.00	U
75-35-4	1,1-Dichloroethene		0.250	0.500	1.00	U
156-59-2	cis-1,2-Dichloroethene		0.250	0.500	1.00	U
156-60-5	trans-1,2-Dichloroethene		0.250	0.500	1.00	U
78-87-5	1,2-Dichloropropane		0.250	0.500	1.00	U
10061-01-5	cis-1,3-Dichloropropene		0.250	0.500	1.00	U
10061-02-6	trans-1,3-Dichloropropene		0.250	0.500	1.00	U
100-41-4	Ethylbenzene		0.250	0.500	1.00	U
98-82-8	Isopropylbenzene		0.250	0.500	1.00	U
75-09-2	Methylene chloride	0.500	0.500	1.00	2.00	I
1634-04-4	Methyl t-Butyl Ether		0.250	0.500	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane		0.200	0.500	1.00	U
127-18-4	Tetrachloroethene		0.250	0.500	1.00	U
108-88-3	Toluene		0.250	0.500	1.00	U
120-82-1	1,2,4-Trichlorobenzene		0.250	0.500	1.00	U
79-00-5	1,1,2-Trichloroethane		0.250	0.500	1.00	U
71-55-6	1,1,1-Trichloroethane		0.250	0.500	1.00	X U
75-69-4	Trichlorofluoromethane		0.500	1.00	2.00	U
108-67-8	1,3,5-Trimethylbenzene		0.250	0.500	1.00	U
95-63-6	1,2,4-Trimethylbenzene		0.250	0.500	1.00	U
75-01-4	Vinyl chloride		0.250	0.500	1.00	U
108-38-3/106-42-	m,p-Xylene		0.500	1.00	2.00	U
95-47-6	o-Xylene		0.250	0.500	1.00	U

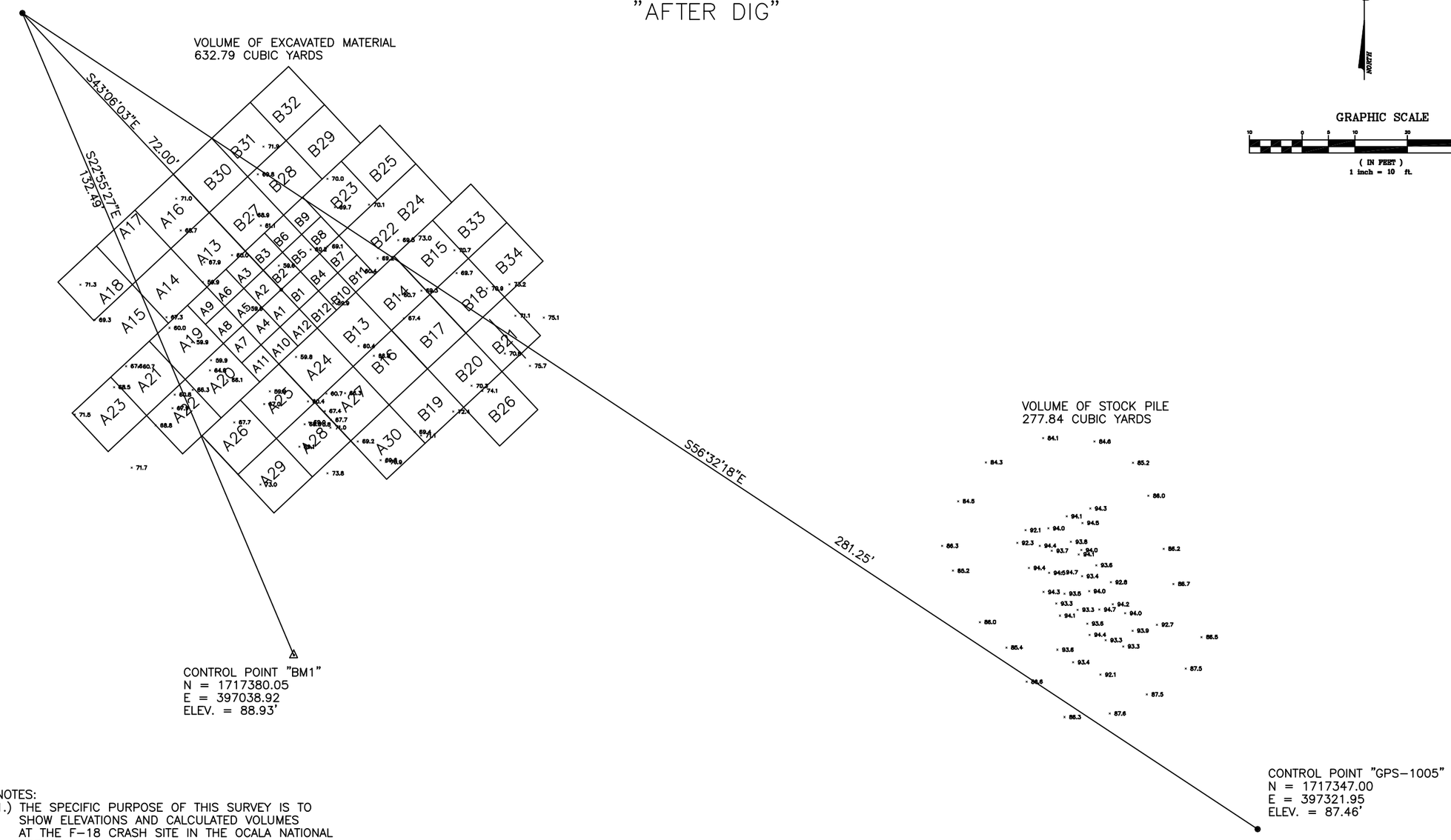
Missing RE

ATTACHMENT D

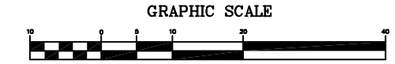
SURVEY DATA

MAP SHOWING SPECIFIC PURPOSE SURVEY OF

UNITED STATES NAVY
F–18 CRASH SITE IN
OCALA NATIONAL FOREST
"AFTER DIG"



GRAPHIC SCALE



(IN FEET)
1 inch = 10 ft.

NOTES:
1.) THE SPECIFIC PURPOSE OF THIS SURVEY IS TO SHOW ELEVATIONS AND CALCULATED VOLUMES AT THE F–18 CRASH SITE IN THE OCALA NATIONAL FOREST.
2.) ELEVATIONS SHOWN HEREON BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

CERTIFICATION

I HEREBY CERTIFY THAT THE ABOVE LAND WAS SURVEYED UNDER MY RESPONSIBLE SUPERVISION AND DIRECTION, THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 61G17–6 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472.027, FLORIDA STATUTES, AND IS TRUE AND CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF.

RICHARD J. JENKINS
FLORIDA REG. CERT. NO. 4421

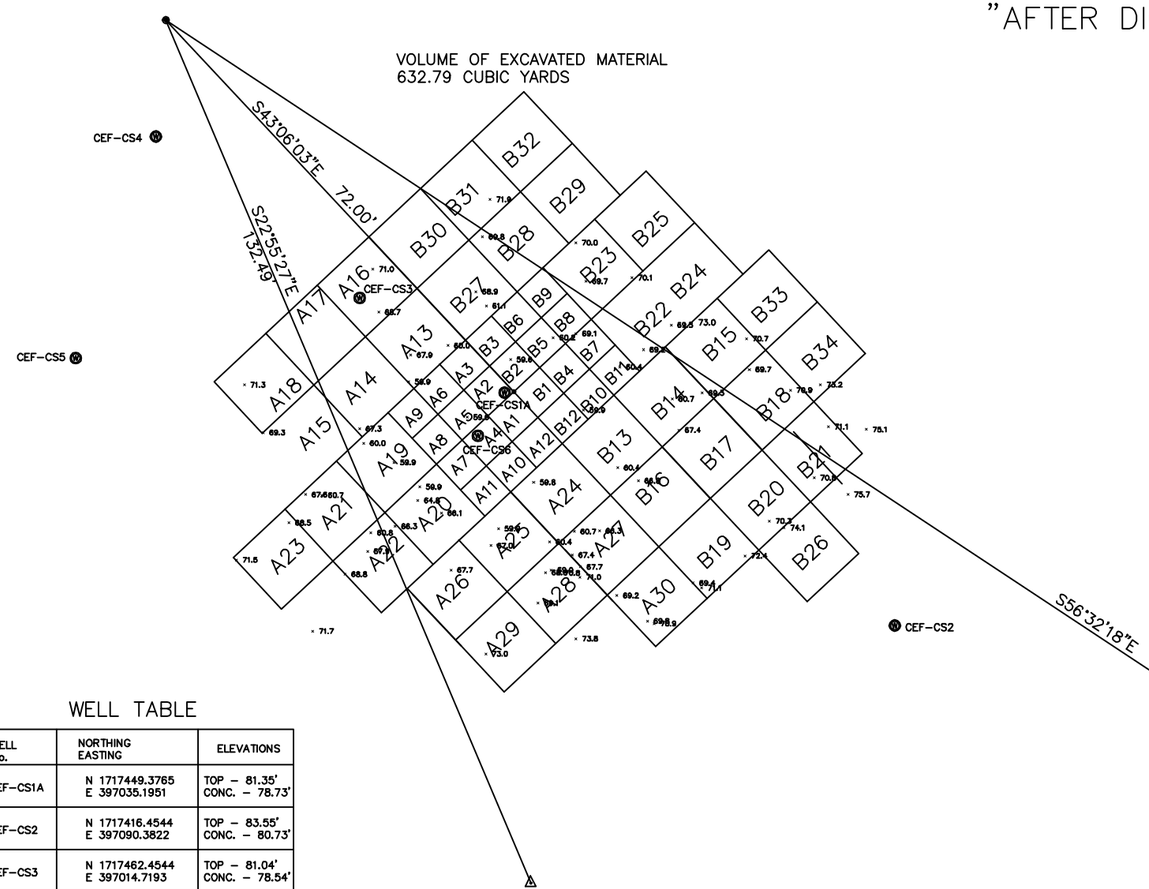
SURVEY NOT VALID WITHOUT EMBOSSED SEAL.

