



BRE/TLH-98-805/7113/7.2.3

N61331.AR.000646

NSWC PANAMA CITY

5090.3a

April 20, 1998

Project Number 7113

Mr. John Mitchell
Remedial Project Manager
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reference: Clean Contract No. N62467-94-D0888
Contract Task Order No. 0008

Subject: Site Assessment Report Addendum for Site 323
Coastal Systems Station
Panama City, Florida

Dear Mr. Mitchell:

A Site Assessment Report (SAR) Addendum response was issued by the Florida Department of Environmental Protection (FDEP) in a letter dated October 30, 1997 for the subject site. The response letter was issued by the FDEP based on their technical review of the Site Assessment Report Addendum dated June 24, 1997 for Site 323. The response letter was received by Brown and Root Environmental (B&R Environmental) on December 5, 1997. A copy of the response letter is included as Attachment 1.

As recommended by the FDEP in their response letter, B&R Environmental performed overdeveloping of monitoring well MW01 and the resampling of the well for Kerosene Analytical Group parameters. The following present the results of these activities and a recommendation for site monitoring based on Chapter 62-770 of the Florida Administrative Code (F.A.C.).

Well Overdeveloping

On March 3 through March 4, 1998, B&R Environmental performed the over development on monitoring well MW01 at Site 323. The monitoring well was over developed using a 1-inch diameter Grundfos submersible pump. Discharge water from the overdeveloping of the well was placed in the sanitary sewer at the manhole location shown on Figure 1. Permission to place the discharged water from the well into the sanitary sewer for treatment was obtained by the City of Panama Beach.

Prior to conducting the well over development, a depth to groundwater measurement was recorded from the top of the well casing using an electronic interface probe. The depth to groundwater was measured at 5.95 feet below top of well casing. Static water level measurements collected from MW01 are summarized on Table 1.



The pumping of the monitoring well was initiated at 15:00 hours on March 3 and was completed at 11:00 hours on March 4. During over development of the well, the discharged water flow rate and the depth to water measurements from the well were measured at periodic intervals. These measurements were collected to determine the total gallons of water purged and to monitor the drawdown levels during the over development of the well. A continuous discharge rate of 1.5 gallons per minute was maintained throughout the 20 hour period the well was pumped. Approximately 1,800 gallons of water was removed from monitoring well MW01 during well over development. Approximately 2 feet of drawdown was measured in the well over the development period. Flow rates and depth to water measurements collected during well over development are summarized on Table 2.

The submersible pump and the interface probe used during well overdevelopment was decontaminated prior to and after removal of the equipment from the monitoring well. Decontamination procedures were performed following Standard Operating Procedures prescribed by the FDEP Quality Assurance Document DER-001/92 and adopted by the B&R Environmental Comprehensive Quality Assurance Plan Number 8700555G.

Groundwater Sampling

On March 5, 1998, B&R Environmental collected a groundwater sample from monitoring well MW01 for Kerosene Analytical Group Parameters in accordance with revised Chapter 62-770 Florida Administrative Code. Sampling for Kerosene Analytical Group Parameters included analysis by ICP Series for lead, EPA Method 601 for Purgeable Halocarbons, EPA Method 602 for Purgeable Aromatics, EPA Method 8310 for Polynuclear Aromatic Hydrocarbons (PAHs), EPA Method 504.1 for ethylene dibromide, and Florida Pro for Total Recoverable Petroleum Hydrocarbons (TRPH). The monitoring well was allowed to recover from the well over development for 24 hours prior to collecting the groundwater samples. During the sampling event, depth to water and total depth of the well were measured. Prior to sampling, approximately five well volumes of water were purged from the well using a peristaltic pump and tygon tubing. The peristaltic pump and tygon tubing apparatus were also used in extracting a groundwater sample from the well. The sample collected was immediately placed on ice and shipped to Quality Analytical Laboratories in Montgomery, Alabama, for analysis. During the sampling event, quality control samples were prepared and submitted to the laboratory as required by the FDEP approved Quality Assurance Guidelines. Purge water from the well was placed in the sanitary sewer system for treatment.

Groundwater Quality Results

The groundwater laboratory data sheets from the March 5, 1998 sampling event reported concentrations of ethyle benzene at 1.5 micrograms per liter (ug/L), naphthalene at 25 ug/L, total lead at 0.79 ug/L, and TRPH at 0.54 milligrams per liter (mg/L) All other parameters analyzed were reported below laboratory detection limits. The groundwater laboratory data detected naphthalene as the only Chemical of Concern above groundwater cleanup target levels. Prior to the Rule revisions (Chapter 62-770, F.A.C. revised September 1997 regarding the groundwater cleanup levels), water quality parameters analyzed at the site had been below the state target cleanup levels. A summary of the groundwater quality laboratory analytical results from sampling events conducted during the SAR and SAR Addendum investigations are presented in Table 3. Groundwater field measurement forms for the samples collected during the March 5 sampling event and the laboratory data sheets are provided as Attachment 2.

SAR and SAR Addendum Findings to Support Monitoring Only Proposal for Natural Attenuation

The following summarizes the results of the SAR and SAR Addendum investigations and rationale to support a Monitoring Only Proposal for Natural Attenuation.

- The groundwater in the surficial aquifer has a G-II classification. Municipal well fields and surface water intakes were not identified within a 0.5-mile radius of the site. Private potable wells were not identified within a 0.25-mile radius of the site. Four public water supply wells are located at Coastal Systems Station (CSS). Of the four wells, only well PWS-1, located near the housing area at Building 394 (adjacent to Highway 98) is currently used. Well PWS-1 is used to provide water for air conditioning and heat pumps only and draws water from the Floridan aquifer system at approximately 400 feet below land surface. The remaining wells are inactive. CSS is provided potable water from the Bay County Water System.
- During the SAR and SAR Addendum investigations, no free product was detected in boreholes, temporary monitoring and/or permanent monitoring wells, surface water, sewer lines, or subsurface utility vaults at Site 323. No fire or explosion hazard exists as a result of the release of petroleum constituents.
- Approximately 16 cubic yards of "excessively contaminated soil," as defined in Chapter 62-770, F.A.C. were removed in March 1994 from the excavation which contained the oil/water separator (study area). No "excessively contaminated soil," was identified from soil samples collected from borings conducted for the SAR and SAR Addendum investigations. The highest soil vapor concentrations were detected from samples collected from soils at 6 to 7 feet bls; however, these soils are located within the water table/vadose zone interface (soil samples collected from water saturated soils). Water level measurements collected at the site identify the water table/vadose zone interface to extend from approximately 6 to 8 feet bls as shown on Table 1. The soil hydrocarbon vapor readings measured from vadose zone soils have ranged from nondetect to 20 parts per million (ppm) as shown on Table 4.
- In July 1996, B&R Environmental collected a soil sample for laboratory analysis of used oil parameters as prescribed by Chapter 62-770, F.A.C. (prior to the Rule revision to Chapter 62-770, F.A.C, September 1997). The sample was collected at SB14 at a depth of 6 to 8 feet bls. Boring SB14 is located several feet from monitoring well MW01 and is within an area where elevated hydrocarbon vapors were detected in soils collected from the water table/vadose zone interface (borings SB13 and SB15), as shown on Figure 2. Results of the soil analysis reported volatile and semi volatile organic compounds being below detection limits. The soil analytical results suggest the petroleum constituents in soils may be less concentrated or have degraded in concentration at the water table/vadose zone interface away from the source area (former oil/water separator tank bed).
- The hydrocarbons in the vadose zone soil should not result in increased cleanup costs. Physical structures installed at the former oil/water separator location should impede the percolation of groundwater through the vadose zone soils thus minimizing the effects of hydrocarbons being leached into the groundwater. A building addition to Building 323 was constructed shortly after the oil/water separator was removed and now covers the area where the former oil/water separator was located. The ground surface in the area around the former oil/water separator is completed with a concrete surface as shown on Figure 1. In addition, low levels of organic vapor readings were measured in vadose soils near the oil/water separator as shown on Table 4 and illustrated on Figure 2. The hydrocarbons in the vadose zone soils are therefore not considered as a continuing source for leaching into the groundwater.

