N62604.AR.000614
NCBC GULFPORT
5090.3a

GROUNDWATER MONITORING REPORT OCTOBER 2004 SITE 6 NCBC GULFPORT MS
1/28/2005
BATTELLE

NCBC Gulfport Administrative Record
Document Index Number

39501 - IRP
18.02.06.0014

GROUNDWATER MONITORING REPORT (OCTOBER 2004) FOR SITE 6 AT NAVAL CONSTRUCTION BATTALION CENTER GULFPORT, MISSISSIPPI

Contract No. N47408-01-D-8207
Task Order No. 003

Prepared for:

Southern Division NAVFAC
P.O. Box 190010
North Charleston, SC 29419-9010

Prepared by:

BATTELLE
505 King Avenue
Columbus, Ohio 43201

January 28, 2005

CONTENTS

FIGURES iii

TABLES iii

ACRONYMS AND ABBREVIATIONS iv

1.0 INTRODUCTION 1
1.1 Project Description and Objectives 1
1.2 Site Background 1

1.0 GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING 3
2.1 Installation 3
2.2 Sampling Methods 3

3.0 RESULTS 4
3.1 Hydrogeology 4
3.2 Chemicals of Concern in Groundwater 4
3.3 Natural Attenuation Parameters in Groundwater 5
3.4 Data Validation 5

4.0 CONCLUSIONS AND RECOMMENDATIONS 7
4.1 Conclusions 7
4.2 Recommendations 7

5.0 REFERENCES 8

APPENDIX A. SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS
APPENDIX B. LNAPL THICKNESS AND GROUNDWATER ELEVATION PLOTS
APPENDIX C. ANALYTICAL RESULTS
APPENDIX D. DATA VALIDATION REPORTS

FIGURES

Figure 1. Location of Site 6
Figure 2. Site Layout
Figure 3. Groundwater Sampling Results for the March/April 2004 Plume Delineation Investigation
Figure 4. Site Layout Including Additional Monitoring Wells
Figure 5. Groundwater Potentiometric Surface Map
Figure 6. Contaminant Concentrations in Groundwater October 2004 (μg/L)
Figure 7. Historical and Recent Sampling Results from Monitoring Wells (μg/L)

TABLES

Table 1. Extraction Wells, Monitoring Wells, And Soil-Gas Monitoring Points
Table 2. Summary of Chemical Analyses
Table 3. Depth to Groundwater and LNAPL Thicknesses in Site 6 Monitoring Wells Measured on October 20, 2004
Table 4. Chemicals Detected in Samples from Groundwater Monitoring Wells, October 2004
Table 5. Field Parameter Measurements During Groundwater Sampling, October 2004
Table 6. Natural Attenuation Parameters Detected in Samples from Groundwater Monitoring Wells, October 2004

ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
BTEX	benzene, ethylbenzene, toluene, xylene
btoc	below top of casing
CPT	cone penetrometer testing
DCA	dichloroethane
DCE	dichloroethene
DO	dissolved oxygen
DTP	depth to product
DTW	depth to water
LNAPL	light, nonaqueous-phase liquid
MCL	maximum contamination level
MDEQ	Mississippi Department of Environmental Quality
MNA	monitored natural attenuation
mS/cm	millisiemens per centimeter
msl	mean sea level
mV	millivolt(s)
N/A	not analyzed
NA	not applicable
NAD	North American Datum
NCBC	Naval Construction Battalion Center
ND	not detected
NTU	nephelometric turbidity units
ORP	oxidation-reduction potential
PCE	tetrachloroethene
RL	reporting limit
RPD	relative percent difference
RSD	relative standard deviation
SVOC	semivolatile organic compound
TCA	trichloroethane
TCE	trichloroethene
TMB	trimethylbenzene
TPH	total petroleum hydrocarbons
TPH-DRO	total petroleum hydrocarbons quantified as diesel range organics
TRG	target remediation goal
U.S. EPA	United States Environmental Protection Agency
VOA	volatile organic analysis
VOC	volatile organic compound

1.0 INTRODUCTION

This section provides the project description and objectives, as well as site background information.

1.1 Project Description and Objectives

This report summarizes the monitoring well installation and groundwater monitoring that was performed in September and October 2004 at Site 6, Naval Construction Battalion Center (NCBC) Gulfport in the city of Gulfport, MS. Groundwater sampling was performed as described in the *Work Plan for Delineation of the Dissolved-Phase Plume at Naval Construction Battalion Center Gulfport, Mississippi* (Battelle, 2003). The objective of groundwater monitoring is to support the development of an exit strategy for the site, including discontinuation of light, nonaqueous-phase liquid (LNAPL) removal activities and site closure.

1.2 Site Background

NCBC Gulfport is located in the City of Gulfport, in Harrison County, in the southeast corner of the State of Mississippi (Figure 1). The location of Site 6 within NCBC is shown in Figure 1, and the site layout is shown in Figure 2. The site is bounded by Building 383 and Fifth Street to the north, Colby Avenue to the west, Simms Avenue to the east, and Building 391 to the south. Drainage ditches are located along the western and northern boundaries, and the site is grass-covered with the exception of a small parking lot located south of Building 383.

Site 6 is a former fire-fighting training area that was operational from 1966 to 1975. Various flammable liquids were used in two burn pits at the site. Up to 500,000 gallons of waste oils, solvents, paint thinners, and cleaning compounds are suspected to have been burned in the pits. The pits were backfilled with sand and gravel when fire-fighting training activities were concluded in 1975.

A trench interceptor recovery system was installed at Site 6 in 1995 to recover LNAPL. The system included a recovery trench located east of the drainage ditch on the east side of Colby Avenue and three recovery wells and associated pumps. The system was operated for approximately four years. During the period of operation, the average LNAPL thickness in the extraction wells decreased by approximately 50% (TetraTech NUS, Inc., 2000). However, in 1999, it was believed that the system was no longer an efficient or cost-effective method to recover the remaining LNAPL, and operation was discontinued.

In 2001, Battelle installed and began operating a vacuum-enhanced free-product recovery (i.e., bioslurper) system to extract the remaining recoverable LNAPL at the site. The installation and startup of the bioslurper system were completed at the end of October 2001. From November 1, 2001, through October 26, 2004, the system has operated 14,900 hours and has recovered 2,330 gallons of LNAPL.

In March and April 2004, a dissolved-phase plume delineation field investigation was performed. The three main objectives of the field investigation were to identify the contaminants of concern in the source area by collecting groundwater samples from the site monitoring wells, to determine whether the dissolved-phase plume extends beyond the present monitoring well network, and to collect more information on the geology of the surficial aquifer and underlying silty-clay unit.

The investigation included cone penetrometer testing (CPT) and soil sample collection using a Geoprobe® to collect in situ lithologic information across the site and determine the depth to the silty-clay unit and verify its presence. The Geoprobe® also was used to collect groundwater samples above the silty-clay unit. Sampling and analysis of volatile organic compounds (VOCs), which have greater potential for migration relative to semivolatile organic compounds (SVOCs), was used to define the extent of the

dissolved-phase plume. Groundwater samples were collected from temporary direct-push locations both upgradient and downgradient of the LNAPL plume for VOC analysis following U.S. EPA Method 8260 (Figure 3).

Results of the investigation indicated that the silt-clay layer is continuous across the site and occurs approximately 26 to 29 ft bgs. The following contaminants were found at levels above either the federal maximum contaminant level (MCL) (U.S. EPA, 2002); or the Mississippi Department of Environmental Quality (MDEQ) Level 1 target remediation goal (TRG) (MDEQ, 2002): chloroethane, 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), vinyl chloride, and total petroleum hydrocarbons quantified as diesel range organics (TPH-DRO). The dissolved-phase plume covered an area of 33,435 ft^2 and had a maximum length of approximately 244 linear ft and maximum width of 239 linear ft (Figure 3).

2.0 GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING

This section discusses the installation of additional monitoring wells at Site 6 and the subsequent groundwater sampling of all site monitoring wells, which took place in September and October 2004.

2.1 Installation

On September 22, 2004, a total of five additional monitoring wells were installed at the site in locations recommended in the *Dissolved-Phase Plume Delineation Report for Site 6* (Battelle, 2004). The locations of the new wells (GPT-6-9, GPT-6-10, GPT-6-11, GPT-6-12, and GPT-6-13) are shown on Figure 4. GPT-6-11 and GPT-6-13 were screened from approximately 5 to 15 ft below ground surface (bgs) and GPT-6-9, GPT-6-10, and GPT-6-12 were screened deeper from approximately 20 to 30 ft bgs in order to form three well clusters (shallow and deep) along the leading edge of the dissolved phase plume as defined in the March 2004 field investigation. Soil boring logs and well construction diagrams for the new monitoring wells are included in Appendix A.

Following installation, the positions of the monitoring wells and the top of casing elevations were surveyed in State plane coordinates North American Datum (NAD) of 1983 (1993 adjustment) by a Mississippi licensed surveyor. Table 1 provides a summary of the survey data for the monitoring well, extraction well, and soil-gas monitoring point locations.

2.2 Sampling Methods

On October 20 and 21, 2004, groundwater samples were collected from all Site 6 groundwater monitoring wells and analyzed for VOCs by U.S. EPA Method 8260, SVOCs by U.S. EPA Method 8270, and TPH by U.S. EPA Method 8015. Groundwater samples also were analyzed for natural attenuation parameters, including alkalinity, ethane, ethane, methane, nitrate, sulfate, ferrous iron, manganese, and sulfide. Laboratory analytical methods performed on groundwater samples are summarized in Table 2.