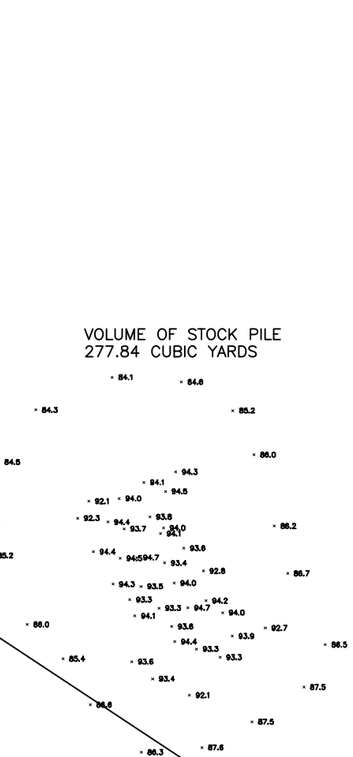
DRAWING DATE: 1–29–96	DRAFTED BY: J. WEINERT
SURVEY DATE: 1–23–96	CHECKED BY: R.JENKINS
F.B. & PG.: 96–02/12	CAD FILE: C:\DWG\BECHTAL\JET1
JOB NO.: 96–01–21	DRAWING NO.:

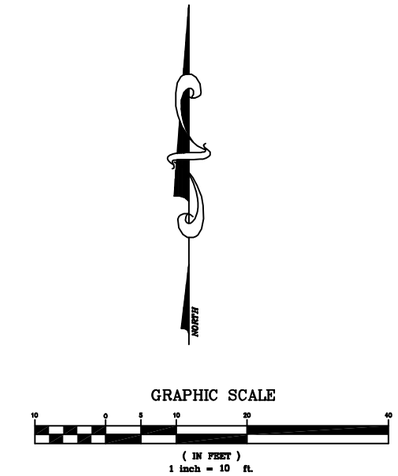
ARC SURVEYING & MAPPING, INC.
5202 SAN JUAN AVENUE
JACKSONVILLE, FLORIDA 32210
PHONE: (904) 384–8377 FAX: (904) 384–8388

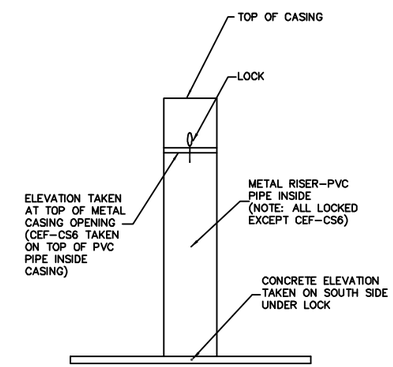
MAP SHOWING SPECIFIC PURPOSE SURVEY OF

UNITED STATES NAVY
F–18 CRASH SITE IN
OCALA NATIONAL FOREST
"AFTER DIG"









CASING DETAIL
(NOT TO SCALE)

CONTROL POINT "GPS-1005"
N = 1717347.00
E = 397321.95
ELEV. = 87.46'

WELL TABLE

WELL No.	NORTHING EASTING	ELEVATIONS
CEF-CS1A	N 1717449.3765 E 397035.1951	TOP – 81.35' CONC. – 78.73'
CEF-CS2	N 1717416.4544 E 397090.3822	TOP – 83.55' CONC. – 80.73'
CEF-CS3	N 1717462.4544 E 397014.7193	TOP – 81.04' CONC. – 78.54'
CEF-CS4	N 1717485.5863 E 396985.9010	TOP – 80.02' CONC. – 77.34'
CEF-CS5	N 1717454.2638 E 396974.5575	TOP – 80.67' CONC. – 77.77'
CEF-CS6	N 1717443.2801 E 397031.4310	TOP – 81.63' CONC. – 79.07'

NOTES:
1.) THE SPECIFIC PURPOSE OF THIS SURVEY IS TO SHOW ELEVATIONS AND CALCULATED VOLUMES AT THE F–18 CRASH SITE IN THE OCALA NATIONAL FOREST.
2.) ELEVATIONS SHOWN HEREON BASED ON THE NATIONAL GEODECTIC VERTICAL DATUM OF 1929.

CERTIFICATION

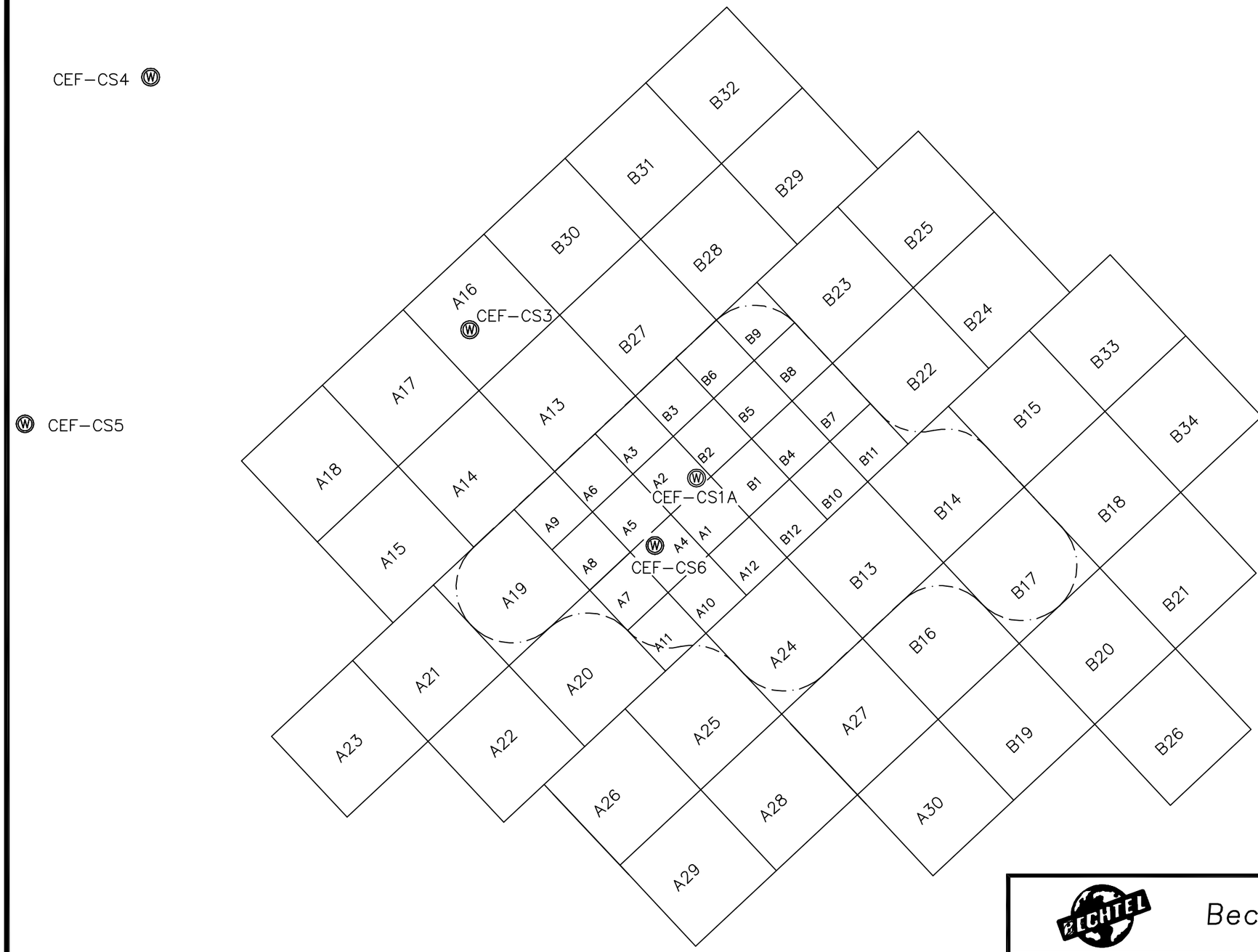
I HEREBY CERTIFY THAT THE ABOVE LAND WAS SURVEYED UNDER MY RESPONSIBLE SUPERVISION AND DIRECTION, THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 61G17-6 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472.027, FLORIDA STATUTES, AND IS TRUE AND CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF.

RICHARD J. JENKINS
FLORIDA REG. CERT. NO. 4421

SURVEY NOT VALID WITHOUT EMBOSSED SEAL.

DRAWING DATE: 1–29–96	DRAFTED BY: J. WEINERT
SURVEY DATE: 1–23–96	CHECKED BY: R.JENKINS
F.B. & PG.: 96–02/12	CAD FILE: C:\DWG\BECHTAL\JET1
JOB NO.: 96–01–21	DRAWING NO.:

ARC SURVEYING & MAPPING, INC.
5202 SAN JUAN AVENUE
JACKSONVILLE, FLORIDA 32210
PHONE: (904) 384–8377 FAX: (904) 384–8388



GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

NORTH

WELL TABLE

MONITOR WELL I.D.	NORTHING EASTING	ELEVATIONS
CEF-CS1A	N 1717449.3765 E 397035.1951	TOP - 81.30' CONC. - 78.73'
CEF-CS2	N 1717416.4544 E 397090.3822	TOP - 83.54' CONC. - 80.73'
CEF-CS3	N 1717462.4544 E 397014.7193	TOP - 80.98' CONC. - 78.54'
CEF-CS4	N 1717485.5863 E 396985.9010	TOP - 79.88' CONC. - 77.34'
CEF-CS5	N 1717454.2638 E 396974.5575	TOP - 80.66' CONC. - 77.77'
CEF-CS6	N 1717443.2801 E 397031.4310	TOP - 81.59' CONC. - 79.07'

Legend

CEF-CS4	MONITORING WELL LOCATION
	LIMITS OF EXCAVATION
B26	SAMPLE GRID

NOTES:
1.) ELEVATIONS SHOWN HEREON BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

Bechtel Environmental, Inc.