- Previous studies conducted at CSS has shown vertical hydraulic gradients are upwards along St. Andrews Bay shoreline, reflecting that groundwater from the surficial aquifer flows from depth to discharge to surface water (ABB Environmental Services Inc., RCRA Facility Investigation Report, 1995). Site 323 is located approximately 400 feet from St. Andrews Bay shoreline. The surficial aquifer beneath Site 323 flows towards St. Andrews Bay. At Site 323, it is assumed a horizontal or an upward vertical flow component would be present at depth within the surficial aquifer due to the site's close proximity to St. Andrews Bay. Given the relatively low concentration of dissolved hydrocarbons detected in the groundwater at the site, the removal of "excessively contaminated soils" during removal of the oil/water separator, and an upward or horizontal vertical flow component, the vertical migration of petroleum hydrocarbons in the surficial aquifer should be minimal and therefore should not result in increased cleanup costs.
- The groundwater analysis from several sampling events conducted from July 1996 through March 1998 (samples collected for the SAR and SAR Addendum investigations) indicate dissolved hydrocarbon concentrations at Site 323 have decreased in concentration (see Table 3). This decrease in concentration may have resulted from the physical removal of petroleum hydrocarbons during the overdeveloping of the well, and/or may reflect natural attenuation of the petroleum constituents. Currently, only dissolved naphthalene remains in the groundwater at concentrations above the state cleanup level. It is estimated, based on naphthalene concentrations reported from the most recent sampling event, that the site can achieve the applicable No Further Action criteria as a result of natural attenuation in five years or less. Figure 3 depicts the horizontal extent of dissolved naphthalene.

This Monitoring Only Proposal for Natural Attenuation proposes that a downgradient monitoring well (proposed well MW02) be installed approximately 25 feet down gradient of MW01 as shown on Figure 3. The proposed monitoring well would be located at the edge of the dissolved hydrocarbon plume and would serve as the temporary point of compliance during groundwater monitoring activities. The location for the point of compliance will be designated at the edge of the dissolved hydrocarbon plume based on the following site conditions:

- The groundwater at CSS is currently not used as a potable drinking water source. Potable water for CSS is supplied by the Bay County Water System. No potable supply wells are projected to be installed in the vicinity of affected area of dissolved petroleum constituents.
- The current and projected land use for the area affected by dissolved petroleum constituents will continue to be operated as a United States Naval Base. Therefore, the exposed population would be restricted to naval and civilian personnel working at the base. Since the dissolved hydrocarbons are located several feet below land surface and the surficial aquifer is not used as a water source at CSS, exposure to the population is considered to be a minimal exposure risk. The "affected area" is also isolated from the population by the construction of physical barriers. These physical barriers include a concrete ground cover surface cap and the expansion of Building 323 over the area where the former oil/water separator was previously located.
- The soil hydrocarbon vapor concentrations and groundwater quality data collected at the site indicate low levels of petroleum constituents. The groundwater quality data identified naphthalene as the only Chemical of Concern. The majority of the Chemical of Concern parameters tested in the Kerosene Analytical Group parameters were reported below laboratory detection limits in the groundwater samples collected at the site. The low levels of dissolved hydrocarbons detected in the groundwater and the low levels soil hydrocarbon vapors identified in vadose zone soils depicts a dissolved hydrocarbon plume being present at the northeast side of Building 323 as shown on Figure 3. It is assumed the removal of "excessively contaminated soils," and the installation of physical barriers at the time the

- oil/water separator was removed, would retard the rate of migration of petroleum constituents. The sandy nature of the subsurface soils within the upper 15 feet of the ground surface should be conducive to an oxygen rich environment and help expedite the biodegradation of petroleum constituents.
- The potential for further migration of the dissolved hydrocarbons in relationship to the site's property is considered a minimal risk. St. Andrews Bay is located approximately 400 feet downgradient of the site. The dissolved naphthalene concentrations should degrade below State Cleanup levels before reaching St. Andrews Bay.

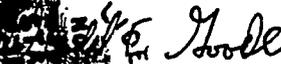
Monitoring Only Plan

The monitoring program proposed for this site will consist of the following parameters. Two monitoring wells will be utilized to monitor dissolved hydrocarbon concentrations. One of the monitoring wells will be installed at the edge of the plume and downgradient from monitoring well MW01, which is located in the area of maximum concern. This well will also serve as the temporary point of compliance (proposed well MW02). Monitoring well MW01 will be used to monitor groundwater quality in the area where the maximum concentrations of petroleum constituents were detected.

It is proposed monitoring wells MW01 and MW02 be sampled quarterly for analysis by EPA Method 8310 for Polynuclear Aromatic Hydrocarbons, and by EPA Method 8021B for Purgeable Aromatics. Based on groundwater quality results from past sampling activities, it is proposed the natural attenuation default values for Kerosene Analytical Group parameters as presented in Chapter 62-770, F.A.C., be used as the action levels established for the site. If groundwater quality results exceed the action levels during the implementation of the proposed monitoring program, the monitoring wells will be resampled within 30 days after the initial positive response identifies that the action levels have been exceeded. The monitoring period shall be conducted for a minimum of one year, unless two consecutive sampling events indicate the applicable cleanup target levels have been met. The natural attenuation default values for Chemicals of Concern as established in Table IX of Chapter 62-770, F.A.C. is provided in Attachment 3.

If you have any questions regarding this SAR Addendum and the proposal for Monitoring Only for Natural Attenuation, please contact me at (850) 656-5458.

Sincerely,



Gerald F. Goode, P.G.
Task Order Manager
Florida License No. 0001276
Brown & Root Environmental
Tallahassee, Florida



References

ABB Environmental Services, Inc., 1995, RCRA Facility Investigation, Coastal Systems Station
Panama City, Florida.

GG

Enclosures (2)

c: Mr. N. Ugolini, SOUTHDIV (2 copies)
Ms. D. Evens-Ripley, SOUTHDIV (w/o enclosure)
Ar. A McDonald, CSS (2 copies)
Mr. A. Kendrick, Brown and Root Environmental (1 copy)

172

FIGURES

Figure:1: Site Plan

Figure 2: Soil Hydrocarbon Vapor Concentrations

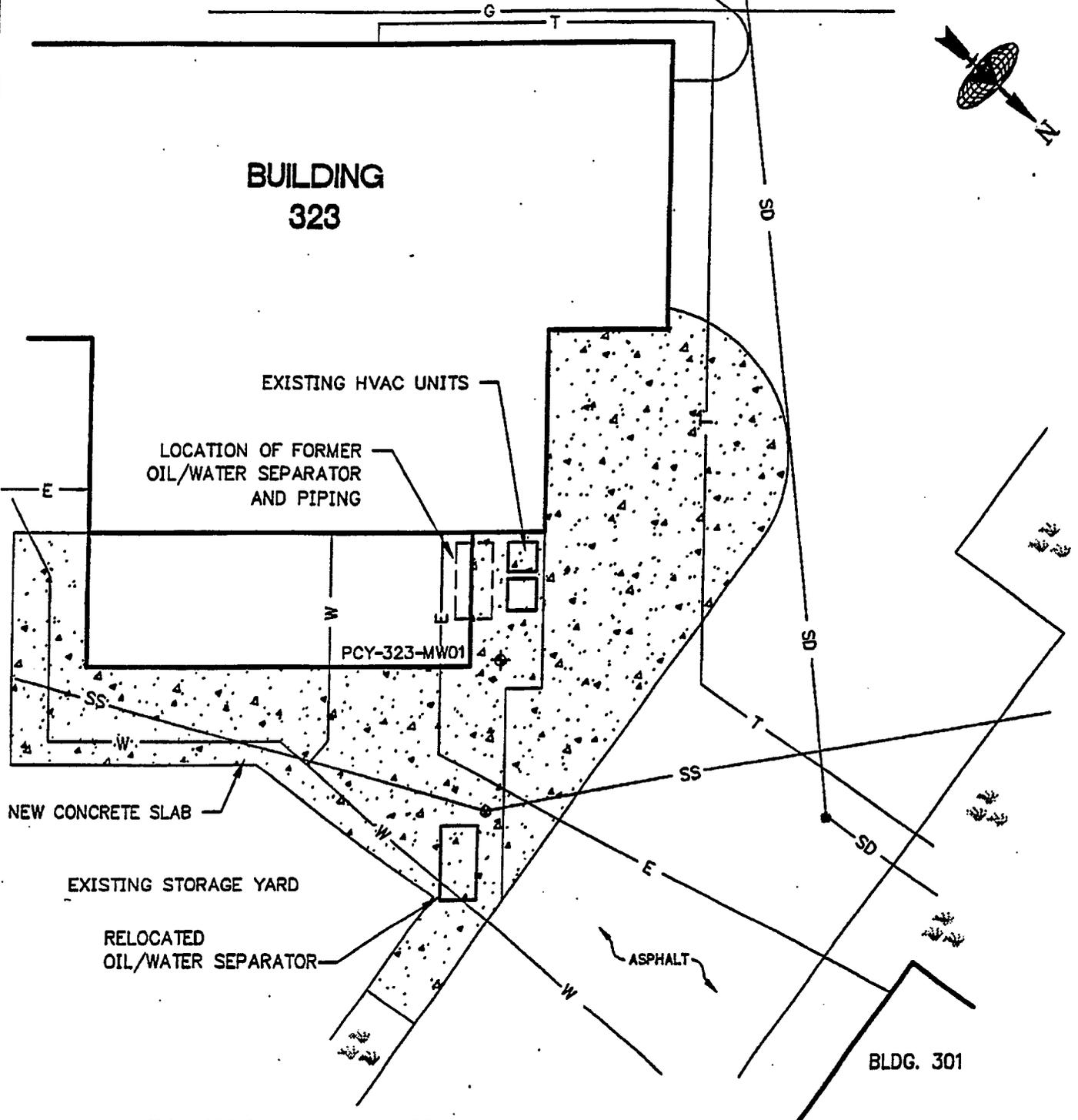
Figure 3: Horizontal Extent of Dissolved Naphthalene