An oil-water interface probe was used to monitor depth to groundwater to the nearest 0.01 ft and to check for the presence of free product. Water-level and free product measurements were taken from the top of casing.

Monitoring wells were sampled following water quality parameter stabilization. A peristaltic pump was used to purge each well. Fresh polyethylene tubing was used to purge and sample each well. During purging, in-line water quality parameters were monitored continuously in a flowthrough cell with Horiba™ U-22. The water quality indicator parameters measured included temperature, pH, turbidity, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Measurements were taken every three to five minutes.

Upon parameter stabilization, sampling was initiated by disconnecting or bypassing the in-line water quality parameter monitoring device for sample collection. Simultaneously, the sample flowrate was adjusted to minimize aeration, bubble formation, turbulent filling of sample bottles, or loss of volatiles due to extended residence time in tubing. A disposable capsule-type groundwater filter was used to filter samples for ferrous iron and manganese analysis.

Laboratory samples were properly preserved, labeled, recorded on a chain-of-custody, and placed in a cooler with ice for shipment. Samples were shipped to an off-site laboratory via overnight courier.

3.0 RESULTS

This section discusses the results of the groundwater monitoring including the hydrogeology and chemical analysis results.

3.1 Hydrogeology

The bioslurper system was turned off on October 19, 2004. Approximately 24 hours following the shutdown of the system, a round of groundwater elevation and product thickness measurements were collected. The groundwater elevations and LNAPL thicknesses measured in the groundwater monitoring wells on October 20 are presented in Table 3. These data were used to create a potentiometric surface map (Figure 5). As shown in this figure, the groundwater flow is generally to the west; however, the groundwater levels may not have returned to static water conditions at the time of measurement.

As shown in Table 3, the only LNAPL measured was a sheen in monitoring well GPT-6-4. Measurable LNAPL appears occasionally in GPT-6-4, GPT-6-6, and GPT-6-8; however, LNAPL thickness has been declining within these wells over time. Monitoring wells GPT-6-2, GPT-6-3, GPT-6-5, and GPT-6-7 have contained no measurable product throughout the bioslurper operation (November 2001 through present). GPT-6-1 contained some measurable product during system startup (maximum thickness measured was 0.86 ft) but has contained less than 0.01 ft since May 2002. Appendix B presents graphs showing LNAPL thickness and groundwater elevation measured in monitoring wells GPT-6-1 through GPT-6-8 over time.

3.2 Chemicals of Concern in Groundwater

The groundwater analytical results for VOC, SVOC, and TPH are summarized in Table 4 and shown on Figure 6. The following chemicals of concern were detected during the sampling event; VOCs (i.e., benzene; 2-butanone; carbon disulfide; chloroethane; 1,1-DCA; 1,2-DCA; *cis*-1,1-DCE; 1,1-DCE; ethylbenzene; 4-methyl-2-pentanone; tetrachloroethene [PCE]; toluene; 1,1,1-trichloroethane [1,1,1-TCA]; trichloroethene [TCE]; vinyl chloride; *o*-xylene; and *m,p*-xylene), SVOCs (i.e., *bis*[2-ethylehexyl]phthalate; 2-methylnaphthalene; and phenanthrene), and TPH-DRO. Only the chemicals detected are shown in the tables and figures. The complete set of analytical data can be found in the analytical laboratory reports, which are included in Appendix C.

The analytical results were compared with the federal MCLs. If no federal MCL existed for the contaminant of concern, the result was compared to the MDEQ Brownfields Voluntary Action and Redevelopment Program Tier 1 TRGs. The Tier 1 lookup table is used to compare site-specific chemical data to the TRGs without performing a more in-depth evaluation of site-specific parameters. The highest chemical concentrations appeared in shallow well GPT-6-4, which is located in the source area (inferred burn pit locations are shown in Figure 6) and is screened from 2.5-12.5 ft bgs. Monitoring well GPT-6-4 was the only well with contaminant concentrations exceeding regulatory limits for any contaminant of concern. The following contaminants of concern were found above regulatory limits: TPH-DRO, chloroethane, vinyl chloride, and *bis*(2-ethylehexyl)phthalate.

Figure 7 presents a comparison of sampling results collected during the 1993 investigation (ABB Environmental Services, 1994) to the recent sampling results from March and October 2004. As described in Section 2.1, GPT-6-9 through GPT-6-13 were installed recently, and therefore, do not have historical data with which to make a comparison. The following observations were made:

- In general, the chemical concentrations have decreased significantly compared to concentrations observed in 1993. The groundwater plume is limited in size, and there is little evidence of migration beyond the source along the predominant groundwater flow direction.
- Background well GPT-6-2 and perimeter well GPT-6-3 contained no detectable contamination in March and October 2004.
- In October 2004, carbon disulfide was detected at concentrations below the reporting limit (<1.0 μg/L) in GPT-6-5 and GPT-6-7, which are deep wells located near or within the source area. TPH-DRO also was detected in GPT-6-7 below the reporting limit of 0.5 mg/L. These compounds were not detected in March 2004.
- In GPT-6-4, naphthalene and chloroethane concentrations decreased, and other chemical concentrations increased slightly in October 2004 compared with March 2004. In GPT-6-6, TPH-DRO and naphthalene concentrations decreased; however, there were slight increases of 1,2-dichlorothane, trichloroethene, and benzene, toluene, ethylbenzene, xylene (BTEX). GPT-6-4 and GPT-6-6 are shallow wells located within or near the former burn pits (Figure 7).

3.3 Natural Attenuation Parameters in Groundwater

Indicators of biodegradation were evaluated to determine the progress of natural attenuation at the site. Natural attenuation refers to physical, chemical, or biological processes that act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants.

Natural attenuation leaves several chemical indicators in the groundwater that may be analyzed to demonstrate the presence of natural attenuation processes. In general, the concentrations of the chemical indicators will be higher or lower in the groundwater plume as biodegradation byproducts accumulate and substrates are depleted. Dissolved fuel compounds also can act as an electron donor supply to support microbial respiration of chlorinated compounds. Therefore, the mixture of petroleum and chlorinated contamination may facilitate biodegradation of chlorinated compounds in the groundwater. A comparison of wells located within the area of contamination to perimeter and background wells was made to evaluate whether monitored natural attenuation (MNA) is viable at the site. Water quality parameters measured during purging are presented in Table 5. Natural attenuation parameters results, including alkalinity, ethane, ethane, ferrous iron, manganese, methane, nitrate-N, sulfate, and sulfide, are summarized in Table 6. Laboratory analytical reports are included in Appendix B. The following evidence supports MNA:

- Dissolved oxygen levels are depleted within the plume. DO was measured at 0.0-0.23 mg/L for wells within the groundwater plume area and 0.23-3.95 mg/L in wells outside the plume. Biodegradation of petroleum compounds consumes dissolved oxygen. Thus, depleted DO within the plume indicates active biodegradation of dissolved petroleum compounds.
- Sulfate levels are lowest (0.75 mg/L) in GPT-6-4 than other wells (>9 mg/L). Sulfide levels are also the greatest in GPT-6-4 (3.79 mg/L). This suggests biodegradation by sulfate reduction to sulfide.
- Methane, ethane, and ethene were elevated in GPT-6-4 compared to other site wells, which suggests biodegradation. Methane levels were also elevated in GPT-6-6 and GPT-6-7.

3.4 Data Validation

Data validation was conducted on laboratory analytical results for VOCs, SVOCs, TPH, dissolved manganese, ferrous iron, wet chemistry, methane, ethane, and ethene by Laboratory Data Consultants, Inc., of Carlsbad, CA. Data were validated at 90% U.S. EPA Level III and 10% U.S. EPA Level IV.

Data validation was performed in accordance with the following documents, as applicable to each of the analytical methods performed:

- U.S. EPA SW-846, Third Edition, Test Methods for Evaluating Solid Waste update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998;
- U.S. EPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999; and
- U.S. EPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994.

Data qualifiers were assigned to the analytical results during the data validation process and were noted in analytical results submitted by the laboratory, which are attached to each data validation report. All data were considered usable for the intended purposes, taking into account the following qualifiers:

- "J" (an estimated value)
- "U" (nondetected)
- "UJ" (nondetected. But the sample detection limit is an estimated value)
- "R" (data is not usable)
- "E" (sample result exceeded calibration range).

Data validation reports were reviewed by Battelle. The data validation reports and support documentation are included in Appendix C. Chemicals including acetone and 2-butanone were flagged as "J" due to initial calibration percent relative standard deviations (%RSD) exceeding the 30.0% National Functional Guideline criteria. Acetone, 2-butanone, bromomethane, 2,4-dintrophenol and benzo(g,h,i)perylene were flagged with a "J" due to continuing calibration percent differences (%D) exceeding the 20% limit. Of those chemicals, the only one detected at the site was 2-butanone, which was only detected in one sample below the federal MCL and Tier 1 TRG. For natural attenuation parameters, the initial calibration for nitrate-N and sulfate was flagged because a blank was not used to establish the calibration curve. Methane also was flagged with a "J" because the sample result exceeded the calibration range. The flags are noted in the summary tables.

Several chemicals including carbon disulfide, ethylbenzene, *m,p*-xylenes, and *o*-xylenes did not meet the relative percent difference (RPD) of 25% for the field duplicate sample. These sample results are below the reporting limit for the method. As a conservative measure, the higher detected concentration was used in the tables and figures.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The following is a summary of observations made during the field investigation:

- Sampling results from the monitoring wells installed downgradient of the source area (GPT-6-9 through 6-13) indicate that the dissolved-phase plume boundary has been defined.