FIGURE 2. F-18 CRASH SITE MAP
OCALA NATIONAL FOREST, FLORIDA

DRAWN BY: JHW	DRAWING No.: 22567-22b-01
CHECKED BY:	DATE: 5-9-96
APPROVED BY:	REVISION: 0

ATTACHMENT E

HISTORICAL POTENTIOMETRIC SURFACE MAPS

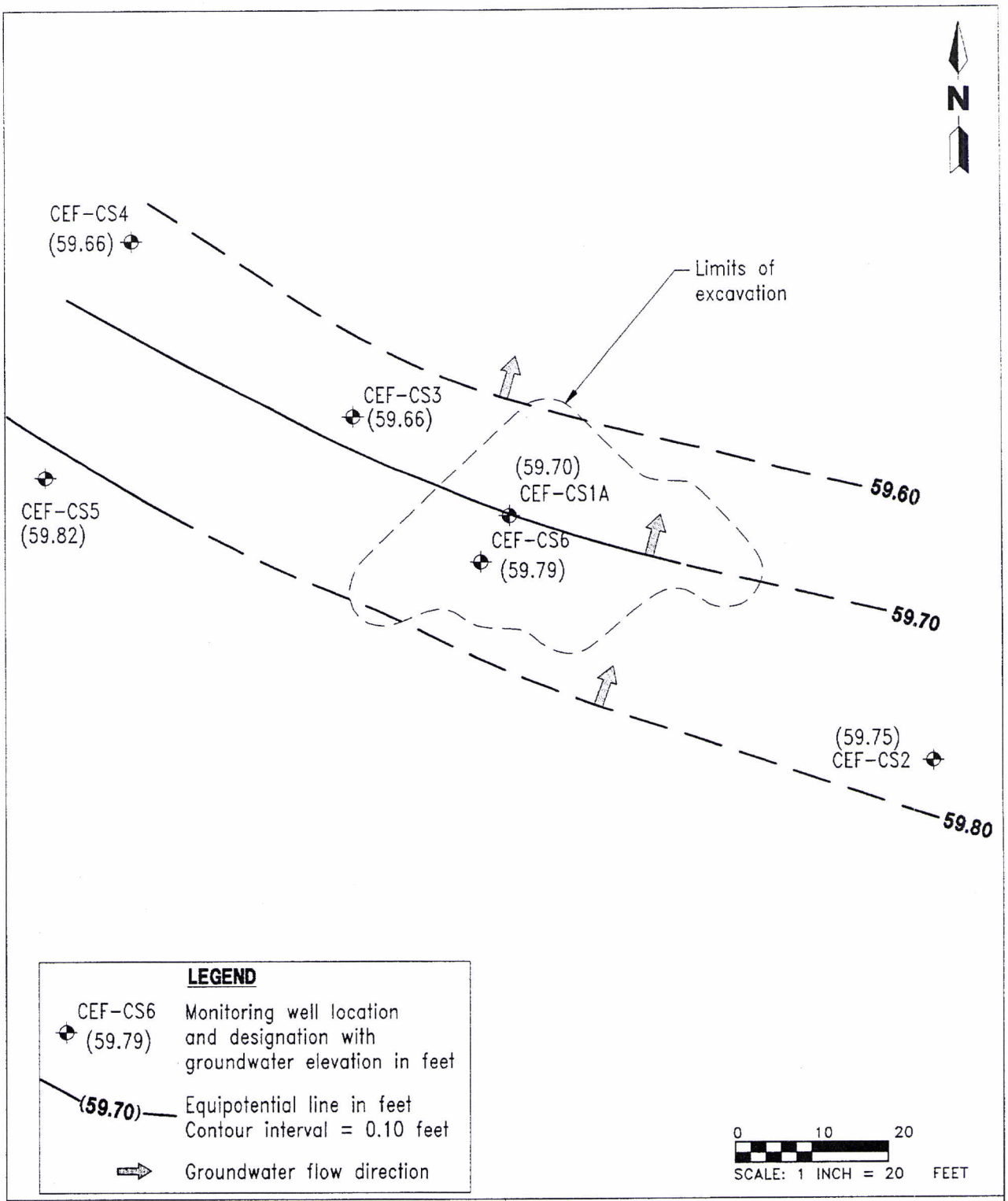


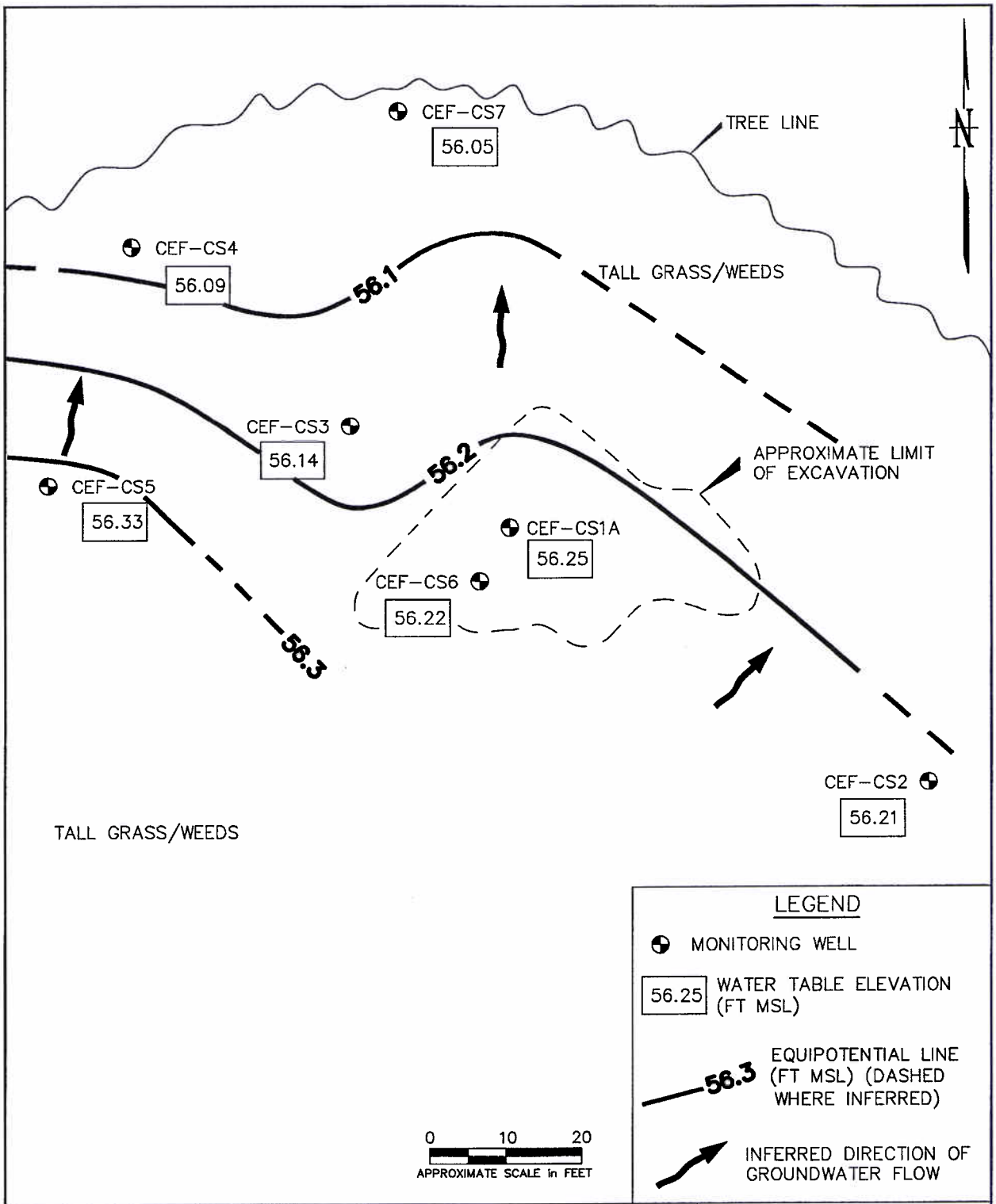
FIGURE 2
WATER TABLE ELEVATION MAP
MARCH 1996