LEGEND

- T TELEPHONE LINE
- G GAS MAIN
- SD STORM DRAIN
- SS SANITARY SEWER
- E ELECTRIC LINE

PCY-323-MW01  MONITORING WELL

BULLFINCH ROAD



MODIFIED FROM CSS P.W. DWG. NO. M-5847

SITE MANAGER: GFG	CHECKED BY: -
DRAWN BY: TCB	DRAWING DATE: 5/22/96
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=20'	
CAD DWG. NO.: 7113ESIT	PROJ. NO.: 7113



Brown & Root Environmental

FIGURE 1

**SITE PLAN
SITE 323**

COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

LEGEND

PCY-323-MW01  MONITORING WELL

● SB01 SOIL BORING

$\frac{295}{6}$ HIGHEST HYDROCARBON VAPOR CONCENTRATION (ppm)
DEPTH OF SOIL SAMPLE (FT.)

WATER TABLE/VADOSE ZONE INTERFACE AT APPROXIMATELY 6 TO 8 FEET BELOW LAND SURFACE

GROUNDWATER
FLOW
DIRECTION



**BUILDING
323**

LOCATION OF FORMER
OIL/WATER SEPARATOR
AND PIPING

SB04
ND
6

SB01
ND
6

SB06
2
3

SB05
ND
6

SB02
ND
6

SB15
240
6

SB07
10
2

SB12
ND
6

SB03
18
6

PCY-323-MW01
114
6

SB08
20
2

SB13
368
6

SB14
5
6

SB09
5
4

SB10
16
6

SB11
295
6

SB16
40
6

EXISTING STORAGE YARD

RELOCATED
OIL/WATER SEPARATOR

NOTE

GROUNDWATER FLOW DIRECTION FROM
INTERPRETATION OF FACILITY-WIDE
GROUNDWATER ELEVATION CONTOURS
(ABB ENVIRONMENTAL SERVICES, INC.,
1995, RCRA FACILITY INVESTIGATION)

MODIFIED FROM CSS P.W. DWG. NO. M-5847

SITE MANAGER: GFG	CHECKED BY: -
DRAWN BY: TCB	DRAWING DATE: 5/22/96
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=20'	
CAD DWG. NO.: 7113ESIT	PROJ. NO.: 7113



Brown & Root Environmental

FIGURE 2
SOIL HYDROCARBON VAPOR
CONCENTRATIONS - SITE 323

COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

LEGEND

- T TELEPHONE LINE
- G GAS MAIN
- SD STORM DRAIN
- SS SANITARY SEWER
- E ELECTRIC LINE
- PCY-323-MW01  MONITORING WELL

26 NAPHTHALENE GROUNDWATER CONCENTRATION IN MICROGRAM PER LITER (ug/L)
 GROUNDWATER SAMPLES COLLECTED MARCH 5, 1998

BULLFINCH ROAD



**BUILDING
323**

GROUNDWATER
FLOW
DIRECTION



EXISTING HVAC UNITS

LOCATION OF FORMER
OIL/WATER SEPARATOR
AND PIPING

E

PCY-323-MW01
26

20 ug/L NAPHTHALENE CONCENTRATION CONTOUR

NEW CONCRETE SLAB

PROPOSED MONITORING WELL LOCATION FOR PCY-323-MW02

EXISTING STORAGE YARD

RELOCATED
OIL/WATER SEPARATOR

ASPHALT

NOTE

GROUNDWATER FLOW DIRECTION FROM
INTERPRETATION OF FACILITY-WIDE
GROUNDWATER ELEVATION CONTOURS
(ABB ENVIRONMENTAL SERVICES, INC.,
1995, RCRA FACILITY INVESTIGATION)

MODIFIED FROM CSS P.W. DWG. NO. M-5847

SITE MANAGER: GFG	CHECKED BY: -
DRAWN BY: TCB	DRAWING DATE: 4/13/98
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=20'	SITE 323
CAD DWG. NO.: 7113ESIT	PROJ. NO.: 7113



Brown & Root Environmental

FIGURE 3

HORIZONTAL EXTENT OF DISSOLVED
NAPHTHALENE
COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

TABLES

Table 1: Depth to Groundwater Measurements

**Table 2: Depth to Groundwater Measurements & Water
Discharge Flow Rate Measurements Form
For Over Development of MW01**

Table 3: Summary of Groundwater Quality

Table 4: Soil Vapor Measurements

TABLE 1
DEPTH TO GROUNDWATER MEASUREMENTS
Site 323
Coastal Systems Station, Panama City, Florida
FDEP Facility No. 038518667

Well Number	Date	Free Product Thickness (feet)	Depth to Water (feet)	Well Screen Interval (feet below land surface)
PCY-323-MW01	06/15/96	0.00	6.62	5 to 15
	07/12/96	0.00	6.30	
	04/21/97	0.00	7.70	
	03/02/98	0.00	5.95	
	03/25/98	0.00	6.01	

Notes:
All water levels are measured below top of casing.

TABLE 2
DEPTH TO GROUNDWATER MEASUREMENTS & WATER DISCHARGE FLOW RATE
MEASUREMENTS FROM WELL OVER DEVELOPMENT OF MW01
Site 323
Coastal Systems Station, Panama City, Florida
FDEP Facility No. 038518667

Well Number	Date	Time	Depth to Water (feet)	Water Discharge Flow Rate (gallons per minute)
PCY-323-MW01	03/03/98	13:10	5.95	0.0
	03/03/98	15:15	6.80	1.5
	03/03/98	16:00	6.85	1.5
	03/03/98	18:00	6.95	1.5
	03/04/98	09:00	7.75	1.5
	03/04/98	10:00	7.78	1.5
	03/04/98	11:00	7.78	1.5

Notes:

All water levels are measured below top of casing.

Overdevelopment of monitoring well initiated at 13:00 hours on March 3, 1998

Overdevelopment of monitoring well completed at 11:00 hours on March 4, 1998.

TABLE 3
SUMMARY OF GROUNDWATER QUALITY:
SELECTED PARAMETERS FROM THE GASOLINE AND KEROSENE
ANALYTICAL GROUP
Site 323
Coastal Systems Station, Panama City, Florida
FDEP ID No. 038518667

Well ID	Date Sampled	Benzene (µg/L)	Total VOA (µg/L)	MTBE (µg/L)	DCE (µg/L)	EDB (µg/L)	NAP (µg/L)	Total NAPS (µg/L)	TRPH (mg/L)	Volatile Organics (µg/L)	Semi Volatile Organics (µg/L)	Arsenic Unfiltered Samples (µg/L)	Cadmium Unfiltered Samples (µg/L)	Chromium Unfiltered Samples (µg/L)	Lead Unfiltered Samples (µg/L)
PCY-323-MW01	07/12/96	<1.0	7.6	<1.0	<1.0	<0.02	<4	NCD	1.67	NCD	NCD	3.1	<3.3	3.2	3.5
	04/21/97	<1.0	2.7	<1.0	<1.0	<0.02	²⁾ 49	81	0.15	NCD	²⁾ NCD	1.4	<3.7	<2.7	<2.0
	03/05/98	<1.0	1.5	<1.0	<1.0	<0.02	25	25	0.54	NA	NA	NA	NA	NA	0.79
Equipment Blank	07/12/96	<1.0	1.3	<1.0	<1.0	<0.02	¹⁾ NA	¹⁾ NA	<0.05	NCD	NCD	1.2	<3.3	2.6	2.4
	04/21/97	<1.0	<1.0	<1.0	<1.0	<0.02	<2.1	NCD	0.08	NCD	NCD	<1.2	4.2	<2.7	<2.0
	03/05/98	<1.0	<1.0	<1.0	<1.0	<0.02	<2.0	NCD	<0.10	NA	NA	NA	NA	NA	<0.52

NA = not analyzed
Total VOA = total volatile organic aromatics = sum of benzene, toluene, ethylbenzene, and xylenes
MTBE = methyl tert-butyl ether
DCE = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane = ethylene dibromide
NCD = no constituents detected
TRPH = total petroleum hydrocarbons
NAP = naphthalene
Total NAPS = sum of total naphthalene constituents detected in sample

Notes:

- 1) An equipment blank analysis was not performed for GC Polynuclear Aromatic Hydrocarbons due to a crack in the equipment blank sample bottle received during sample shipment.
- 2) Naphthalene concentration was reported in the semi volatile organic analysis by EPA Method 8270 analysis. Naphthalene concentration reported by EPA Method 610 analysis is presented in the table.