- Overall, the contaminant concentrations at permanent groundwater monitoring wells have decreased significantly when compared to the 1993 investigation. Only one well (i.e., GPT-6-4) has contaminant concentrations that exceed the states Tier 1 TRG. These include chloroethane, vinyl chloride, *bis*(2-ethylhexyl)phthalate, and TPH-DRO. This well is located within the source area.

- Sampling data provide evidence for biodegradation at Site 6. Iron, sulfate, methane, and DO concentrations offer the strongest support that natural attenuation is occurring.

4.2 Recommendations

Groundwater monitoring data suggests that the site may be a good candidate for monitored natural attenuation. The collection of an addition round of groundwater samples from site wells is recommended in February 2005 to obtain representative groundwater concentrations after the system has remained turned off for at least three months. The same parameters will be monitored, including VOCs, SVOCs, TPH, and natural attenuation indicator parameters. During the groundwater monitoring event, groundwater level and LNAPL thickness will be measured in each of the site wells to determine to what extent (if any) that LNAPL rebounds into the wells and to create static water level maps. Where LNAPL is present, the well will be bailed manually to remove LNAPL and the volume of LNAPL will be recorded. In addition, the elevation of the ditch that borders the site to the west will be surveyed. Historical groundwater elevations measured in site wells will be compared to the elevation of the ditch to verify that groundwater does not discharge into the ditch. The information collected during the next groundwater monitoring event will be used to assist a more detailed evaluation of monitored natural attenuation. The groundwater monitoring results, as well as conclusions and recommendations, will be presented in the next semiannual status report for bioslurper implementation at Site 6.

5.0 REFERENCES

ABB Environmental Services. 1994. *Free-Phase Product Assessment Report, Site 6, Fire Fighting Training Area, Naval Construction Battalion Center Gulfport, Gulfport, Mississippi*. July.

Battelle. 2003. *Work Plan for Delineation of the Dissolved-Phase Plume at Naval Construction Battalion Center Gulfport, Mississippi*. Prepared for Southern Division Naval Facilities Engineering Command. July 2.

Battelle. 2004. *Dissolved-Phase Plume Delineation Investigation for Site 6 at Naval Construction Battalion Center Gulfport, Mississippi*. Prepared for Southern Division Naval Facilities Engineering Command. June 24.

Mississippi Department of Environmental Quality (MDEQ). 2002. *Risk Evaluation Procedures for Voluntary Cleanup and Redevelopment of Brownfields Sites*. February.

United States Environmental Protection Agency (U.S. EPA). 2002. *Current Drinking Water Standards*. EPA/816/F-02/013. Available at: http://www.epa.gov/safewater/mcl.html.

TetraTech NUS, Inc. 2000. Draft Letter Report of Findings NCBC Gulfport – Site 6. Prepared for Southern Division Naval Facilities Engineering Command under CLEAN contract No. N62467-94-D0888, Contract Task Order No. 0125.

TABLES

Table 1. Extraction Wells, Monitoring Wells, and Soil-Gas Monitoring Points

Location	Northing	Easting	Top of Casing (ft)	Ground Elevation (ft)
EW-01	317997.380	888769.249	29.60	28.60
EW-02	317977.293	888789.222	29.36	28.41
EW-03	317997.104	888789.479	29.68	28.75
EW-04	318018.488	888789.215	29.96	28.99
EW-05	318057.341	888789.224	29.72	28.80
EW-06	318077.290	888789.211	29.95	28.93
EW-07	318097.361	888789.159	30.15	29.15
EW-08	317977.850	888810.680	29.51	28.51
EW-09	317997.494	888809.340	29.73	28.77
EW-10	318017.359	888809.215	29.91	28.96
EW-11	318037.290	888809.345	29.81	28.81
EW-12	318057.329	888809.120	30.09	29.07
EW-13	317977.199	888829.291	29.79	28.79
EW-14	317997.435	888829.229	29.52	28.52
EW-15	318036.909	888829.704	29.72	28.67
EW-16	318057.326	888829.132	29.84	28.84
EW-17	318077.341	888829.204	28.66	29.66
EW-18	318092.669	888828.425	28.82	29.82
EW-19	318016.658	888837.032	29.54	28.90
EW-20	318048.959	888846.207	29.79	28.85
EW-21	318085.671	888846.744	28.81	29.81
EW-22	318067.424	888771.211	29.05	28.31
EW-23	318087.081	888771.345	28.97	28.27
GPT-6-1	317987.217	888794.701	30.67	28.67
GPT-6-2	317987.812	888883.783	30.83	28.80
GPT-6-3	318054.491	888741.169	27.26	25.57
GPT-6-4	318068.617	888804.329	31.55	29.45
GPT-6-5	318063.491	888803.272	31.39	29.34
GPT-6-6	317993.943	888752.799	29.24	27.49
GPT-6-7	317993.778	888758.385	30.51	27.95
GPT-6-8	317965.377	888805.254	30.57	28.52
GPT-6-9	318066.813	888665.427	28.75	29.20
GPT-6-10	318208.719	888661.048	27.87	28.40
GPT-6-11	318208.752	888657.327	27.94	28.39
GPT-6-12	318200.433	888741.703	28.38	28.72
GPT-6-13	318200.444	888745.899	28.06	28.71
GPT-6-PZ4	318062.884	888665.669	28.59	29.09
SOIL GAS-1	318077.359	888779.424	NA	28.64
SOIL GAS-2	318046.781	888817.663	NA	28.87
SOIL GAS-3	318027.967	888797.765	NA	28.91
SOIL GAS-4	318008.780	888818.560	NA	28.98
SOIL GAS-5	317988.502	888819.456	NA	28.61

NA = not applicable.
State plane coordinates NAD 83 (1993 Adjustment).

Table 2. Summary of Chemical Analyses

Analyte	Laboratory Method	Sampling Bottles	Preservative	Special Instructions
VOC	8260B	40 mL VOA	HCl	No headspace
SVOC	8270C	1-Liter Amber	None	None
TPH-DRO	8015B	1-Liter Amber	None	None
Ethene, Ethane, Methane	RSK-175	40 mL VOA	HCl	None
Nitrate/Sulfate	9056	125-mL plastic	None	None
Ferrous Iron	3500	125-mL plastic	HNO_3	Filter sample
Manganese	6010B	125-mL plastic	HNO_3	Filter sample
Alkalinity	310.1	125-mL plastic	None	None
Sulfide	376.1	125-mL plastic	Zinc Acetate	None

VOA = volatile organic analysis.

Table 3. Groundwater Elevations and LNAPL Thicknesses in Site 6 Monitoring Wells Measured on October 20, 2004

Well ID	Top of Casing Elevation (ft msl)	Screen Interval (ft bgs)	DTP (ft btoc)	DTW (ft btoc)	Groundwater Elevation (ft msl)	Groundwater Elevation[a] (ft msl)	LNAPL Thickness (ft)
GPT-6-1	30.67	3-27.5	--	8.26	22.41	22.41	0.0
GPT-6-2	30.83	3-22	--	8.27	22.56	22.56	0.0
GPT-6-3	27.26	3-22	--	4.83	22.43	22.43	0.0
GPT-6-4	31.55	2.5-12.5	sheen	9.08	22.47	22.47	0.0
GPT-6-5	31.39	26.5-31.5	--	8.93	22.46	22.46	0.0
GPT-6-6	29.24	2.5-12.5	--	6.89	22.35	22.35	0.0
GPT-6-7	30.51	39.5 - 44.5	--	12.40	18.11	18.11	0.0
GPT-6-8	30.57	12.5-12.5	--	8.28	22.29	22.29	0.0
GPT-6-9	28.75	20-30	--	6.37	22.38	22.38	0.0
GPT-6-10	27.87	20-30	--	5.52	22.35	22.35	0.0
GPT-6-11	27.94	5-15	--	5.56	22.38	22.38	0.0
GPT-6-12	28.38	20-30	--	5.94	55.44	55.44	0.0
GPT-6-13	28.06	5-15	--	5.61	22.45	22.45	0.0
GPT-6-PZ4	28.59	5-15	--	6.59	22.00	22.00	0.0

(a) Corrected groundwater elevation = TOC Elevation – ((1 - 0.81)*DTW + (0.81*DTP))
DTP = depth to product.
DTW = depth to water.
btoc = below top of casing.