OCALA CRASH SITE
OCALA NATIONAL FOREST
OCALA, FLORIDA

NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

K:\02552\02552-02\MOR\02552502.DWG, NAB-PDP 01/09/98 15:55:03, AutoCAD R12

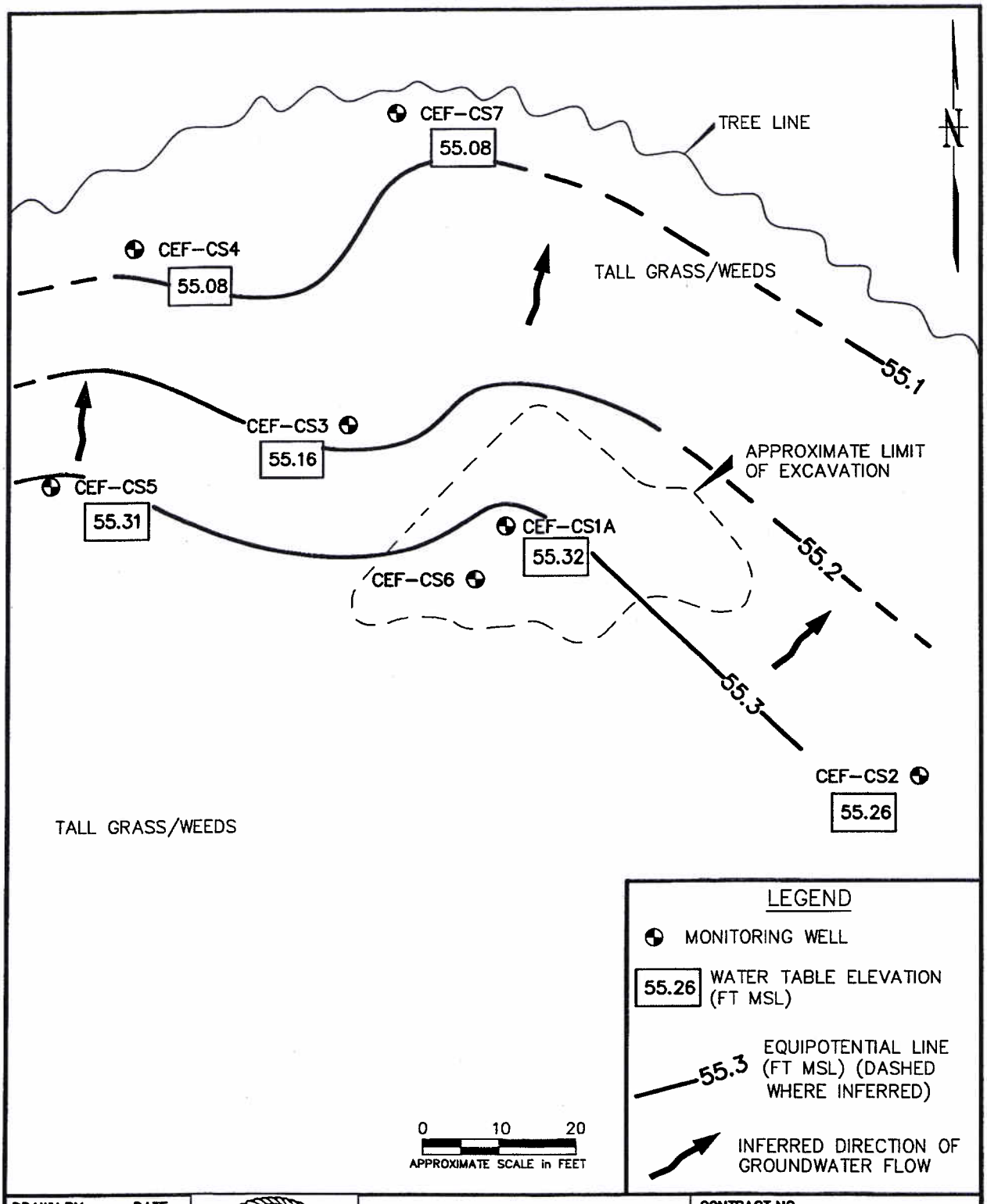
S:\NAVY\SITES\CTO 107\CAD\0389GM01



DRAWN BY LK DATE 11/09/99	POTENTIOMETRIC SURFACE MAP OCTOBER 1999 OCALA CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 0389	
CHECKED BY DATE		APPROVED BY DATE 11/10/99	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 3	REV. 0

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

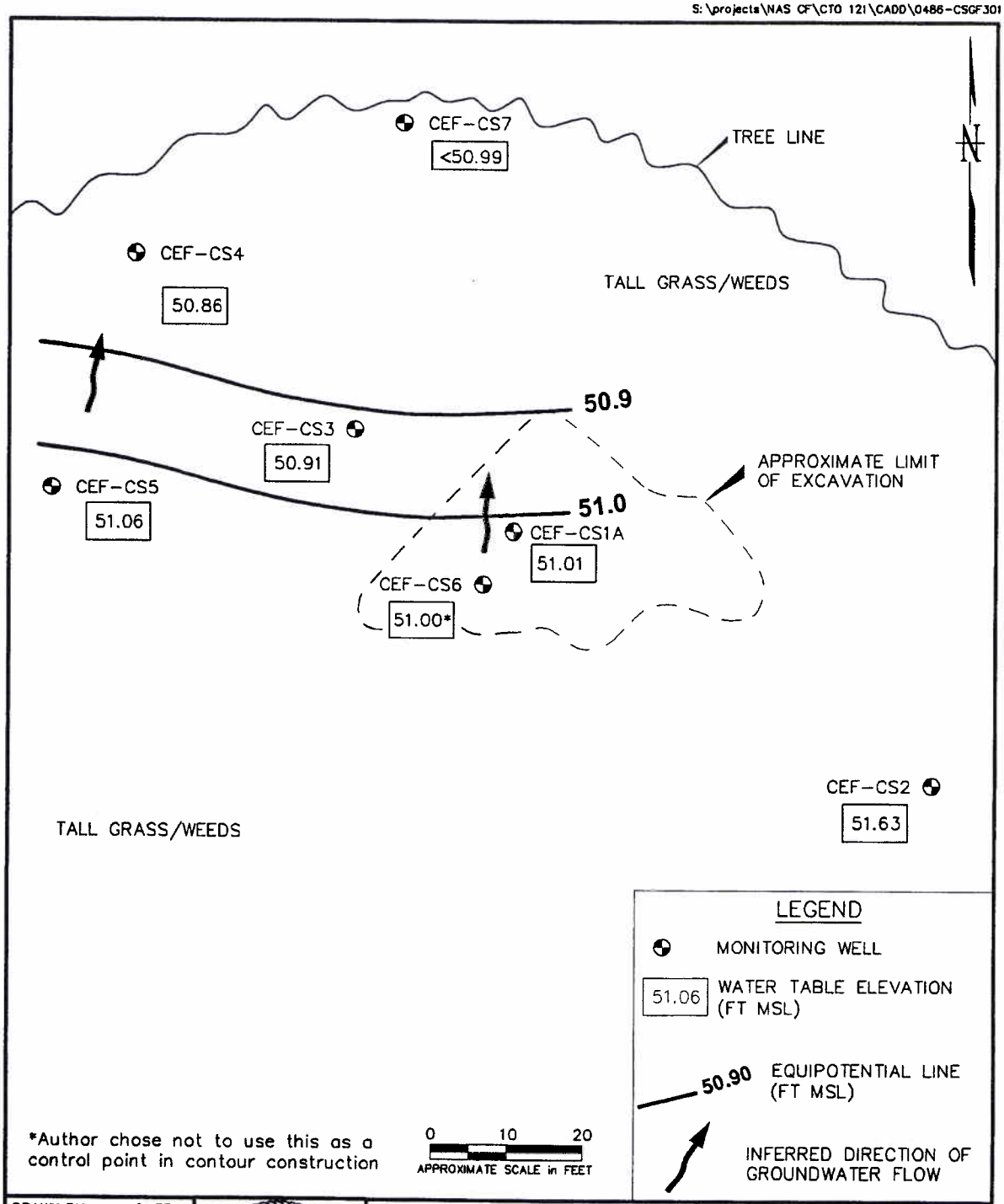
S:\NAVY\SITES\CTO 107\CAD\0389GM01a



DRAWN BY LK DATE 4/13/00	DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD	GROUNDWATER CONTOUR MAP MARCH 2000	CONTRACT NO. 0389
CHECKED BY DATE			APPROVED BY DATE
COST/SCHED-AREA		OCALA CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 4-1 REV. 0

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

S:\projects\NAS CF\CTO 121\CADD\0486-CSGF301

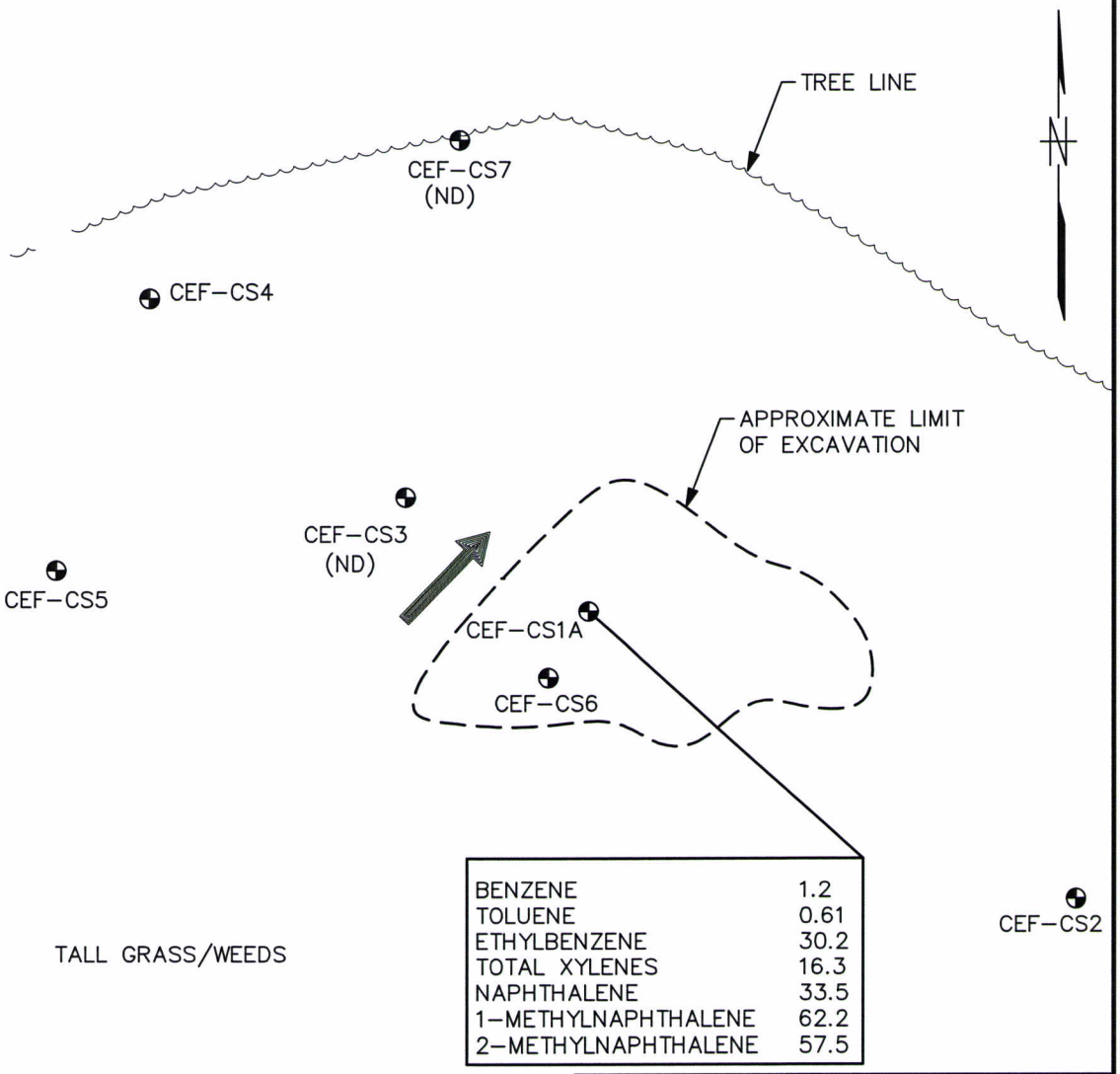


*Author chose not to use this as a control point in contour construction

DRAWN BY LLK DATE 5/02/01	POTENTIOMETRIC SURFACE MAP MARCH 7, 2001 OCALA CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 0486	
CHECKED BY DATE		APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 2	REV. 0