TABLE 4
SOIL VAPOR MEASUREMENTS
Coastal Systems Station
Site 323
Panama City, Florida
FDEP FACILITY No. 038518667

Soil Boring No.	Date of Measurement	Sample Interval (feet bls)	Headspace Readings (ppm)		
			Total Organic Reading	Carbon Filtered Reading	Net Reading
SB01	06-14-96	2	5	5	ND
		4	ND	-	ND
		6	ND	-	ND
SB02	06-14-96	2	ND	-	ND
		4	ND	-	ND
		6	ND	-	ND
SB03	06-14-96	2	1	ND	1
		4	ND	ND	ND
		6	23	5	18
SB04	06-14-96	2	ND	-	ND
		4	ND	-	ND
		6	ND	-	ND
SB05	06-15-96	2	ND	-	ND
		4	ND	-	ND
		auger refusal at 5 feet bls.			
SB06	06-14-96	2 auger refusal at 2.5 feet bls.	3	ND	3
SB07	06-14-96	2 auger refusal at 3 feet bls.	11	1	10
SB08	06-14-96	2 auger refusal at 3 feet bls.	20	ND	20
SB09	06-14-96	2	ND	-	ND
		4	8	3	5
		auger refusal at 6 feet bls.			
SB10	6-14-96	2	25	10	15
		4	13	8	5
		6	19	3	13
SB11	6-14-96	2	4	ND	4
		4	ND	ND	ND
		6	300	5	295
SB12	6-15-96	2 auger refusal at 2.5 feet bls.	ND	-	ND
SB13	6-15-96	2	ND	ND	ND
		4	5	3	2
		6	380	12	368
SB14	7-12-96	2	3	ND	3
		4	5	ND	5
		6	5	ND	5
SB15	4-21-97	2	ND	-	ND
		4	ND	-	ND
		6	260	20	240
SB16	4-21-97	2	ND	-	ND
		4	ND	-	ND
		6	60	20	40
PCY-323-MW01	06-14-96	2	ND	-	ND
		4	ND	-	ND
		6	120	6	115

Notes: - = not analyzed
bls = below land surface
ppm = part per million equivalent methane
Wet soils encountered at approximately 6 to 7 feet bls.

ATTACHMENT 1

**FDEP CAR COMMENT LETTER DATED OCTOBER 30, 1997
SITE ASSESSMENT REPORT ADDENDUM
SITE 323**

Department of Environmental Protection

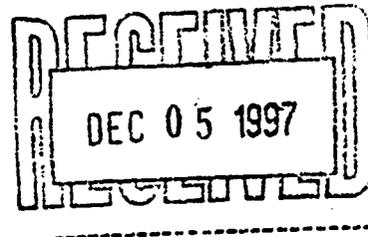
Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 30, 1997

Mr. Nick Ugolini
Code 184(PVC)
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010



RE: Site Assessment Report Addendum, Site 323
Coastal Systems Station, Panama City, Florida
Facility No. 035118667

Dear Mr. Ugolini:

The Department has completed the technical review of the Site Assessment Report (SAR) Addendum dated June 24, 1997 (received June 26, 1997), submitted for Site 323. I do not agree with the No Further Action (NFA) proposal for this site as naphthalene continues to exceed the NFA levels (20 $\mu\text{g/L}$) in monitoring well MW-1. I recommend overdeveloping well MW-1 and resampling for the Kerosene Analytical Group parameters. Please submit a SAR Addendum according to revised Chapter 62-770 F.A.C.

If I can be of any further assistance with this matter, please contact me at (904) 921-9989.

Sincerely,

A handwritten signature in black ink, appearing to read "John W. Mitchell".

John W. Mitchell
Remedial Project Manager

cc: Mike Cross, CSS Panama City
Arturo MacDonald, CSS Panama City
Gerald F. Goode, Brown and Root, Tallahassee
Tom Moody, FDEP NW District

TJB

Handwritten initials "TB" in black ink.

JJC

Handwritten initials "JJC" in black ink.

ESN

Handwritten initials "ESN" in black ink.

ATTACHMENT 2

**LABORATORY DATA SHEETS AND GROUNDWATER
SAMPLING AND MEASUREMENT FIELD FORMS**

March 5, 1998 Sampling Event

CASE NARRATIVE
Cations

Laboratory: CH2M HILL

Lab Ref. No.: MF628

Client/Project: Tetra Tech NUS, Inc.

I. Receipt

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. Holding Time

All holding times were met.

III. Method

Preparation: CLP ILM 3.0

Analysis: CLP ILM 3.0

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Spikes: Good recovery was observed from the matrix spike.

D. Duplicates: Good precision was observed from the laboratory duplicate.

E. Laboratory Control Sample: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Dilution/Recovery Test: Good recovery was observed from the postspikes. Meaningful data could not be developed from a dilution test because of the low level of target element present in the samples.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Quality Analytical Laboratories, Inc., both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Signed:


Jewell Smiley/Chemist

Date:

03-26-98

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: CH2M_HILL Contract: MF628
Lab Code: MGM Case No.: MF628 SAS No.: MF628 SDG No.:MF628
SOW No.: 3/90

Table with 2 columns: EPA Sample No. and Lab Sample ID. Rows include MW01B_003, MW01_003, MW01_003D, MW01_003S and corresponding Lab Sample IDs MF628001, MF628002, MF628002D, MF628002S.

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments:

Blank lines for comments.

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

Signature: Jewell W. Smiley Name: JEWELL SMILEY
Date: 03-26-98 Title: CHEMIST

CASE NARRATIVE
GC PURGEABLE HALOCARBONS

QAL Lab Reference No./SDG: MF628

Project: Tetra Tech NUS, Inc.

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

- A. Sample Preparation: All holding times were met.
- B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: N/A

Cleanup: N/A

Analysis: EPA 601 (Mod)

IV. PREPARATION

Not applicable

V. ANALYSIS

- A. Calibration: All acceptance criteria were met.
- B. Blanks: All acceptance criteria were met.
- C. Surrogates: All acceptance criteria were met.
- D. Spikes: All acceptance criteria were met.
- E. Samples: Sample analyses proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and QAL, Inc., both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: Tammy Carey

Tammy Carey
Chemist

DATE: 03/27/98

CASE NARRATIVE
Addendum

Sample Information

<u>LAB</u> <u>SAMPLE ID</u>	<u>CLIENT</u> <u>SAMPLE ID</u>	<u>SAMPLE</u> <u>MATRIX</u>	<u>DATE</u> <u>SAMPLED</u>	<u>DATE</u> <u>EXTRACTED</u>	<u>DATE</u> <u>ANALYZED</u>	<u>SAMPLE</u> <u>pH¹</u>
MF628001	MW01B_003	WATER	03/05/98	N/A	03/16/98	<2
MF628002	MW01_003	WATER	03/05/98	N/A	03/16/98	<2
MF628002MS	MW01_003MS	WATER	03/05/98	N/A	03/16/98	<2
MF628002MSD	MW01_003MSD	WATER	03/05/98	N/A	03/16/98	<2
X03168B1	VBLK001	WATER	N/A	N/A	03/16/98	N/A

¹ Applies to samples designated for purgeable VOA analysis only.

**REPORT OF ANALYTICAL RESULTS
PURGEABLE HALOCARBONS**

Date Collected: 03/05/98

Date Extracted: N/A

Date Analyzed: 03/16/98

Matrix: Water

Method: EPA 601 (Mod)

% Moisture: 100

Sample Group: MF628

Lab Sample ID: MF628001

Lab File 1 ID: C16V014

Lab File 2 ID: C16W014

Dilution Factor: 1.0

Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-09-2	Methylene chloride	5.0	U
79-34-5	1,1,2,2-Tetrachlorethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U

SURROGATE-Fluorobenzene (QC Limits - 61-133%)

111 % Rec.

REPORT OF ANALYTICAL RESULTS
 PURGEABLE HALOCARBONS

Date Collected: 03/05/98 Sample Group: MF628
 Date Extracted: N/A Lab Sample ID: MF628002
 Date Analyzed: 03/16/98 Lab File 1 ID: C16V015
 Matrix: Water Lab File 2 ID: C16W015
 Method: EPA 601 (Mod) Dilution Factor: 1.0
 % Moisture: 100 Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
75-27-4	Bromodichloromethane	1.0	U
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
110-75-8	2-Chloroethyl vinyl ether	1.0	U
67-66-3	Chloroform	1.0	U
74-87-3	Chloromethane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-09-2	Methylene chloride	5.0	U
79-34-5	1,1,2,2-Tetrachlorethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
SURROGATE-Fluorobenzene (QC Limits - 61-133%)			105 % Rec.