Table 4. Chemicals Detected in Samples from Groundwater Monitoring Wells, October 2004

Type of Monitoring Well							Background	Plume Characterization			
Parameter	U.S. EPA Method	Units	MDL	RL	Federal MCL	Tier 1 TRG	GPT-6-2	GPT-6-1	GPT-6-3	GPT-6-4	GPT-6-5[1]
Benzene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	1.4	ND
2-Butanone	8260B	µg/L	5	10	NA	1,910	ND	ND	ND	7.3 J	ND
Carbon Disulfide	8260B	µg/L	0.2	1	NA	1,040	ND	0.5J	ND	4.7	0.28 J
Chloroethane	8260B	µg/L	0.2	2	70	70	ND	ND	ND	**180 E**	ND
cis-1,2-dichloroethene	8260B	µg/L	0.2	1	NA	3.64	ND	ND	ND	1.4	ND
1,1-Dichloroethane	8260B	µg/L	0.2	1	NA	798	ND	ND	ND	80 E	ND
1,2-Dichloroethane	8260B	µg/L	0.2	1	5	5	ND	ND	ND	1.2	ND
1,1-Dichloroethene	8260B	µg/L	0.2	1	7	7	ND	ND	ND	5.8	ND
Ethylbenzene	8260B	µg/L	0.2	1	700	700	ND	ND	ND	1.9	ND
4-Methyl-2-Pentanone	8260B	µg/L	1	10	NA	139	ND	ND	ND	1.9 J	ND
Tetrachloroethene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	0.24J	ND
Toluene	8260B	µg/L	0.2	1	1,000	1,000	ND	ND	ND	14	ND
1,1,1-Trichloroethane	8260B	µg/L	0.2	1	200	200	ND	ND	ND	16	ND
Trichloroethene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	1 J	ND
Vinyl Chloride	8260B	µg/L	0.3	1	2	2	ND	ND	ND	**110 E**	ND
o-Xylene	8260B	µg/L	0.2	1	10,000	12,200	ND	ND	ND	2.3	ND
m,p-Xylene	8260B	µg/L	0.3	2	10,000	12,200	ND	ND	ND	7.4	ND
bis(2-ethylhexyl)phthalate	8270C	µg/L	10	20	6	6	ND	ND	ND	**32**	ND
2-Methylnaphthalene	8270C	µg/L	5	10	NA	122	ND	ND	ND	14	ND
Phenanthrene	8270C	µg/L	6	20	NA	1,100	ND	ND	ND	6.6 J	ND
TPH-DRO	8015B	mg/L	0.1	0.5	NA	0.65	ND	0.29J	ND	**3.00**	ND

(1) Well screened at deep interval.
ND = not detected.
Shading indicates that concentration exceeds the federal MCL or Tier 1 TRG.

Table 4. Chemicals Detected in Samples from Groundwater Monitoring Wells, October 2004 (Cont.)

	Type of Monitoring Well						Plume Characterization				Perimeter
Parameter	U.S. EPA Method	Units	MDL	RL	Federal MCL	Tier 1 TRG	GPT-6-6	GPT-6-7[1]	GPT-6-8	GPT-6-8-DUP	GPT-6-9[1]
Benzene	8260B	µg/L	0.2	1	5	5	0.6 J	ND	ND	ND	ND
2-Butanone	8260B	µg/L	5	10	NA	1,910	ND	ND	ND	ND	ND
Carbon Disulfide	8260B	µg/L	0.2	1	NA	1,040	0.5 J	0.42 J	0.55 J	0.43 J	ND
Chloroethane	8260B	µg/L	0.2	2	70	70	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	8260B	µg/L	0.2	1	NA	3.64	3	ND	ND	ND	ND
1,1-Dichloroethane	8260B	µg/L	0.2	1	NA	798	ND	ND	ND	ND	ND
1,2-Dichloroethane	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	8260B	µg/L	0.2	1	7	7	ND	ND	ND	ND	0.42 J
Ethylbenzene	8260B	µg/L	0.2	1	700	700	0.65 J	ND	0.29 J	0.31 J	ND
4-Methyl-2-Pentanone	8260B	µg/L	1	10	NA	139	ND	ND	ND	ND	ND
Tetrachloroethene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
Toluene	8260B	µg/L	0.2	1	1,000	1,000	1.8	ND	ND	ND	ND
1,1,1-Trichloroethane	8260B	µg/L	0.2	1	200	200	ND	ND	ND	ND	ND
Trichloroethene	8260B	µg/L	0.2	1	5	5	0.28	ND	ND	ND	ND
Vinyl Chloride	8260B	µg/L	0.3	1	2	2	ND	ND	ND	ND	ND
o-Xylene	8260B	µg/L	0.2	1	10,000	12,200	1.2	ND	0.7 J	0.88 J	ND
m,p-Xylene	8260B	µg/L	0.3	2	10,000	12,200	1.6 J	ND	0.39 J	0.47 J	ND
bis(2-ethylhexyl)phthalate	8270C	µg/L	10	20	6	6	ND	ND	ND	ND	ND
2-Methylnaphthalene	8270C	µg/L	5	10	NA	122	ND	ND	ND	ND	ND
Phenanthrene	8270C	µg/L	6	20	NA	1,100	ND	ND	ND	ND	ND
TPH-DRO	8015	mg/L	0.1	0.5	NA	0.65	0.45 J	0.15 J	0.22 J	0.24 J	ND

(1) Well screened at deep interval.
ND = not detected.
Shading indicates that concentration exceeds the federal MCL or Tier 1 TRG.

Table 4. Chemicals Detected in Samples from Groundwater Monitoring Wells, October 2004 (Cont.)

Type of Monitoring Well							Perimeter				
Parameter	U.S. EPA Method	Units	MDL	RL	Federal MCL	Tier 1 TRG	GPT-6-10[1]	GPT-6-11	GPT-6-12[1]	GPT-6-13	GPT-6-PZ4
Benzene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
2-Butanone	8260B	µg/L	5	10	NA	1,910	ND	ND	ND	ND	ND
Carbon Disulfide	8260B	µg/L	0.2	1	NA	1,040	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	8260B	µg/L	0.2	2	70	70	ND	ND	ND	ND	ND
Chloroethane	8260B	µg/L	0.2	1	NA	3.64	ND	ND	ND	ND	ND
1,1-Dichloroethane	8260B	µg/L	0.2	1	NA	798	ND	ND	ND	ND	ND
1,2-Dichloroethane	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	8260B	µg/L	0.2	1	7	7	0.21J	ND	0.24J	ND	ND
Ethylbenzene	8260B	µg/L	0.2	1	700	700	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	8260B	µg/L	1	10	NA	139	ND	ND	ND	ND	ND
Tetrachloroethene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
Toluene	8260B	µg/L	0.2	1	1,000	1,000	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	8260B	µg/L	0.2	1	200	200	ND	ND	ND	ND	ND
Trichloroethene	8260B	µg/L	0.2	1	5	5	ND	ND	ND	ND	ND
Vinyl Chloride	8260B	µg/L	0.3	1	2	2	ND	ND	ND	ND	ND
o-Xylene	8260B	µg/L	0.2	1	10,000	12,200	ND	ND	ND	ND	ND
m,p-Xylene	8260B	µg/L	0.3	2	10,000	12,200	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	8270C	µg/L	10	20	6	6	ND	ND	ND	ND	ND
2-Methylnaphthalene	8270C	µg/L	5	10	NA	122	ND	ND	ND	ND	ND
Phenanthrene	8270C	µg/L	6	20	NA	1,100	ND	ND	ND	ND	ND
TPH-DRO	8015	mg/L	0.1	0.5	NA	0.65	ND	ND	ND	ND	ND

(1) Well screened at deep interval.
ND = not detected.
Bold number indicates that concentration exceeds the federal MCL or Tier 1 TRG.

Table 5. Field Parameter Measurements During Groundwater Sampling, October 2004

Monitoring Well ID	Volume Purged (L)	pH	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Temperature (°C)
Background							
GPT-6-2	1	4.85	0.087	-8.1	1.67	208	24.9
	2	4.90	0.074	-8.8	0.75	226	24.9
	3	4.88	0.073	3.5	0.58	227	24.9
	4	4.88	0.073	9.5	0.52	225	24.8
	5	**4.88**	**0.073**	**4.6**	**0.49**	**222**	**24.8**
Plume Characterization							
GPT-6-1	2	4.85	0.086	-10.0	2.62	92	24.0
	3	4.77	0.082	-10.0	0.59	89	23.6
	4	4.73	0.082	-10.0	0.57	88	23.6
	5	4.70	0.081	-10.0	0.23	89	23.5
	6	**4.68**	**0.080**	**-10.0**	**0.07**	**89**	**23.5**
GPT-6-3	3	4.73	0.082	85.3	1.26	215	25.1
	4	4.73	0.079	999.0	0.64	214	25.0
	5	4.70	0.079	67.1	0.53	217	24.9
	6	4.76	0.078	21.9	0.33	213	24.7
	7	**4.91**	**0.078**	**35.7**	**0.24**	**212**	**24.7**
GPT-6-4	3	6.58	0.770	-10.0	0.81	-142	26.1
	4	6.64	0.785	-10.0	0.00	-164	26.0
	5	6.60	0.741	-10.0	0.00	-165	25.8
	6	6.60	0.739	-10.0	0.00	-167	25.9
	7	**6.64**	**0.754**	**-10.0**	**0.00**	**-180**	**26.0**
GPT-6-5	1	5.38	0.107	-10.0	0.62	30	25.4
	2	5.47	0.107	32.4	0.11	33	24.6
	3	5.24	0.107	21.4	0.00	36	24.4
	4	5.25	0.107	20.1	0.00	35	24.5
	5	**5.27**	**0.107**	**-10.0**	**0.00**	**34**	**24.7**
GPT-6-6	1	4.98	0.072	0.0	1.50	39	25.5
	2	4.91	0.074	42.4	0.20	50	25.3
	3	4.90	0.074	25.0	0.00	54	25.3
	4	5.01	0.075	17.2	0.00	37	25.3
	5	**5.00**	**0.075**	**51.8**	**0.00**	**37**	**25.3**
GPT-6-7	1	5.18	0.096	-2.9	2.28	51	23.3
	2	5.20	0.096	-10.0	0.60	45	23.2
	3	5.20	0.096	95.4	0.29	43	23.1
	4	5.17	0.096	91.4	0.07	45	23.0
	5	**5.17**	**0.096**	**75.0**	**0.00**	**45**	**23.0**
GPT-6-8	3	4.99	0.093	-10.0	1.01	60	24.6
	4	4.95	0.092	-10.0	0.04	55	24.5
	5	4.93	0.092	-10.0	0.00	50	24.5
	6	4.94	0.091	-10.0	0.00	48	24.5
	7	**4.97**	**0.091**	**-10.0**	**0.00**	**43**	**24.5**

Table 5. Field Parameter Measurements During Groundwater Sampling, October 2004 (Cont.)