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

ACAD: 4093GT01.dwg 12/02/02 HJB PIT



BENZENE	1.2
TOLUENE	0.61
ETHYLBENZENE	30.2
TOTAL XYLENES	16.3
NAPHTHALENE	33.5
1-METHYLNAPHTHALENE	62.2
2-METHYLNAPHTHALENE	57.5

LEGEND:

CEF-CS2 — MONITORING WELL LOCATION

µg/L — MICROGRAMS PER LITER

GROUNDWATER FLOW DIRECTION

NOTE:

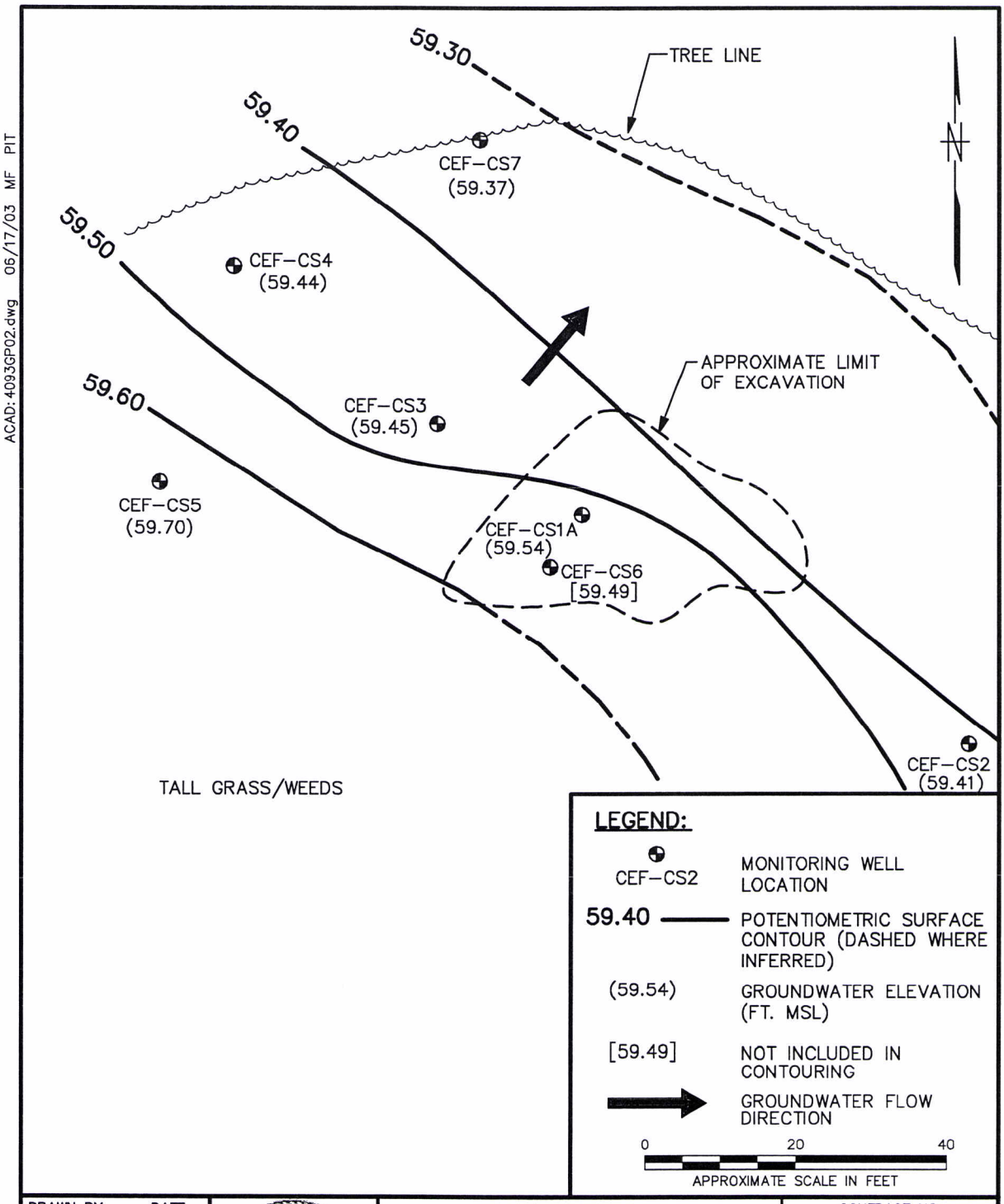
CONCENTRATIONS SHOWN ARE MEASURED IN µg/L

0 20 40

APPROXIMATE SCALE IN FEET

DRAWN BY HJB DATE 11/11/02		CONTRACT NO. 4093	
CHECKED BY DATE	GROUNDWATER ANALYTICAL RESULTS OCTOBER 4, 2002 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 3	REV. 0

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

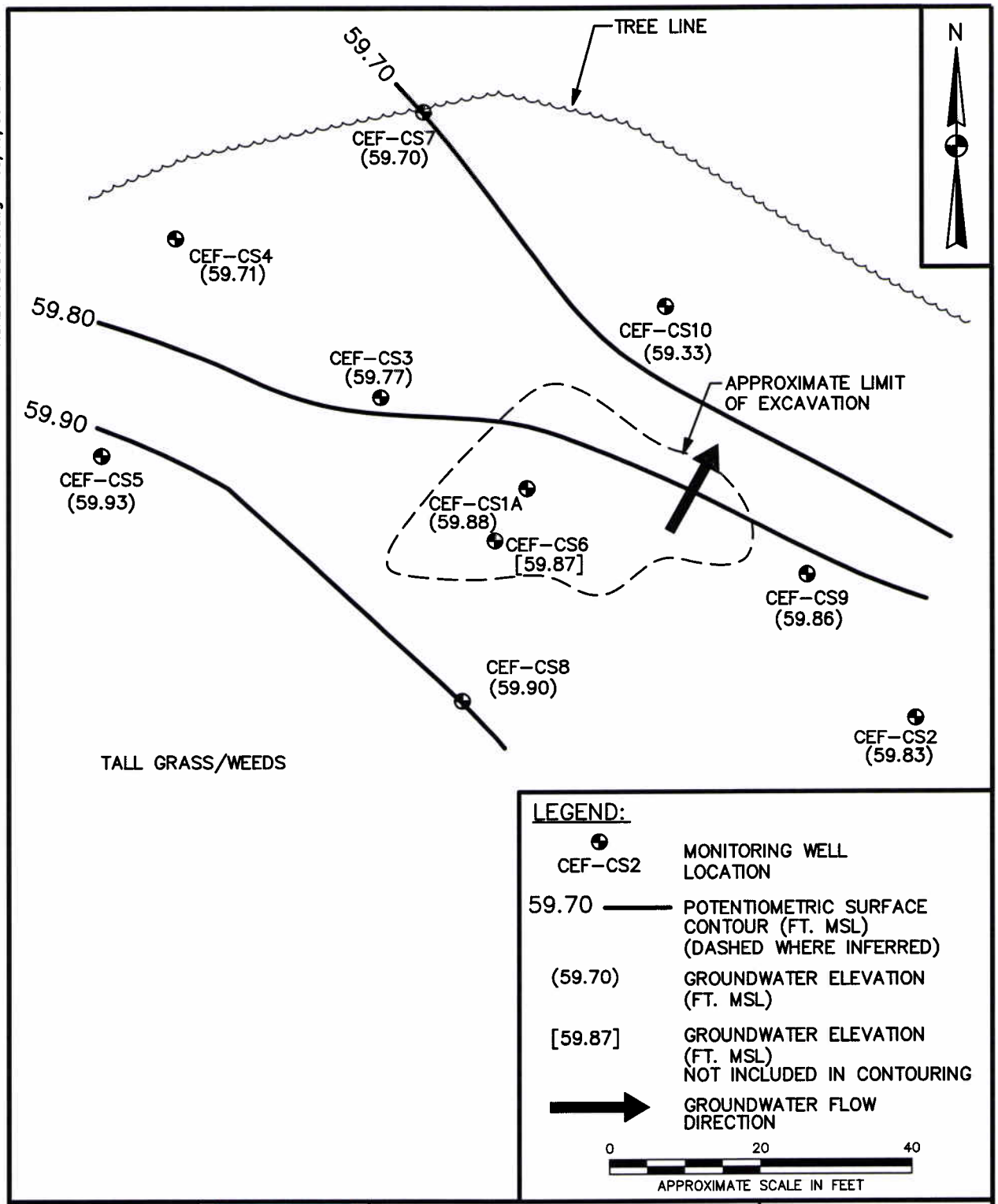


ACAD: 4093GP02.dwg 06/17/03 MF PIT

DRAWN BY MF DATE 6/17/03		POTENTIOMETRIC SURFACE MAP APRIL 21, 2003 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY DATE			APPROVED BY DATE
COST/SCHED-AREA			APPROVED BY DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV. 0

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

ACAD: 4093GT06.dwg 05/19/05 DM PIT



LEGEND:

CEF-CS2	MONITORING WELL LOCATION
59.70	POTENTIOMETRIC SURFACE CONTOUR (FT. MSL) (DASHED WHERE INFERRED)
(59.70)	GROUNDWATER ELEVATION (FT. MSL)
[59.87]	GROUNDWATER ELEVATION (FT. MSL) NOT INCLUDED IN CONTOURING
	GROUNDWATER FLOW DIRECTION