REPORT OF ANALYTICAL RESULTS
 PURGEABLE HALOCARBONS

Date Collected: 03/05/98 Sample Group: MF628
 Date Extracted: N/A Lab Sample ID: MF628002MS
 Date Analyzed: 03/16/98 Lab File 1 ID: C16V015
 Matrix: Water Lab File 2 ID: C16W015
 Method: EPA 601 (Mod) Dilution Factor: 1.0
 % Moisture: 100 Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
75-27-4	Bromodichloromethane	1.0	20
75-25-2	Bromoform	1.0	20
74-83-9	Bromomethane	1.0	14
56-23-5	Carbon tetrachloride	1.0	20
108-90-7	Chlorobenzene	1.0	19
75-00-3	Chloroethane	1.0	20
110-75-8	2-Chloroethyl vinyl ether	1.0	U
67-66-3	Chloroform	1.0	20
74-87-3	Chloromethane	1.0	19
124-48-1	Dibromochloromethane	1.0	20
95-50-1	1,2-Dichlorobenzene	1.0	20
541-73-1	1,3-Dichlorobenzene	1.0	21
106-46-7	1,4-Dichlorobenzene	1.0	20
75-71-8	Dichlorodifluoromethane	1.0	18
75-34-3	1,1-Dichloroethane	1.0	20
107-06-2	1,2-Dichloroethane	1.0	20
75-35-4	1,1-Dichloroethene	1.0	20
156-59-2	cis-1,2-Dichloroethene	1.0	20
156-60-5	trans-1,2-Dichloroethene	1.0	21
78-87-5	1,2-Dichloropropane	1.0	21
10061-01-5	cis-1,3-Dichloropropene	1.0	20
10061-02-6	trans-1,3-Dichloropropene	1.0	21
75-09-2	Methylene chloride	5.0	21
79-34-5	1,1,2,2-Tetrachlorethane	1.0	22
127-18-4	Tetrachloroethene	1.0	21
71-55-6	1,1,1-Trichloroethane	1.0	20
79-00-5	1,1,2-Trichloroethane	1.0	21
79-01-6	Trichloroethene	1.0	19
75-69-4	Trichlorofluoromethane	1.0	19
75-01-4	Vinyl chloride	1.0	19

SURROGATE-Fluorobenzene (QC Limits - 61-133%)

98 % Rec.

**REPORT OF ANALYTICAL RESULTS
PURGEABLE HALOCARBONS**

Date Collected: 03/05/98

Date Extracted: N/A

Date Analyzed: 03/16/98

Matrix: Water

Method: EPA 601 (Mod)

% Moisture: 100

Sample Group: MF628

Lab Sample ID: MF628002MSD

Lab File 1 ID: C16V015

Lab File 2 ID: C16W015

Dilution Factor: 1.0

Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
75-27-4	Bromodichloromethane	1.0	19
75-25-2	Bromoform	1.0	20
74-83-9	Bromomethane	1.0	15
56-23-5	Carbon tetrachloride	1.0	19
108-90-7	Chlorobenzene	1.0	19
75-00-3	Chloroethane	1.0	21
110-75-8	2-Chloroethyl vinyl ether	1.0	U
67-66-3	Chloroform	1.0	20
74-87-3	Chloromethane	1.0	21
124-48-1	Dibromochloromethane	1.0	20
95-50-1	1,2-Dichlorobenzene	1.0	22
541-73-1	1,3-Dichlorobenzene	1.0	20
106-46-7	1,4-Dichlorobenzene	1.0	20
75-71-8	Dichlorodifluoromethane	1.0	18
75-34-3	1,1-Dichloroethane	1.0	21
107-06-2	1,2-Dichloroethane	1.0	20
75-35-4	1,1-Dichloroethene	1.0	19
156-59-2	cis-1,2-Dichloroethene	1.0	20
156-60-5	trans-1,2-Dichloroethene	1.0	20
78-87-5	1,2-Dichloropropane	1.0	20
10061-01-5	cis-1,3-Dichloropropene	1.0	19
10061-02-6	trans-1,3-Dichloropropene	1.0	20
75-09-2	Methylene chloride	5.0	19
79-34-5	1,1,2,2-Tetrachloroethane	1.0	20
127-18-4	Tetrachloroethene	1.0	20
71-55-6	1,1,1-Trichloroethane	1.0	22
79-00-5	1,1,2-Trichloroethane	1.0	20
79-01-6	Trichloroethene	1.0	21
75-69-4	Trichlorofluoromethane	1.0	20
75-01-4	Vinyl chloride	1.0	22

SURROGATE-Fluorobenzene (QC Limits - 61-133%)

98 % Rec.

CASE NARRATIVE
GC PURGEABLE AROMATICS

QAL Lab Reference No./SDG: MF628

Project: Tetra Tech NUS, Inc.

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: N/A

Cleanup: N/A

Analysis: EPA 602 (Mod)

IV. PREPARATION

Not applicable

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: All acceptance criteria were met.

E. Samples: Sample analyses proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and QAL, Inc., both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED:

Tammy Carey

Tammy Carey
Chemist

DATE:

03/27/98

CASE NARRATIVE
Addendum

Sample Information

<u>LAB</u> <u>SAMPLE ID</u>	<u>CLIENT</u> <u>SAMPLE ID</u>	<u>SAMPLE</u> <u>MATRIX</u>	<u>DATE</u> <u>SAMPLED</u>	<u>DATE</u> <u>EXTRACTED</u>	<u>DATE</u> <u>ANALYZED</u>	<u>SAMPLE</u> <u>pH¹</u>
MF628001	MW01B_003	WATER	03/05/98	N/A	03/16/98	<2
MF628002	MW01_003	WATER	03/05/98	N/A	03/16/98	<2
MF628002MS	MW01_003MS	WATER	03/05/98	N/A	03/16/98	<2
MF628002MSD	MW01_003MSD	WATER	03/05/98	N/A	03/16/98	<2
X03168B1	VBLK001	WATER	N/A	N/A	03/16/98	N/A
X03118B2	VBLK002	WATER	N/A	N/A	03/11/98	N/A

¹ Applies to samples designated for purgeable VOA analysis only.

REPORT OF ANALYTICAL RESULTS
 PURGEABLE AROMATICS

Date Collected: 03/05/98	Sample Group: MF628
Date Extracted: N/A	Lab Sample ID: MF628001
Date Analyzed: 03/16/98	Lab File 1 ID: C16V014
Matrix: Water	Lab File 2 ID: C16W014
Method: EPA 602 (Mod)	Dilution Factor: 1.0
% Moisture: 100	Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1634-04-4	Methyl tert-butyl ether	1.0	U
108-88-3	Toluene	1.0	U
108-38-3/106-42-3	m- and p-Xylene	2.0	U
95-47-6	o-Xylene	1.0	U
SURROGATE-Fluorobenzene (QC Limits - 61-133%)			111 % Rec.

**REPORT OF ANALYTICAL RESULTS
PURGEABLE AROMATICS**

Date Collected: 03/05/98

Date Extracted: N/A

Date Analyzed: 03/16/98

Matrix: Water

Method: EPA 602 (Mod)

% Moisture: 100

Sample Group: MF628

Lab Sample ID: MF628002

Lab File 1 ID: C16V015

Lab File 2 ID: C16W015

Dilution Factor: 1.0

Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
71-43-2	Benzene	1.0	U
100-41-4	Ethylbenzene	1.0	1.5
1634-04-4	Methyl tert-butyl ether	1.0	U
108-88-3	Toluene	1.0	U
108-38-3/106-42-3	m- and p-Xylene	2.0	U
95-47-6	o-Xylene	1.0	U
SURROGATE-Fluorobenzene (QC Limits - 61-133%)			105 % Rec.

REPORT OF ANALYTICAL RESULTS
 PURGEABLE AROMATICS

Date Collected: 03/05/98	Sample Group: MF628
Date Extracted: N/A	Lab Sample ID: MF628002MS
Date Analyzed: 03/16/98	Lab File 1 ID: C16V015
Matrix: Water	Lab File 2 ID: C16W015
Method: EPA 602 (Mod)	Dilution Factor: 1.0
% Moisture: 100	Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
71-43-2	Benzene	1.0	20
100-41-4	Ethylbenzene	1.0	20
1634-04-4	Methyl tert-butyl ether	1.0	20
108-88-3	Toluene	1.0	19
108-38-3/106-42-3	m- and p-Xylene	2.0	39
95-47-6	o-Xylene	1.0	20
SURROGATE-Fluorobenzene (QC Limits - 61-133%)			98 % Rec.