Monitoring Well ID	Total Volume Recovered (L)	pH	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Temperature (°C)
Perimeter							
GPT-6-9	11	5.08	0.096	118	2.17	110	24.6
	12	5.04	0.096	70.9	1.61	106	24.6
	13	5.05	0.094	149	1.24	97	24.5
	14	5.03	0.096	33.2	0.96	91	24.7
	15	**5.05**	**0.096**	**24.8**	**0.46**	**87**	**24.9**
GPT-6-10	9	5.92	0.153	144	2.95	6	26.2
	10	5.91	0.156	68.7	1.13	1	25.5
	11	5.90	0.157	65.8	0.66	-1	25.5
	12	**5.91**	**0.158**	**69.7**	**0.54**	**-3**	**25.5**
GPT-6-11	12	5.94	0.201	163	1.89	142	26.4
	13	5.93	0.196	133	0.99	137	26.4
	14	5.92	0.186	119	1.02	135	26.3
	15	5.91	0.184	55.5	0.73	129	26.4
	16	**5.91**	**0.174**	**21.9**	**0.70**	**127**	**26.5**
GPT-6-12	13	5.06	0.109	156	0.66	102	25.1
	14	5.07	0.108	134	0.49	99	25.1
	15	5.05	0.108	139	0.30	99	25.1
	16	**5.07**	**0.107**	**149**	**0.23**	**97**	**25.4**
GPT-6-13	19	5.01	0.075	242	0.81	121	26.4
	20	5.00	0.076	203	1.17	121	26.4
	21	4.99	0.075	172	0.63	118	26.5
	22	**4.97**	**0.076**	**144**	**0.44**	**119**	**26.6**
GPT6-PZ4	1.5	6.27	0.287	12.6	6.58	228	26.5
	3.0	6.32	0.285	N/A	4.40	217	26.6
	4.5	6.31	0.284	N/A	4.32	215	26.6
	6.0	6.33	0.281	N/A	4.36	212	26.7
	7.5	6.33	0.278	N/A	4.10	208	26.7
	9.0	**6.33**	**0.278**	**N/A**	**3.95**	**207**	**26.7**

NA = not analyzed.

Table 6. Natural Attenuation Parameters Detected in Samples from Groundwater Monitoring Wells, October 2004

Parameter	Alkalinity (mg/L)	Ethane (µg/L)	Ethene (µg/L)	Ferrous Iron (mg/L)	Manganese (µg/L)	Methane (µg/L)	Nitrate-N (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)
Background									
GPT-6-2	5.03	ND	ND	20.9	2.2J	6.2	0.189	13.4	ND
Plume Characterization									
GPT-6-1	5.03	ND	ND	ND	15.9	45	ND	14.8	ND
GPT-6-3	ND	ND	ND	24.1	16.9	25	ND	12.8	ND
GPT-6-4	347	0.66J	3.8	33.4	95.2	4,600	ND	0.75	3.79
GPT-6-5	15.1	ND	ND	387	68.9	85	ND	15.8	ND
GPT-6-6	7.57	ND	ND	28.9	8.63 J	640	ND	9.34	1.35
GPT-6-7	11.1	ND	ND	439	52.6	360	ND	9.09	ND
GPT-6-8	8.5	ND	ND	83.6	5.98 J	19	ND	19.3	1.08
GPT-6-8-DUP	7.55	ND	ND	79.4	5.97 J	17	ND	18.6	1.26
Perimeter									
GPT-6-9	5.55	ND	ND	385	74.6	36	ND	9.88	ND
GPT-6-10	48	ND	ND	173	158	35	ND	11.3	ND
GPT-6-11	55.5	ND	ND	19.3	38.9	3.7	0.081J	11.2	ND
GPT-6-12	9.09	ND	ND	298	66.4	110	ND	20.7	ND
GPT-6-13	5.55	ND	ND	50.1	65.9	9.3	ND	15.4	ND
GPT-6-PZ4	111	ND	ND	ND	1.46 J	0.84 J	0.177	ND	ND
U.S. EPA Method	310.1	RSK175	RSK175	3500	6010B	RSK-175	9056	9056	376.1
MDL	1	0.6	0.7	2.5	1	0.6	0.05	0.2	0.11
RL	5	1.5	1.5	5	10	1.2	0.1	0.5	1

ND = not detected.
RL = reporting limit.