0 20 40

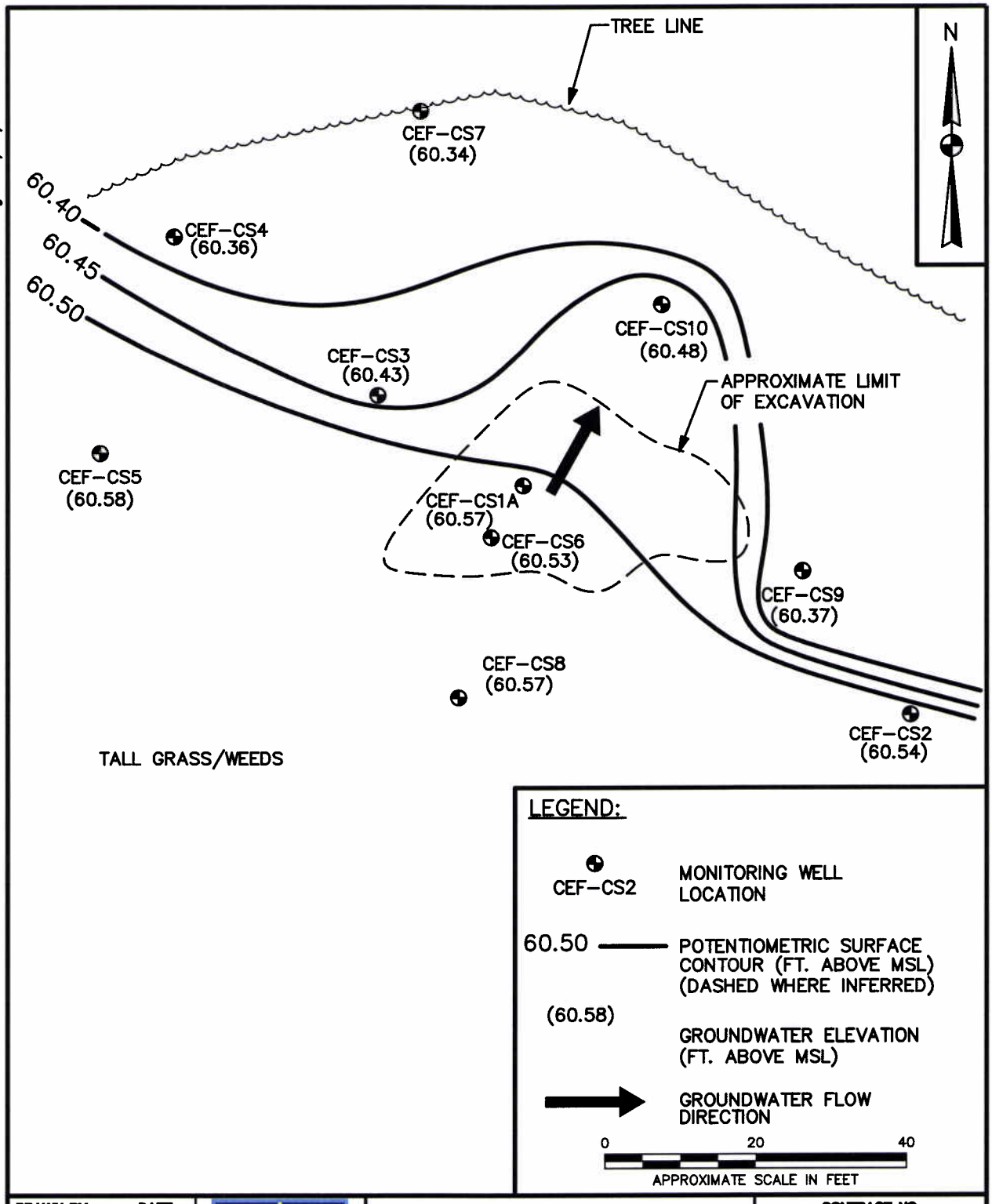
APPROXIMATE SCALE IN FEET

DRAWN BY DM	DATE 5/19/05	POTENTIOMETRIC SURFACE MAP JANUARY 19, 2005 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		OWNER NO.
REVISED BY	DATE		APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV. 0

NAVFAC

FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98

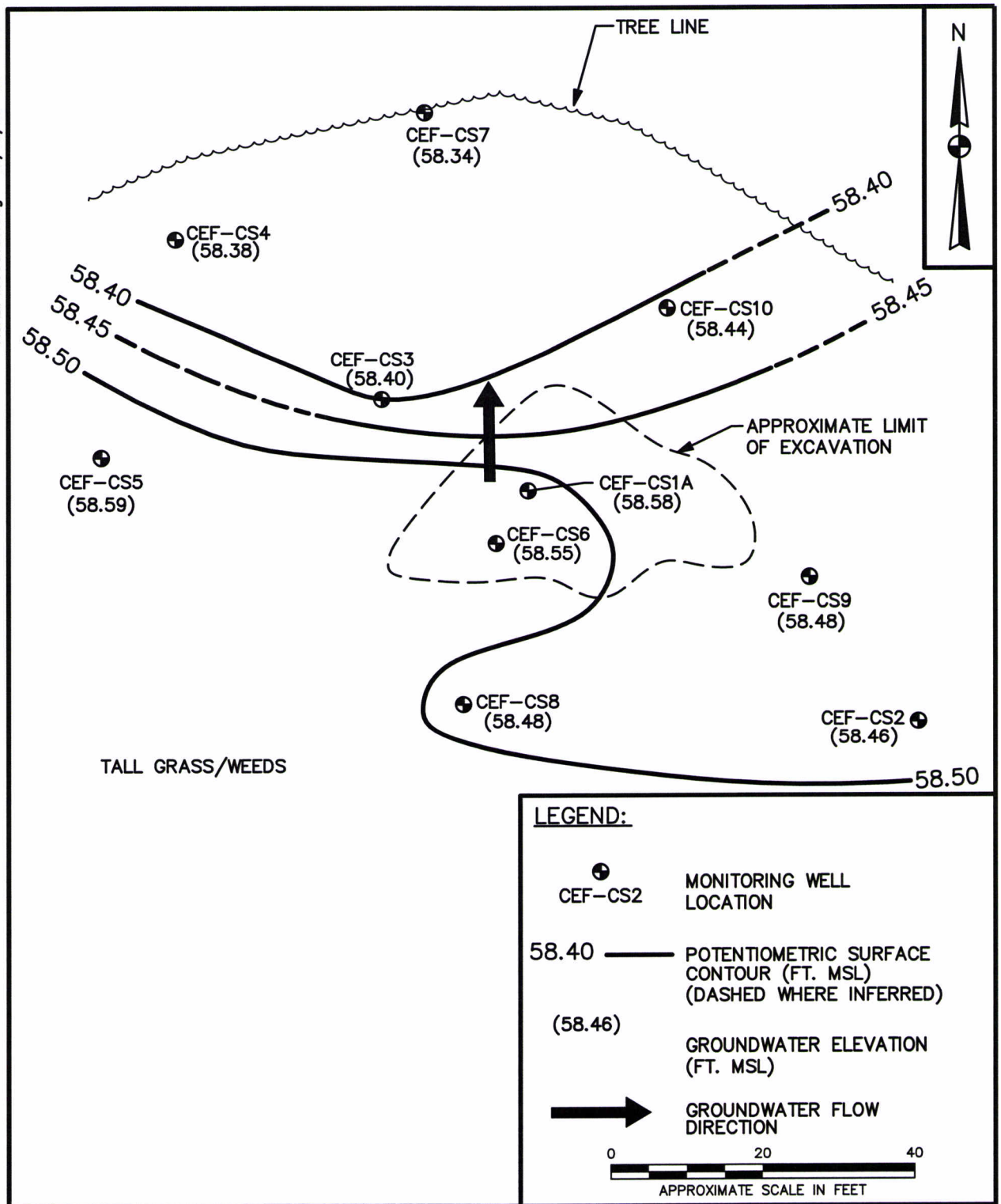
ACAD: 4093GT08.dwg 12/26/06 MF PIT



DRAWN BY MF	DATE 8/17/06	POTENTIOMETRIC SURFACE MAP MARCH 15, 2006 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		OWNER NO.
REVISED BY	DATE		APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV. 0

FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98

ACAD: 4093GT09.dwg 12/19/06 MF PIT



LEGEND:

CEF-CS2 — MONITORING WELL LOCATION

58.40 — POTENTIOMETRIC SURFACE CONTOUR (FT. MSL) (DASHED WHERE INFERRED)

(58.46) — GROUNDWATER ELEVATION (FT. MSL)

GROUNDWATER FLOW DIRECTION

0 20 40

APPROXIMATE SCALE IN FEET

DRAWN BY MF	DATE 12/19/06	POTENTIOMETRIC SURFACE MAP SEPTEMBER 19, 2006 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		OWNER NO.
REVISED BY	DATE		APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3 / REV. 0