REPORT OF ANALYTICAL RESULTS
 PURGEABLE AROMATICS

Date Collected: 03/05/98
 Date Extracted: N/A
 Date Analyzed: 03/16/98
 Matrix: Water
 Method: EPA 602 (Mod)
 % Moisture: 100

Sample Group: MF628
 Lab Sample ID: MF628002MSD
 Lab File 1 ID: C16V015
 Lab File 2 ID: C16W015
 Dilution Factor: 1.0
 Reporting Units: ug/L

CAS NUMBER	COMPOUND NAME	REPORTING LIMIT	RESULT
71-43-2	Benzene	1.0	20
100-41-4	Ethylbenzene	1.0	21
1634-04-4	Methyl tert-butyl ether	1.0	20
108-88-3	Toluene	1.0	20
108-38-3/106-42-3	m- and p-Xylene	2.0	40
95-47-6	o-Xylene	1.0	20
SURROGATE-Fluorobenzene (QC Limits - 61-133%)			98 % Rec.

CASE NARRATIVE
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

QAL Lab Reference No./SDG. MF628

Project: Tetra Tech NUS, Inc.

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: N/A

Cleanup: N/A

Analysis: FL-PRO

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: Project QC was performed at the project-specified frequency. Water matrix spike/matrix spike duplicates were requested and reported for this batch.

E. Samples: Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and QAL, Inc., both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: Tammy Carey

Tammy Carey
Chemist

DATE: 04/15/98

CASE NARRATIVE
Addendum

Sample Information

<u>LAB</u>	<u>CLIENT</u>	<u>SAMPLE</u>	<u>DATE</u>	<u>DATE</u>	<u>DATE</u>	<u>SAMPLE</u>
<u>SAMPLE ID</u>	<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLED</u>	<u>EXTRACTED</u>	<u>ANALYZED</u>	<u>pH</u> ¹
MF628001	MW01B_003	WATER	03/05/98	03/09/98	03/25/98	N/A
MF628002	MW01_003	WATER	03/05/98	03/09/98	03/25/98	N/A
MF628002MS	MW01_003MS	WATER	03/05/98	03/09/98	03/25/98	N/A
MF628002MSD	MW01_003MSD	WATER	03/05/98	03/09/98	03/25/98	N/A
W03098B1	TBLK09	WATER	N/A	03/09/98	03/25/98	N/A

¹ Applies to samples designated for purgeable VOA analysis only.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CH2M HILL
Lab Sample ID: MF628001
Client Sample ID: MW01B 003

Concentration: LOW
Sample Matrix: WATER
Volume Extracted: 1040mL

Date Extracted: 03/09/98
Date Analyzed: 03/25/98
Dilution Factor: 1.0

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

	mg/L	
TRPH	0.10	U
o-Terphenyl - SS	103	%
C39 (Nonatriacontane) - SS	61	%

- U - Analyzed for but not detected.
- B - Detected in QC blank.
- J - Detected, concentration estimated.
- SS - Surrogate Standard reported as percent recovery.

Form I

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CH2M HILL
Lab Sample ID: MF628002
Client Sample ID: MW01 003

Concentration: LOW
Sample Matrix: WATER
Volume Extracted: 1040mL

Date Extracted: 03/09/98
Date Analyzed: 03/25/98
Dilution Factor: 1.0

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

	mg/L
TRPH	0.54
<hr/>	
o-Terphenyl - SS	122 %
C39 (Nonatriacontane) - SS	70 %

- U - Analyzed for but not detected.
- B - Detected in QC blank.
- J - Detected, concentration estimated.
- SS - Surrogate Standard reported as percent recovery.

Form I

CASE NARRATIVE
HPLC POLYNUCLEAR AROMATIC HYDROCARBONS

CH2M Hill Lab Reference No./SDG.: MF628

Project: Tetra Tech NUS, Inc.

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW-846 3520B

Cleanup: N/A

Analysis: SW-846 8310 (MOD)

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

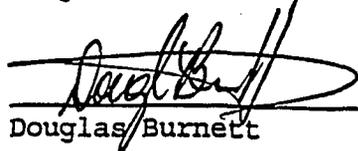
C. Surrogates: All acceptance criteria were met.

D. Spikes: Due to interference of non-target analytes, the MS/MSD performed on sample MF628002DL displayed percent recoveries for Phenanthrene that were outside laboratory QC limits.

E. Samples: In order to report target analytes within calibration range, sample MF628002 was reanalyzed on a diluted basis. Due to the concentration of target analytes, samples MF628002MS and MF628002MSD were analyzed on a diluted basis. Reporting limits have been adjusted accordingly.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and QAL, Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED:


Douglas Burnett
Resource Chemist, Organics

DATE:

3-27-98

Report of Analytical Results

Client Sample ID: MW01 003MS
 Sample Description: 3236W
 Sample Matrix: Water
 Dilution: 2.00

Date Collected: 03/05/98 17:00 (Thu) Reference No: MF628
 Date Received: 03/07/98 10:00 (Sat) Lab Sample ID: MF628002MS
 Date Extracted: 03/09/98 12:00 (Mon) Site: N/A
 Date Analyzed: 03/12/98 00:42 (Thu)

Analytical Parameter	CAS or Storet Number	Result	Units	Reporting Level
HPLC				
Naphthalene	91-20-3	80	%rec	
Acenaphthylene	208-96-8	80	%rec	
Acenaphthene	83-32-9	81	%rec	
Fluorene	86-73-7	80	%rec	
Phenanthrene	85-01-8	123 *	%rec	
Anthracene	120-12-7	80	%rec	
Fluoranthene	206-44-0	87	%rec	
Pyrene	129-00-0	88	%rec	
Benzo(a)anthracene	56-55-3	92	%rec	
Chrysene	218-01-9	86	%rec	
Benzo(b)fluoranthene	205-99-2	85	%rec	
Benzo(k)fluoranthene	207-08-9	84	%rec	
Benzo(a)pyrene	50-32-8	85	%rec	
Dibenzo(a,h)anthracene	53-70-3	83	%rec	
Benzo(g,h,i)perylene	191-24-2	83	%rec	
Indeno(1,2,3-cd)pyrene	193-39-5	79	%rec	
Terphenyl-d14 - SS	1718-51-0	91	%rec	

(11312)

Report of Analytical Results

Client Sample ID: MW01_003MSD
 Sample Description: 3236W
 Sample Matrix: Water
 Dilution: 2.00

Date Collected: 03/05/98 17:00 (Thu)
 Date Received: 03/07/98 10:00 (Sat)
 Date Extracted: 03/09/98 12:00 (Mon)
 Date Analyzed: 03/12/98 01:13 (Thu)

Reference No: MF628
 Lab Sample ID: MF628002MSD
 Site: N/A

Analytical Parameter	CAS or Storet Number	Result	Units	Reporting Level
HPLC				
Naphthalene	91-20-3	80	%rec	
Acenaphthylene	208-96-8	81	%rec	
Acenaphthene	83-32-9	82	%rec	
Fluorene	86-73-7	82	%rec	
Phenanthrene	85-01-8	124 *	%rec	
Anthracene	120-12-7	82	%rec	
Fluoranthene	206-44-0	90	%rec	
Pyrene	129-00-0	91	%rec	
Benzo(a)anthracene	56-55-3	96	%rec	
Chrysene	218-01-9	90	%rec	
Benzo(b)fluoranthene	205-99-2	89	%rec	
Benzo(k)fluoranthene	207-08-9	88	%rec	
Benzo(a)pyrene	50-32-8	89	%rec	
Dibenzo(a,h)anthracene	53-70-3	85	%rec	
Benzo(g,h,i)perylene	191-24-2	86	%rec	
Indeno(1,2,3-cd)pyrene	193-39-5	80	%rec	
Terphenyl-d14 - SS	1718-51-0	93	%rec	

(11312)

Report of Analytical Results

Client Sample ID: MW01B_003
 Sample Description: 3236W
 Sample Matrix: Water
 Dilution: 1.00

Date Collected: 03/05/98 15:30 (Thu) Reference No: MF628
 Date Received: 03/07/98 10:00 (Sat) Lab Sample ID: MF628001
 Date Extracted: 03/09/98 12:00 (Mon) Site: N/A
 Date Analyzed: 03/11/98 11:18 (Wed)