FIGURES

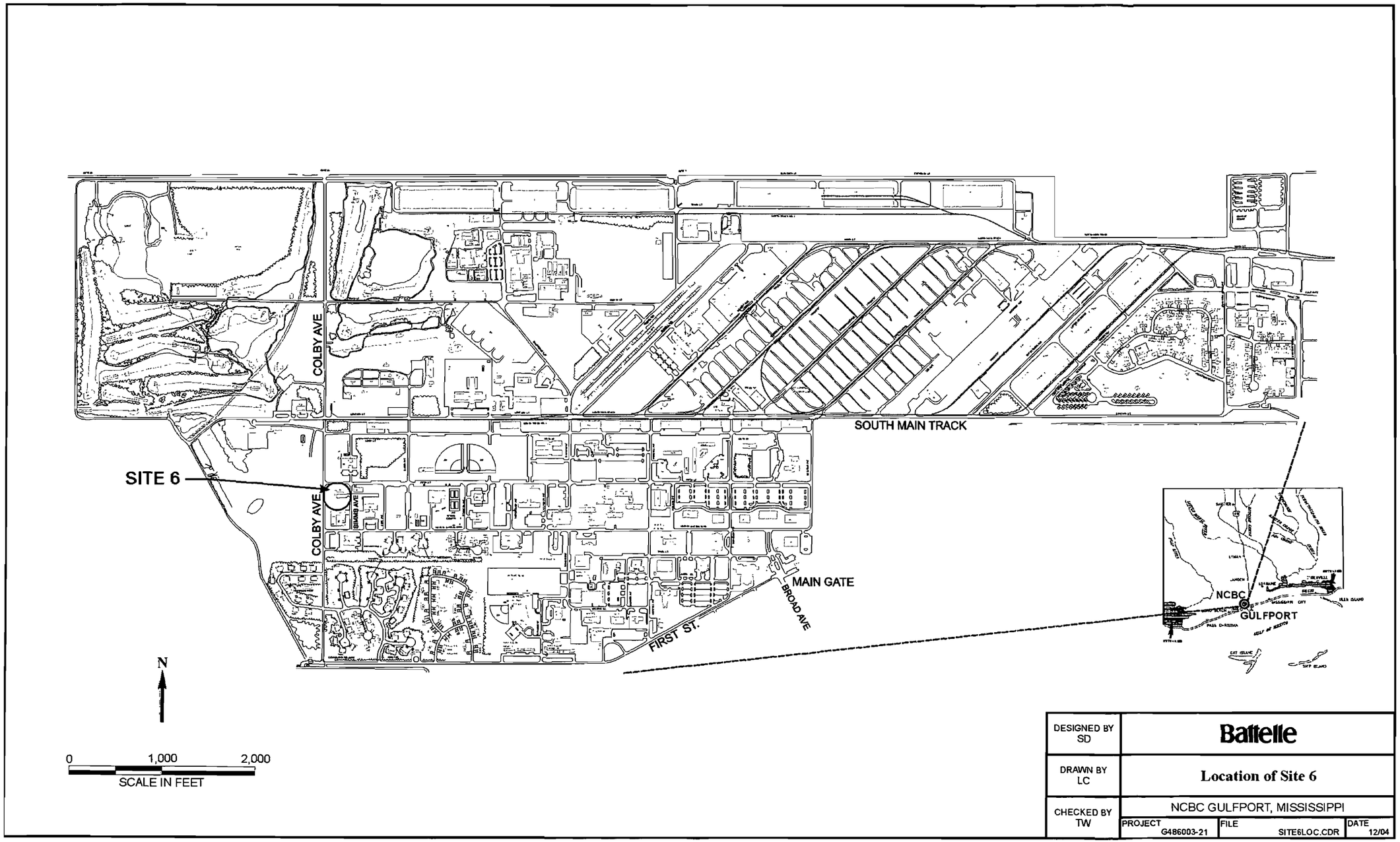


Figure 1. Location of Site 6

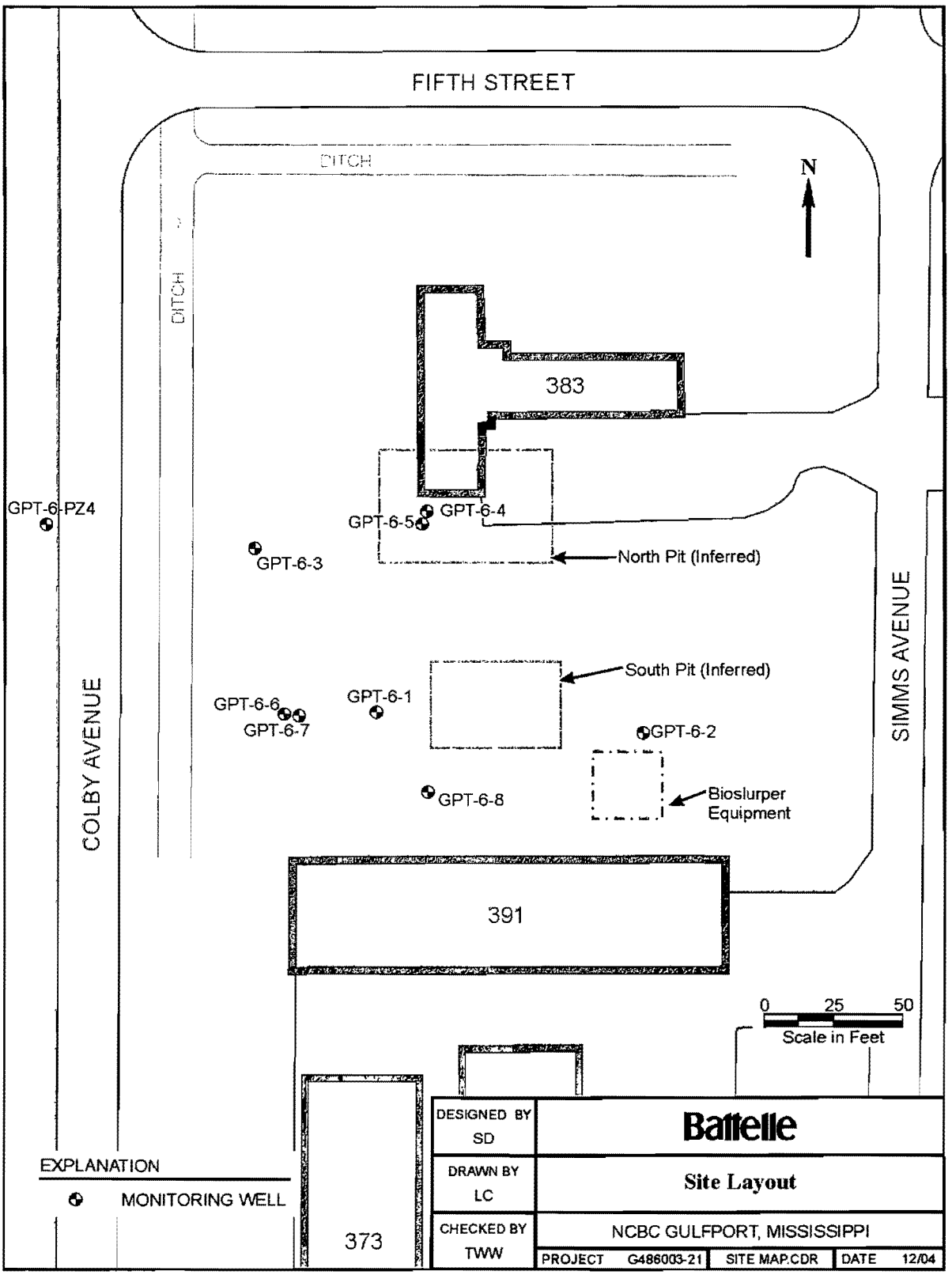


Figure 2. Site Layout

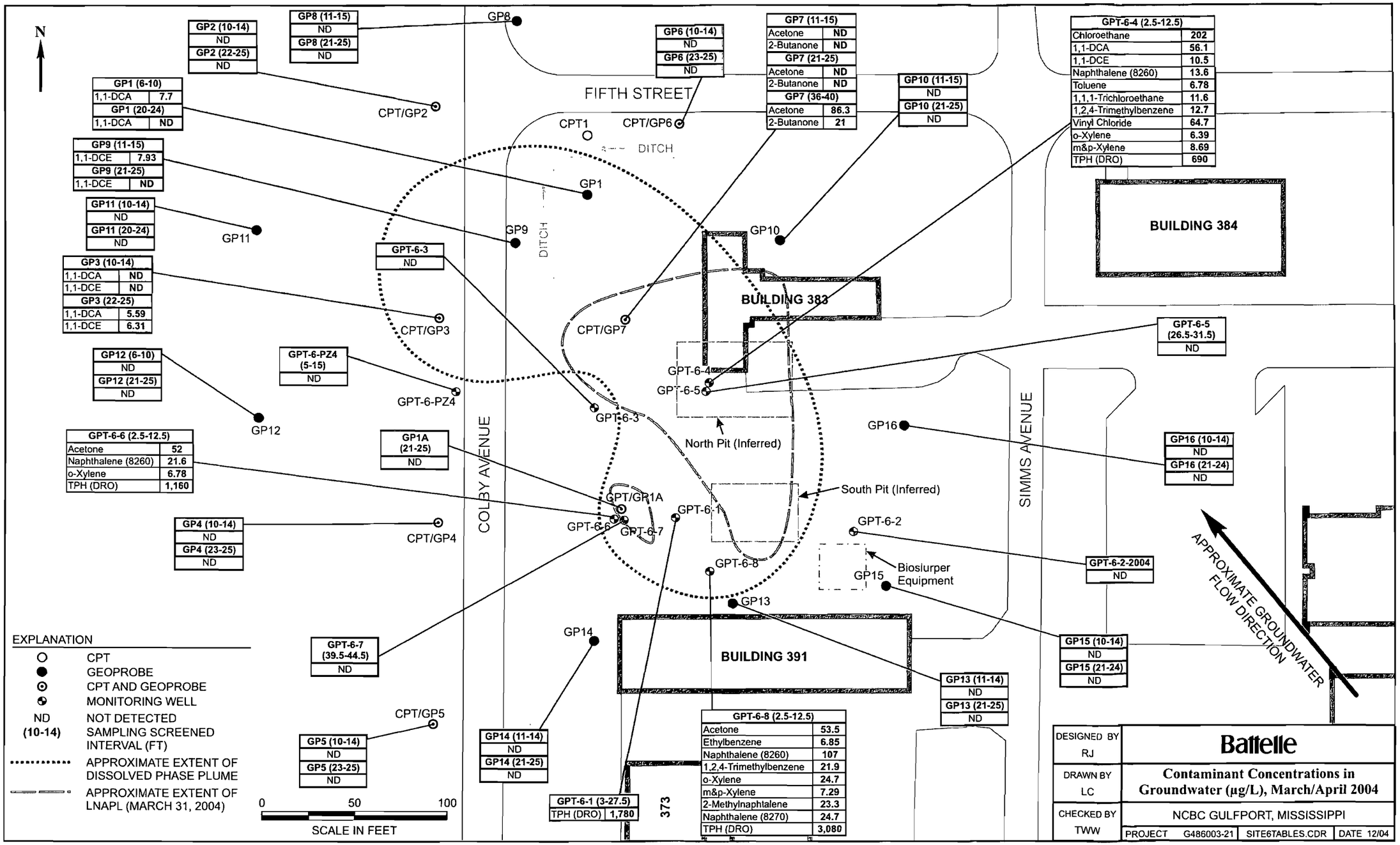


Figure 3. Groundwater Sampling Results for the March/April 2004 Plume Delineation Investigation