NAVFAC

FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98

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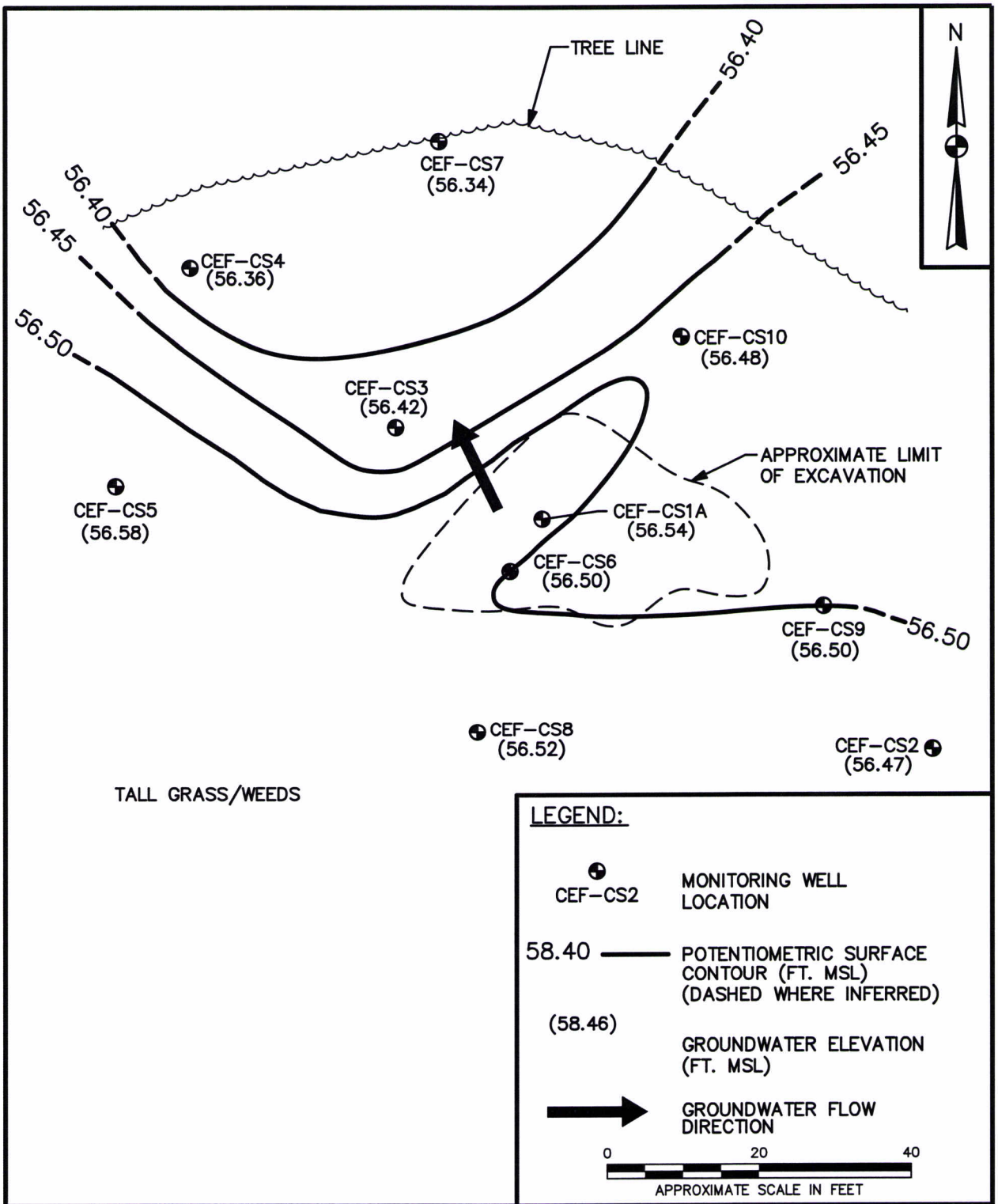
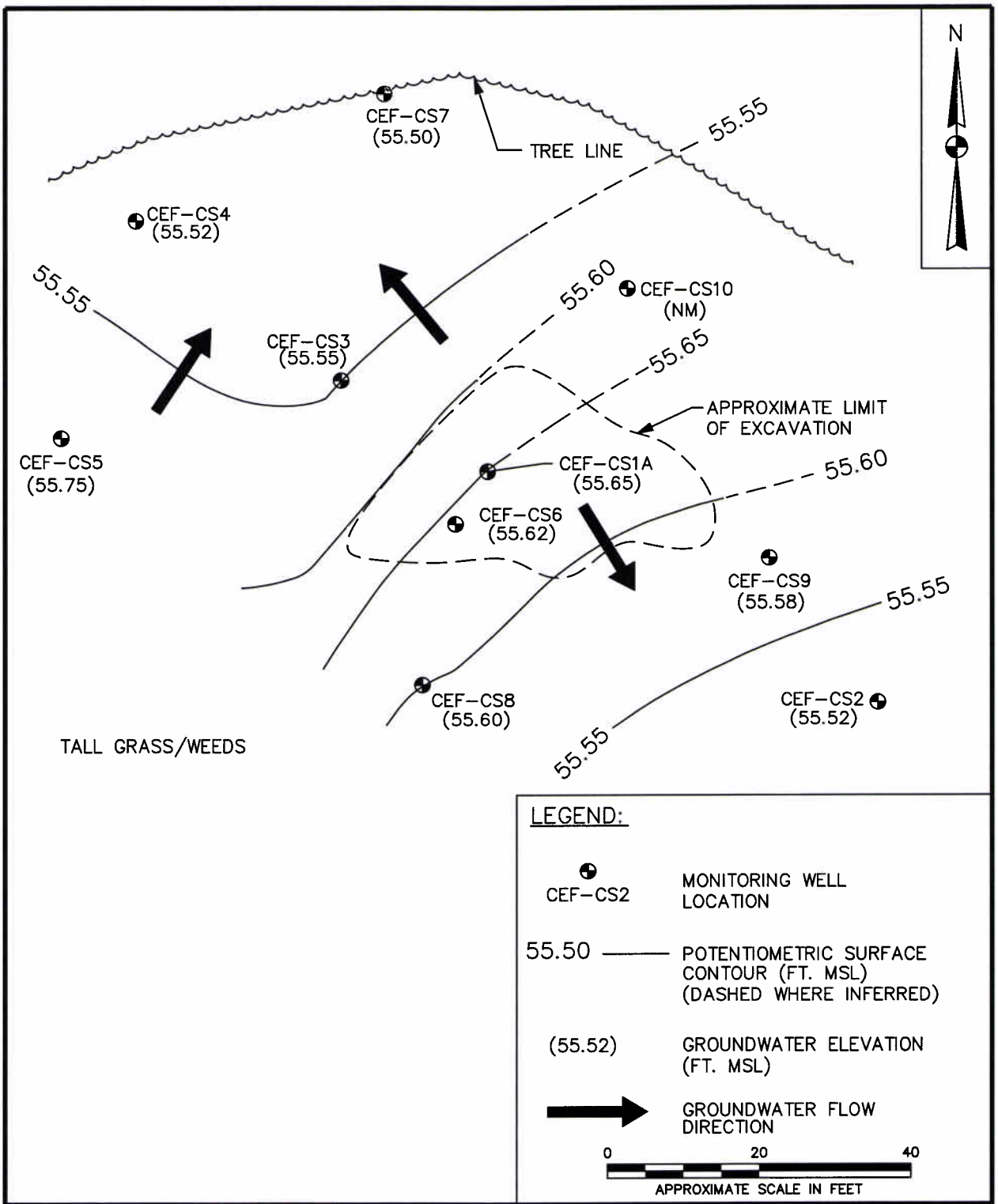


DRAWN BY MF	DATE 4/12/07	POTENTIOMETRIC SURFACE MAP FEBRUARY 8, 2007 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		OWNER NO.
REVISED BY	DATE		APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 / REV. 0

NAVFAC

FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98

G\Projects\NAS CF\Active CTOs\CTO 209\ocala - 2nd event\Figures\GW Flow

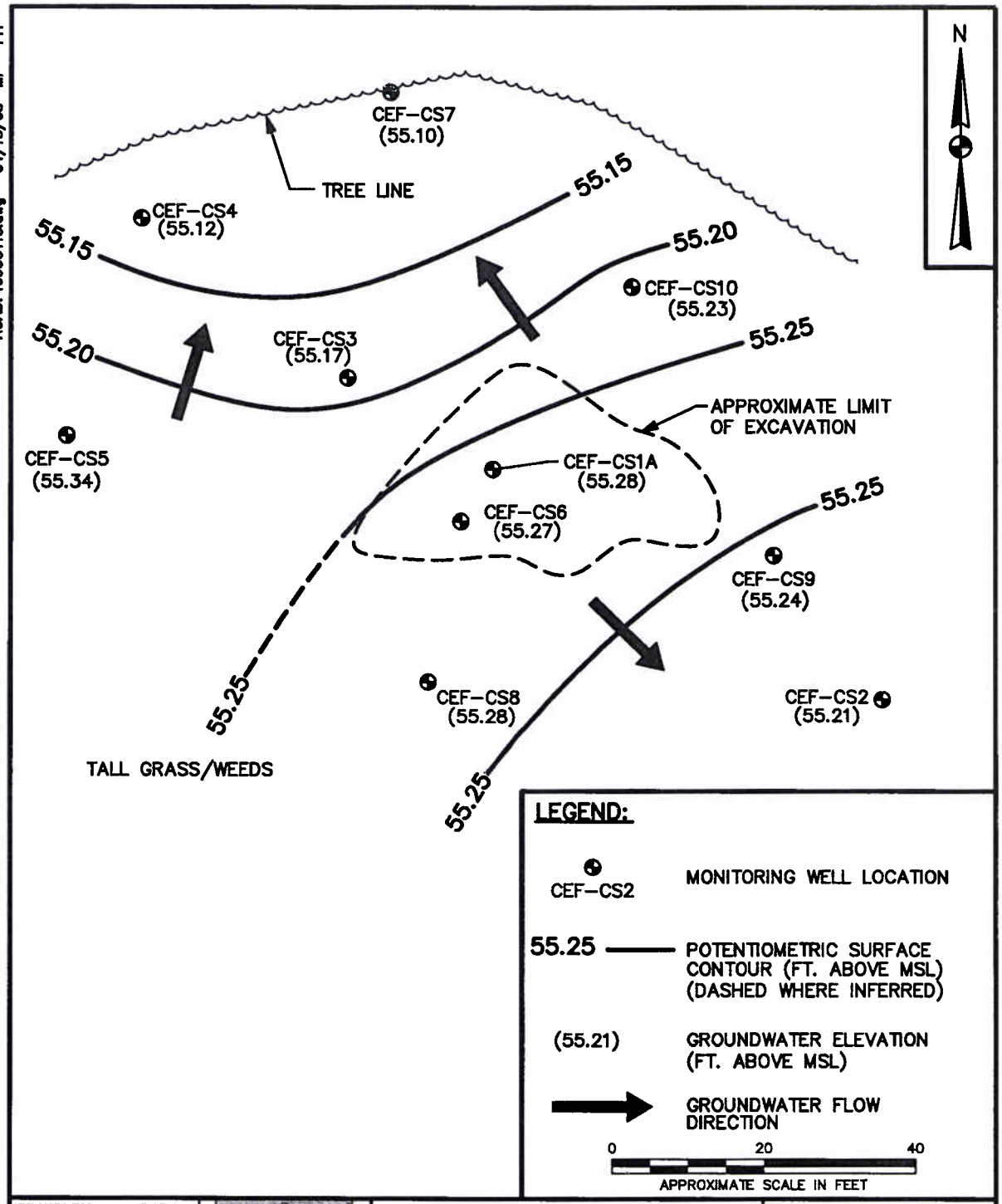


DRAWN BY JF DATE 11/07/07			CONTRACT NO. 4093
CHECKED BY DATE			OWNER NO.
REVISED BY DATE			APPROVED BY DATE
SCALE AS NOTED	NAVFAC		DRAWING NO. FIGURE 2 / REV. 0