Analytical Parameter	CAS or Storet Number	Result	Units	Reporting Level
HPLC				
Naphthalene	91-20-3	2.0 U	ug/L	2.0
Acenaphthylene	208-96-8	2.0 U	ug/L	2.0
Acenaphthene	83-32-9	2.0 U	ug/L	2.0
Fluorene	86-73-7	0.20 U	ug/L	0.20
Phenanthrene	85-01-8	0.20 U	ug/L	0.20
Anthracene	120-12-7	0.10 U	ug/L	0.10
Fluoranthene	206-44-0	0.10 U	ug/L	0.10
Pyrene	129-00-0	0.10 U	ug/L	0.10
Benzo(a)anthracene	56-55-3	0.10 U	ug/L	0.10
Chrysene	218-01-9	0.10 U	ug/L	0.10
Benzo(b)fluoranthene	205-99-2	0.10 U	ug/L	0.10
Benzo(k)fluoranthene	207-08-9	0.10 U	ug/L	0.10
Benzo(a)pyrene	50-32-8	0.10 U	ug/L	0.10
Dibenzo(a,h)anthracene	53-70-3	0.20 U	ug/L	0.20
Benzo(g,h,i)perylene	191-24-2	0.20 U	ug/L	0.20
Indeno(1,2,3-cd)pyrene	193-39-5	0.20 U	ug/L	0.20
Terphenyl-d14 - SS	1718-51-0	90	%rec	

(11312)

BB

Report of Analytical Results

Client Sample ID: MW01_003
 Sample Description: 3236W
 Sample Matrix: Water
 Dilution: 1.00

Date Collected: 03/05/98 17:00 (Thu) Reference No: MF628
 Date Received: 03/07/98 10:00 (Sat) Lab Sample ID: MF628002
 Date Extracted: 03/09/98 12:00 (Mon) Site: N/A
 Date Analyzed: 03/11/98 11:48 (Wed)

Analytical Parameter	CAS or Storet Number	Result	Units	Reporting Level
HPLC				
Naphthalene	91-20-3	25.5	ug/L	2.0
Acenaphthylene	208-96-8	2.0	U	2.0
Acenaphthene	83-32-9	2.0	U	2.0
Fluorene	86-73-7	0.20	U	0.20
Phenanthrene	85-01-8	0.20	U	0.20
Anthracene	120-12-7	0.10	U	0.10
Fluoranthene	206-44-0	0.10	U	0.10
Pyrene	129-00-0	0.10	U	0.10
Benzo(a)anthracene	56-55-3	0.10	U	0.10
Chrysene	218-01-9	0.10	U	0.10
Benzo(b)fluoranthene	205-99-2	0.10	U	0.10
Benzo(k)fluoranthene	207-08-9	0.10	U	0.10
Benzo(a)pyrene	50-32-8	0.10	U	0.10
Dibenzo(a,h)anthracene	53-70-3	0.20	U	0.20
Benzo(g,h,i)perylene	191-24-2	0.20	U	0.20
Indeno(1,2,3-cd)pyrene	193-39-5	0.20	U	0.20
Terphenyl-d14 - SS	1718-51-0	87	%rec	

(11312)

BG

000444



COC # (1)

Project # CTO 0008 7113		Purchase Order # 2049 7113 P98070		Requested Analytical Method #										THIS AREA FOR LAB USE ONLY																																							
Project Name Site 323				TOTAL # OF CONTAINERS	<table border="1"> <tr><td>601</td><td>602</td><td>FL-PRO</td><td>lead</td><td>8310</td><td>504</td><td>2-liter Amber</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td colspan="12">Preservative</td></tr> <tr><td>HCL</td><td>HCl</td><td>H2SO4</td><td>None</td><td>None</td><td>None</td><td>None</td><td></td><td></td><td></td><td></td><td></td></tr> </table>										601	602	FL-PRO	lead	8310	504	2-liter Amber						Preservative												HCL	HCl	H2SO4	None	None	None	None						Lab # MF 628	Page	of
601	602	FL-PRO	lead												8310	504	2-liter Amber																																				
Preservative																																																					
HCL	HCl	H2SO4	None												None	None	None																																				
Company Name Brown & Root Environmental															Lab PM	Custody Review		Custody Seals	Y	N	Ice	Y	N																														
Project Manager or Contact & Phone # Gerald Goode 850-656-5458		Report Copy to: Project Manager													QC Level	1	2	3	Other	Cooler Temperature	Alternate Description	Lab ID																															
Requested Completion Date: Standard 30 day turnaround		Site ID													Sample Disposal: Dispose <input checked="" type="checkbox"/> Return <input type="checkbox"/>		HCL	HCl	H2SO4	None	None	None	None																														
Sampling	Type	Matrix													CLIENT SAMPLE ID (9 CHARACTERS)							LAB QC	NOTE: Groundwater																														
Date	Time	COMP	GRAB												WATER	SOIL	AIR								Sample (323-GW-MW01-003)																												
3/5/98	15:30		X												X			323	GW	MW01	B-003	12	3	3	1	1	2	2	and Equipment Blank Sample																								
3/5/98	17:00		X	X			323	GW	MW01	-003	12	3	3	1	1	2	2	(323-GW-MW01B-003) the																																			
																		lead samples were not preserved																																			
																		and were collected in 1 liter																																			
																		amber jars. Also, MS/M&D																																			
																		extra volume lead sample was																																			
																		collected in 125 ml amber jars.																																			
																		Please preserve the lead																																			
TOTAL (39)																																																					
Sampled By & Title Gerald F. Goode, Project Manager		Date/Time 3/5/98/18:00		Relinquished By Gerald F. Goode		Date/Time 3/5/98 18:00		Relinquished By Mark F. Goode		Date/Time 3/5/98 18:00		Samples upon receipt.																																									
Received By [Signature]		Date/Time 3/6/98 10:00		Received By [Signature]		Date/Time 3/6/98 10:00		Shipped Via Fed-Ex		Shipping # 802830074034		Shipping #																																									
Special Instructions: Preserve lead samples upon receipt (H&D) Do not analyze Trip Blank unless authorized by Project Manager												Sample shipped under	Certs by Seal																																								

CASE NARRATIVE
GC EXTRACTABLE VOLATILE ORGANICS (EDB)

QAL Lab Reference No./SDG. MF628

Project: Tetra Tech NUS, Inc.

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: N/A
Cleanup: N/A
Analysis: EPA 504.1

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: Surrogate recovery for sample MF628002MSD slightly exceeded current laboratory limits. All other acceptance criteria were met.

D. Spikes: As requested, water spikes were performed using a sample from this batch. A summary of the results are included in this report.

E. Samples: Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and QAL, Inc., both technically and for completeness except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

SIGNED: Tammy Carey DATE: 03/26/98
Tammy Carey
Chemist

CASE NARRATIVE
Addendum

Sample Information

<u>LAB</u>	<u>CLIENT</u>	<u>SAMPLE</u>	<u>DATE</u>	<u>DATE</u>	<u>DATE</u>	<u>SAMPLE</u>
<u>SAMPLE ID</u>	<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLED</u>	<u>EXTRACTED</u>	<u>ANALYZED</u>	<u>pH¹</u>
MF628001	MW01B_003	WATER	03/05/98	03/23/98	03/23/98	N/A
MF628002	MW01_003	WATER	03/05/98	03/23/98	03/23/98	N/A
MF628002MS	MW01_003MS	WATER	03/05/98	03/23/98	03/23/98	N/A
MF628002MSD	MW01_003MSD	WATER	03/05/98	03/23/98	03/23/98	N/A
W03238B1	EBLK01	WATER	N/A	03/23/98	03/23/98	N/A

¹ Applies to samples designated for purgeable VOA analysis only.

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CH2M HILL Concentration: LOW Date Extracted: 03/23/98
Lab Sample ID: MF628002 Sample Matrix: WATER Date Analyzed: 03/23/98
Client Sample ID: MW01 003 Percent Moisture: _____ Dilution Factor: 1.0

EDB

<u>CAS Number</u>		<u>ug/L</u>
106-93-4	1,2-Dibromoethane (EDB) . . .	0.02 U
	1,1,2,2-Tetrachloroethane - SS	88

- U - Analyzed for but not detected.
- B - Detected in QC blank.
- J - Detected, concentration estimated.
- SS - Surrogate Standard reported as percent recovery.

Comments:

Form I

ORGANICS ANALYSIS DATA SHEET

Laboratory Name: CH2M HILL Concentration: LOW Date Extracted: 03/23/98
Lab Sample ID: MF628002MS Sample Matrix: WATER Date Analyzed: 03/23/98
Client Sample ID: MW01 003MS Percent Moisture: _____ Dilution Factor: 1.0

EDB

<u>CAS Number</u>		<u>ug/L</u>
106-93-4	1,2-Dibromoethane (EDB) . . .	0.20
	1,1,2,2-Tetrachloroethane - SS	82

- U - Analyzed for but not detected.
- B - Detected in QC blank.
- J - Detected, concentration estimated.
- SS - Surrogate Standard reported as percent recovery.