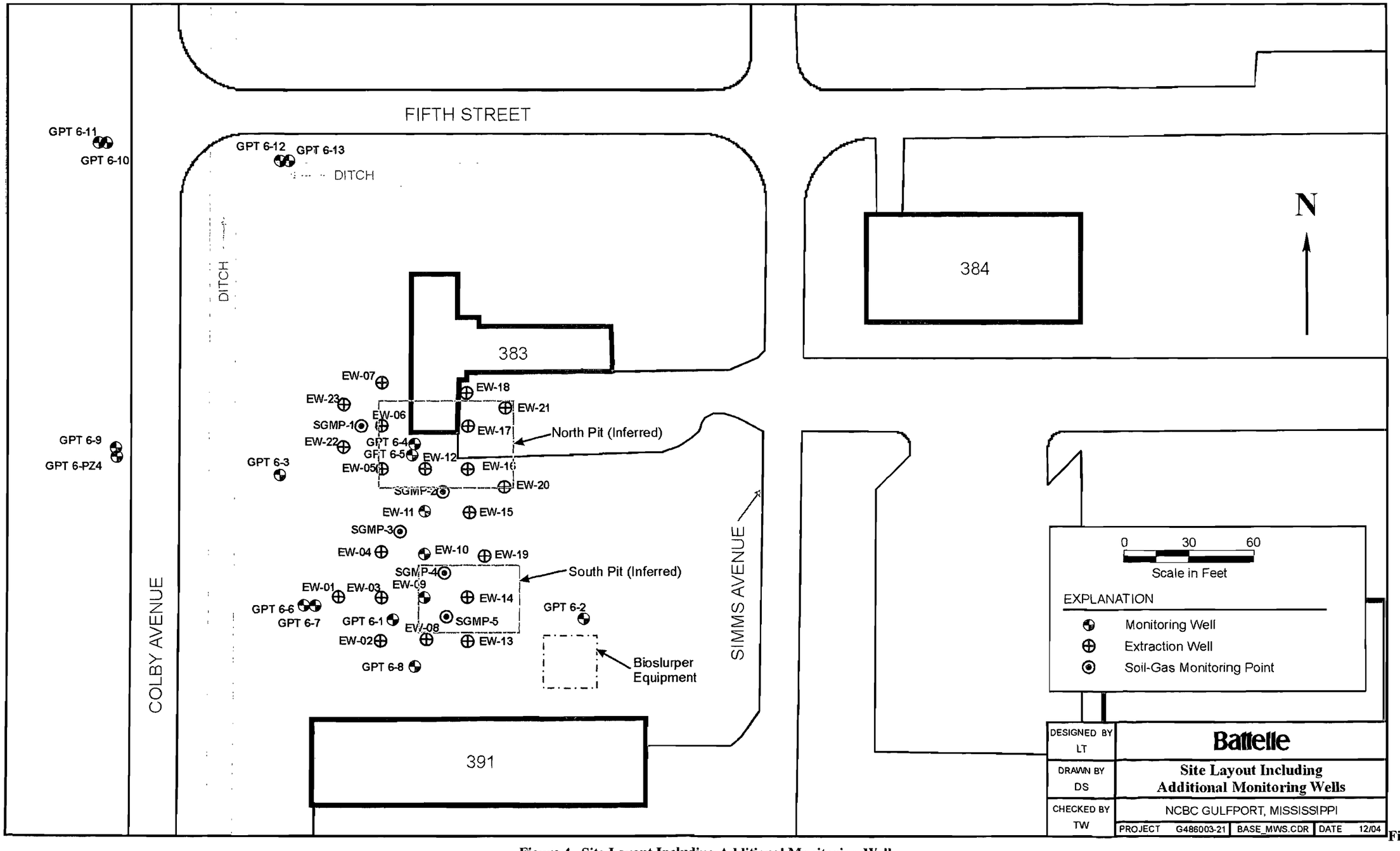


Figure 4. Site Layout Including Additional Monitoring Wells

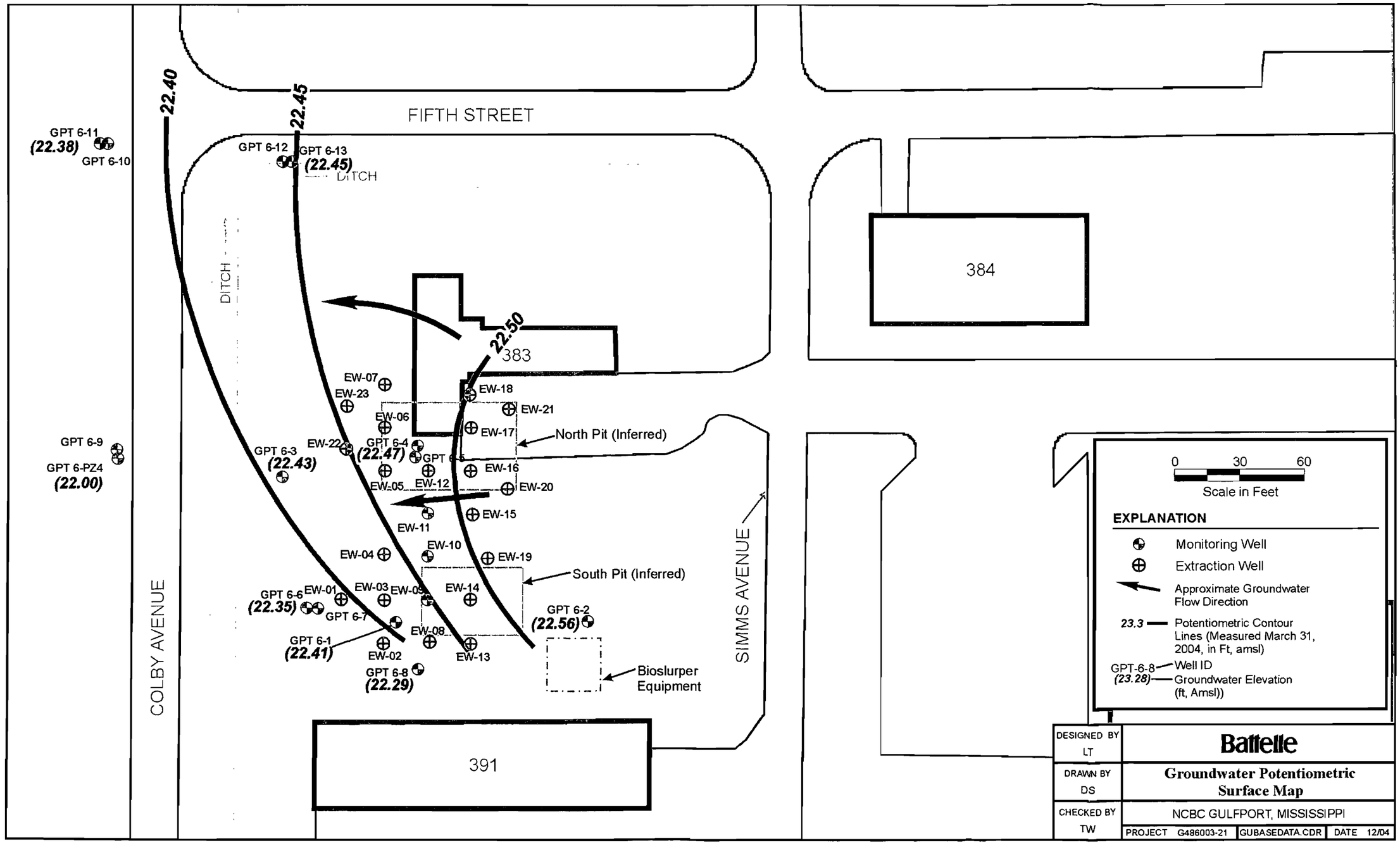
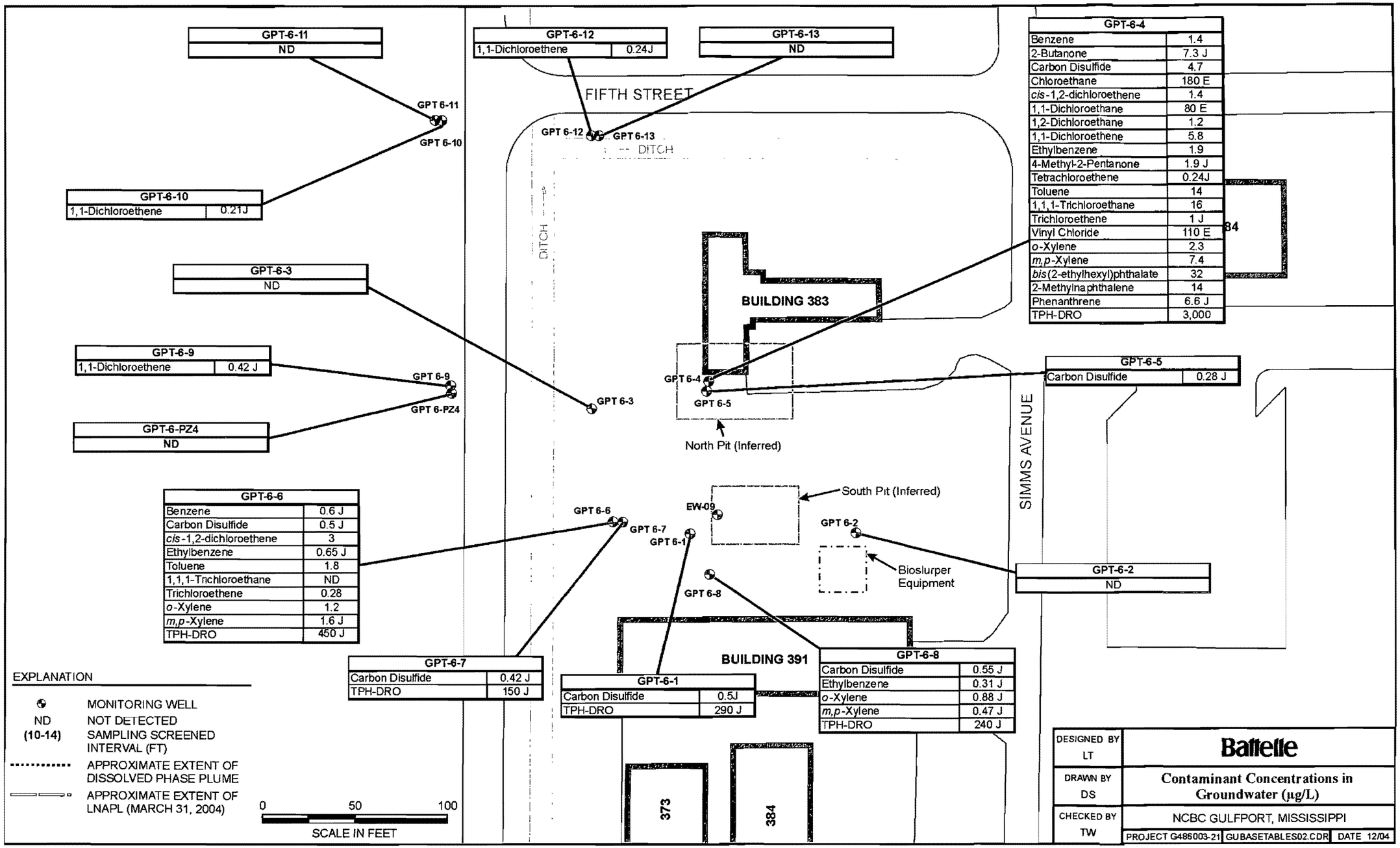
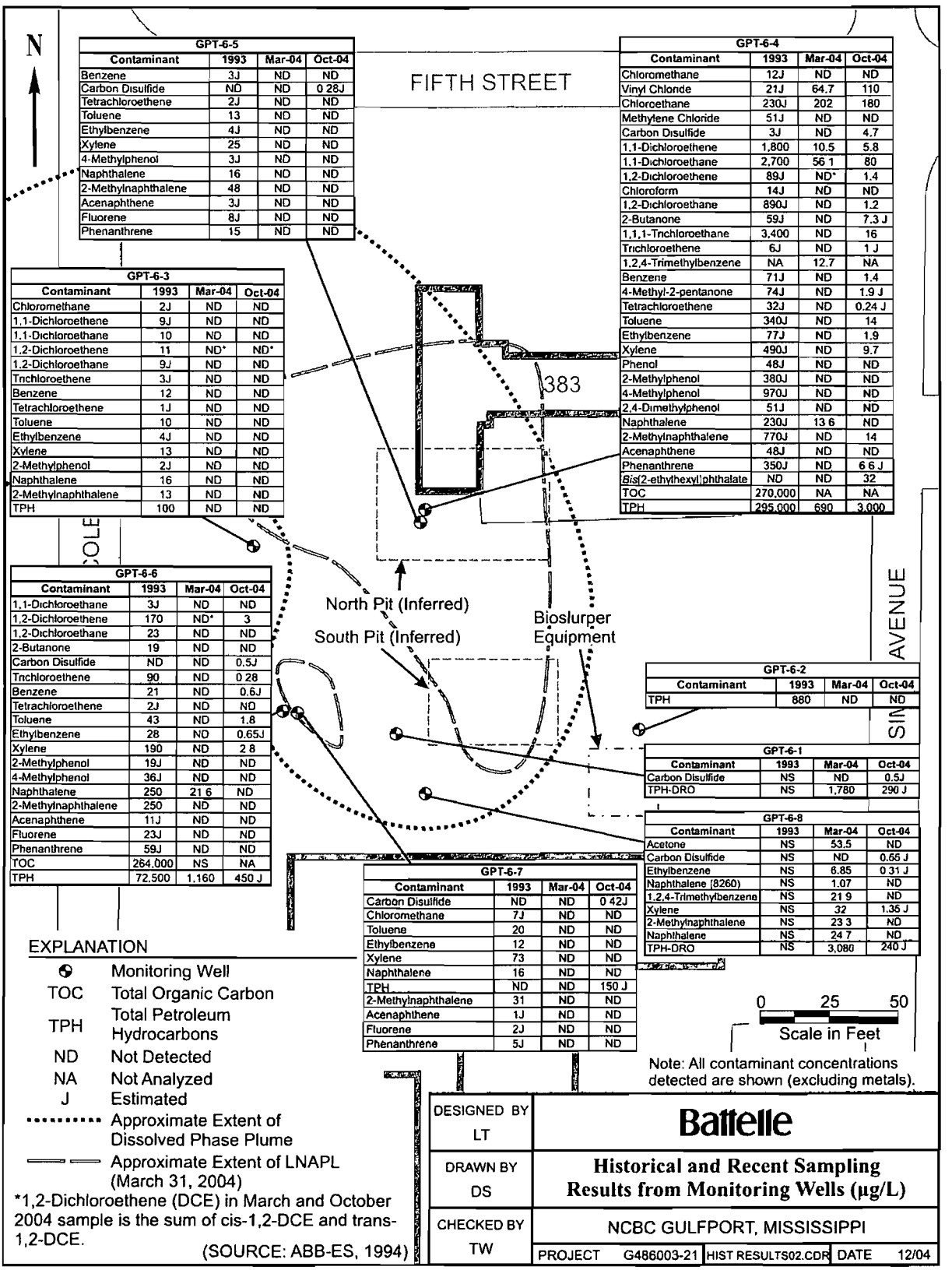