POTENTIOMETRIC SURFACE MAP
AUGUST 21, 2007
OCALA F-18 CRASH SITE
OCALA NATIONAL FOREST
NAVAL AIR STATION CECIL FIELD
JACKSONVILLE, FLORIDA

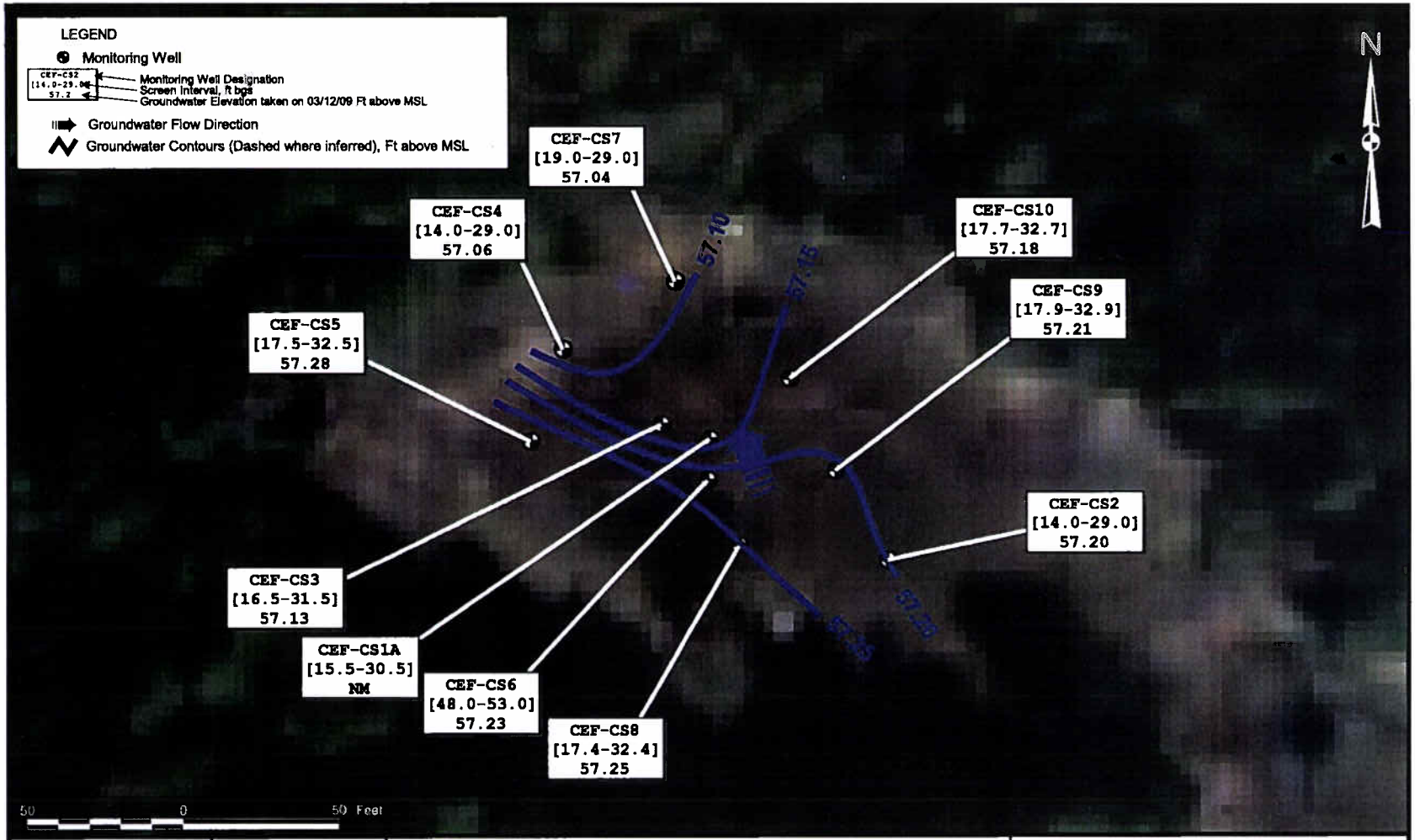
FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98

ACAD: 4093GT15.dwg 04/18/08 MF PIT



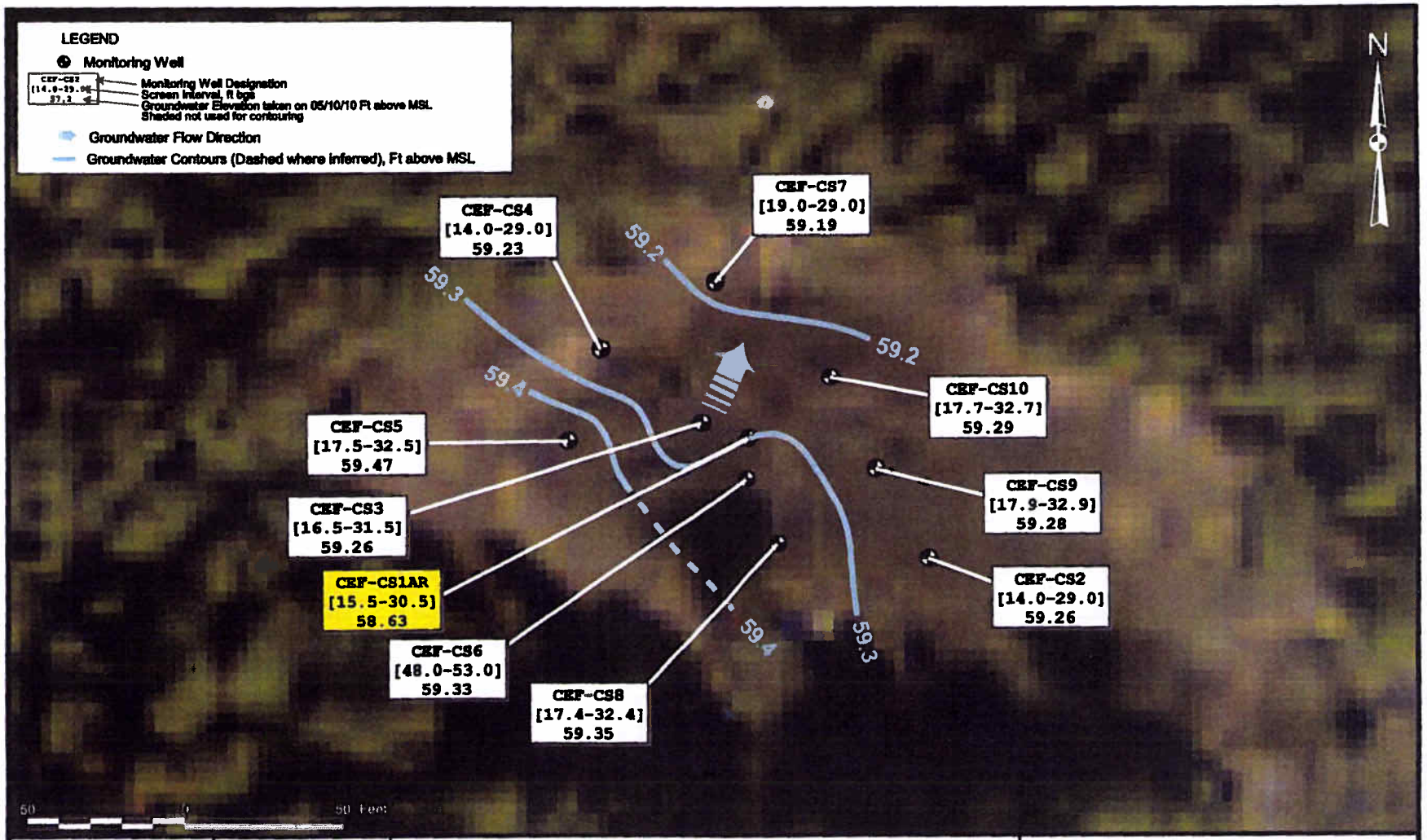
DRAWN BY MF	DATE 4/18/-8	POTENTIOMETRIC SURFACE MAP FEBRUARY 25, 2008 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST NAVAL AIR STATION CECIL FIELD JACKSONVILLE, FLORIDA	CONTRACT NO. 4093
CHECKED BY	DATE		OWNER NO.
REVISED BY	DATE		APPROVED BY / DATE
SCALE AS NOTED		NAVFAC	DRAWING NO. FIGURE 2 / REV. 0

FORM CADD NO. SDIV-AV.DWG - REV 1 - 9/10/98



MJJ	DATE 19Apr09	GROUNDWATER ELEVATION MAP MARCH 12, 2009 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST 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	NAVFAC		DRAWING NO. FIGURE 2 / REV 0

P:\GIS\NAS_CecilField\Ocala.apr 06Oct09 MJJ Layout1



MJJ — DATE 19Apr09	NAVFAC	GROUNDWATER ELEVATION MAP MAY 10, 2010 OCALA F-18 CRASH SITE OCALA NATIONAL FOREST 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

^GISNAS_CecilFieldOcala_20100708.apr 22Jul10 MJJ Layout1