Comments:

Form I

**Petroleum or Petroleum Products
 Water Sampling Log**

FDEP FACILITY NO.: | WELL NO.: *Mw01* | SAMPLE ID: | DATE: *3/5/98*
 SITE NAME: *CTO 0008, sil 323* | SITE LOCATION: *Site 323*

PURGE DATA

WELL DIAMETER (in): *2* | TOTAL WELL DEPTH (ft): *14.8* | DEPTH TO WATER (ft): *6.05* | WELL CAPACITY (gal): *0.16*

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY =
 $(14.8 - 6.05) \times 0.16 = 1.4$

PURGE METHOD: <i>Peristaltic Pump low flow</i>		PURGING INITIATED AT: <i>16:00</i>		PURGING ENDED AT: <i>16:45</i>						
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm): <i>0.15</i>	TOTAL VOLUME PURGED (gal): <i>7</i>	COLOR	ODOR	APPEARANCE	OTHER
<i>1.4</i>	<i>1.4</i>	<i>5.85</i>	<i>19.2</i>	<i>270 µmhos</i>			<i>clear</i>	<i>none</i>	<i>clear</i>	
<i>2.8</i>	<i>4.2</i>	<i>6.01</i>	<i>19.3</i>	<i>268 µmhos</i>			<i>clear</i>	<i>none</i>	<i>clear</i>	
<i>2.8</i>	<i>7</i>	<i>6.00</i>	<i>19.2</i>	<i>269 µmhos</i>			<i>clear</i>	<i>none</i>	<i>clear</i>	

SAMPLING DATA

SAMPLED BY / AFFILIATION: *Gerald Goode* | SAMPLER(S) SIGNATURE(S):
 SAMPLING METHOD(S): *Peristaltic Pump* | SAMPLING INITIATED AT: *17:00* | SAMPLING ENDED AT: *17:30*

FIELD DECONTAMINATION: *Y (N)* | FIELD-FILTERED: *Y (N)* | DUPLICATE: *Y (N)*

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	
<i>2</i>	<i>CG</i>	<i>40ml</i>	<i>HCl</i>	<i>0.2 L 2 Preserved by lab</i>		<i>CO2</i>
<i>3</i>	<i>CG</i>	<i>40ml</i>	<i>HCl</i>	<i>0.2 L 2 Preserved by lab</i>		<i>CO1</i>
<i>1</i>	<i>AG</i>	<i>1 liter</i>	<i>H2SO4</i>	<i>Preserved by lab</i>		<i>FL-PRO</i>
<i>1</i>	<i>AG</i>	<i>1 liter</i>	<i>None</i>	<i>Lab will add HNO3 Preservative upon receipt of Samples (head)</i>		
<i>2</i>	<i>AG</i>	<i>1 liter</i>	<i>None</i>	<i>NA</i>		<i>B310</i>
<i>2</i>	<i>AG</i>	<i>125ml</i>	<i>None</i>	<i>NA</i>		<i>504.1</i>

REMARKS: *Samples Iced upon collection.*

MATERIAL CODES: AG=AMBER GLASS; CG=CLEAR GLASS; HDPE=HIGH DENSITY POLYETHYLENE; O=OTHER (SPECIFY)
 WELL CAPACITY: 12"=0.06 gal/ft; 2"=0.16 gal/ft; 4"=0.65 gal/ft; 6"=1.47 gal/ft; 8"=2.61 gal/ft; 12"=5.83 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.

ATTACHMENT 3

NATURAL ATTENUATION DEFAULT SOURCE CONCENTRATION TABLE

(Table IX of Chapter 62-770, F.A.C.)

Chemicals of Concern	Table V Groundwater Cleanup Target Levels ¹	Table VII Freshwater Surface Water Criteria ¹	Table VII Marine Surface Water Criteria ¹	Table VIII Groundwater of Low Yield/ Poor Quality	Table IX Natural Attenuation Default Source Concentrations
Benzene	1 ug/l **	71 ug/l *	71 ug/l *	10 ug/l	100 ug/l
Ethylbenzene	30 ug/l **	605 ug/l	605 ug/l	300 ug/l	300 ug/l
Toluene	40 ug/l **	475 ug/l	475 ug/l	400 ug/l	400 ug/l
Total Xylenes	20 ug/l **	370 ug/l	370 ug/l	200 ug/l	200 ug/l
MTBE	35 ug/l	33600 ug/l	33600 ug/l	350 ug/l	350 ug/l
Acenaphthene	20 ug/l	3 ug/l	3 ug/l	200 ug/l	200 ug/l
Acenaphthylene	210 ug/l	0.031 ug/l *	0.031 ug/l *	2100 ug/l	2100 ug/l
Anthracene	2100 ug/l	0.3 ug/l	0.3 ug/l	21000 ug/l	21000 ug/l
Benzo(a)anthracene	0.2 ug/l	0.031 ug/l *	0.031 ug/l *	2 ug/l	20 ug/l
Benzo(a)pyrene	0.2 ug/l **	0.031 ug/l *	0.031 ug/l *	2 ug/l	20 ug/l
Benzo(b)fluoranthene	0.2 ug/l	0.031 ug/l *	0.031 ug/l *	2 ug/l	20 ug/l
Benzo(g,h,i)perylene	210 ug/l	0.031 ug/l *	0.031 ug/l *	2100 ug/l	2100 ug/l
Benzo(k)fluoranthene	0.5 ug/l	0.031 ug/l *	0.031 ug/l *	5 ug/l	50 ug/l
Chrysene	5 ug/l	0.031 ug/l *	0.031 ug/l *	50 ug/l	500 ug/l
Dibenzo(a,h)anthracene	0.2 ug/l	0.031 ug/l *	0.031 ug/l *	2 ug/l	20 ug/l
Fluoranthene	280 ug/l	0.3 ug/l	0.3 ug/l	2800 ug/l	2800 ug/l
Fluorene	280 ug/l	30 ug/l	30 ug/l	2800 ug/l	2800 ug/l
Indeno(1,2,3-c,d)pyrene	0.2 ug/l	0.031 ug/l *	0.031 ug/l *	2 ug/l	20 ug/l
Naphthalene	20 ug/l	26 ug/l	26 ug/l	200 ug/l	200 ug/l
Phenanthrene	210 ug/l	0.031 ug/l *	0.031 ug/l *	2100 ug/l	2100 ug/l
Pyrene	210 ug/l	0.3 ug/l	0.3 ug/l	2100 ug/l	2100 ug/l
1,2-dichloroethane	3 ug/l **	127 ug/l	127 ug/l	30 ug/l	300 ug/l
1,2-dibromoethane (EDB)	0.02 ug/l **	13 ug/l	13 ug/l	0.2 ug/l	2 ug/l
Toxicity bioassay tests	Not applicable	Pass test *	Pass test *	Not applicable	Not applicable
Arsenic	50 ug/l **	50 ug/l *	50 ug/l *	500 ug/l	500 ug/l
Barium	2000 ug/l **	###	###	20000 ug/l	20000 ug/l
Cadmium	5 ug/l **	##	0.3 ug/l *	50 ug/l	50 ug/l
Chromium	100 ug/l **	##	515 ug/l	1000 ug/l	1000 ug/l
Lead	15 ug/l **	##	5.6 ug/l *	150 ug/l	150 ug/l
Mercury	2 ug/l **	0.012 ug/l *	0.025 ug/l *	20 ug/l	20 ug/l
Selenium	50 ug/l **	5 ug/l *	71 ug/l *	500 ug/l	500 ug/l
Silver	100 ug/l **	0.07 ug/l *	0.35 ug/l	1000 ug/l	1000 ug/l
TRPHs	5 mg/l	5 mg/l	5 mg/l	50 mg/l	50 mg/l
Chloride	250 mg/l **#	####	####	2500 mg/l #	2500 mg/l #
Sulfate	250 mg/l **#	####	####	2500 mg/l #	2500 mg/l #
Total Dissolved Solids (TDS)	500 mg/l **#	####	####	5000 mg/l #	5000 mg/l #

¹ If the MDL given the condition of the sample, using the most sensitive and currently available technology, is higher than a specified criterion, the PQL shall be used.

In lieu of Table VI use the lower of Table V and Table VII Freshwater Surface Water Criteria.

* As provided in Chapter 62-302, F.A.C.

** As provided in Chapters 62-520 or 62-550, F.A.C.

Only applicable to sites where the contamination is derived from petroleum as defined in Section 376.301, F.S.

Hardness-dependent as provided in Chapter 62-302, F.A.C.

Not greater than 10% above background concentration.

Not greater than 10% above background concentration and only applicable to sites where the contamination is derived from petroleum as defined in Section 376.301, F.S.