Figure 5. Groundwater Potentiometric Surface Map



GPT-6-4	
Benzene	1.4
2-Butanone	7.3 J
Carbon Disulfide	4.7
Chloroethane	180 E
cis-1,2-dichloroethene	1.4
1,1-Dichloroethane	80 E
1,2-Dichloroethane	1.2
1,1-Dichloroethene	5.8
Ethylbenzene	1.9
4-Methyl-2-Pentanone	1.9 J
Tetrachloroethene	0.24J
Toluene	14
1,1,1-Trichloroethane	16
Trichloroethene	1 J
Vinyl Chloride	110 E
o-Xylene	2.3
m,p-Xylene	7.4
bis(2-ethylhexyl)phthalate	32
2-Methylnaphthalene	14
Phenanthrene	6.6 J
TPH-DRO	3,000

Figure 6. Contaminant Concentrations in Groundwater October 2004 (µg/L)



GPT-6-5

Contaminant	1993	Mar-04	Oct-04
Benzene	3J	ND	ND
Carbon Disulfide	ND	ND	0 28J
Tetrachloroethene	2J	ND	ND
Toluene	13	ND	ND
Ethylbenzene	4J	ND	ND
Xylene	25	ND	ND
4-Methylphenol	3J	ND	ND
Naphthalene	16	ND	ND
2-Methylnaphthalene	48	ND	ND
Acenaphthene	3J	ND	ND
Fluorene	8J	ND	ND
Phenanthrene	15	ND	ND

GPT-6-4

Contaminant	1993	Mar-04	Oct-04
Chloromethane	12J	ND	ND
Vinyl Chloride	21J	64.7	110
Chloroethane	230J	202	180
Methylene Chloride	51J	ND	ND
Carbon Disulfide	3J	ND	4.7
1,1-Dichloroethene	1,800	10.5	5.8
1,1-Dichloroethane	2,700	56 1	80
1,2-Dichloroethene	89J	ND*	1.4
Chloroform	14J	ND	ND
1,2-Dichloroethane	890J	ND	1.2
2-Butanone	59J	ND	7.3 J
1,1,1-Trichloroethane	3,400	ND	16
Trichloroethene	6J	ND	1 J
1,2,4-Trimethylbenzene	NA	12.7	NA
Benzene	71J	ND	1.4
4-Methyl-2-pentanone	74J	ND	1.9 J
Tetrachloroethene	32J	ND	0.24 J
Toluene	340J	ND	14
Ethylbenzene	77J	ND	1.9
Xylene	490J	ND	9.7
Phenol	48J	ND	ND
2-Methylphenol	380J	ND	ND
4-Methylphenol	970J	ND	ND
2,4-Dimethylphenol	51J	ND	ND
Naphthalene	230J	13 6	ND
2-Methylnaphthalene	770J	ND	14
Acenaphthene	48J	ND	ND
Phenanthrene	350J	ND	6 6 J
Bis(2-ethylhexyl)phthalate	ND	ND	32
TOC	270,000	NA	NA
TPH	295,000	690	3,000

GPT-6-3

Contaminant	1993	Mar-04	Oct-04
Chloromethane	2J	ND	ND
1,1-Dichloroethene	9J	ND	ND
1,1-Dichloroethane	10	ND	ND
1,2-Dichloroethene	11	ND*	ND*
1,2-Dichloroethane	9J	ND	ND
Trichloroethene	3J	ND	ND
Benzene	12	ND	ND
Tetrachloroethene	1J	ND	ND
Toluene	10	ND	ND
Ethylbenzene	4J	ND	ND
Xylene	13	ND	ND
2-Methylphenol	2J	ND	ND
Naphthalene	16	ND	ND
2-Methylnaphthalene	13	ND	ND
TPH	100	ND	ND

GPT-6-6

Contaminant	1993	Mar-04	Oct-04
1,1-Dichloroethane	3J	ND	ND
1,2-Dichloroethene	170	ND*	3
1,2-Dichloroethane	23	ND	ND
2-Butanone	19	ND	ND
Carbon Disulfide	ND	ND	0.5J
Trichloroethene	90	ND	0 28
Benzene	21	ND	0.6J
Tetrachloroethene	2J	ND	ND
Toluene	43	ND	1.8
Ethylbenzene	28	ND	0.65J
Xylene	190	ND	2 8
2-Methylphenol	19J	ND	ND
4-Methylphenol	36J	ND	ND
Naphthalene	250	21 6	ND
2-Methylnaphthalene	250	ND	ND
Acenaphthene	11J	ND	ND
Fluorene	23J	ND	ND
Phenanthrene	59J	ND	ND
TOC	264,000	NS	NA
TPH	72,500	1,160	450 J

GPT-6-2

Contaminant	1993	Mar-04	Oct-04
TPH	880	ND	ND

GPT-6-1

Contaminant	1993	Mar-04	Oct-04
Carbon Disulfide	NS	ND	0.5J
TPH-DRO	NS	1,780	290 J

GPT-6-8

Contaminant	1993	Mar-04	Oct-04
Acetone	NS	53.5	ND
Carbon Disulfide	NS	ND	0.66 J
Ethylbenzene	NS	6.85	0 31 J
Naphthalene (8260)	NS	1.07	ND
1,2,4-Trimethylbenzene	NS	21 9	ND
Xylene	NS	32	1.35 J
2-Methylnaphthalene	NS	23 3	ND
Naphthalene	NS	24 7	ND
TPH-DRO	NS	3,080	240 J

GPT-6-7

Contaminant	1993	Mar-04	Oct-04
Carbon Disulfide	ND	ND	0 42J
Chloromethane	7J	ND	ND
Toluene	20	ND	ND
Ethylbenzene	12	ND	ND
Xylene	73	ND	ND
Naphthalene	16	ND	ND
TPH	ND	ND	150 J
2-Methylnaphthalene	31	ND	ND
Acenaphthene	1J	ND	ND
Fluorene	2J	ND	ND
Phenanthrene	5J	ND	ND

Figure 7. Historical and Recent Sampling Results from Monitoring Wells (µg/L)

APPENDIX A

SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

Coring Log Sheet

Boring ID GPT-6-9

Date 9/22/04

Location Site 6, Gulfport

Battelle . . . Putting Technology To Work

Boring Diameter	4.25 in	Total Depth	30.25 ft
Casing Outer Diameter	NA in	Sand Pack	NA
Casing Inner Diameter	2 in	Sand Pack Depth	from 19 to 30 ft
Casing Material	SCH 40 PVC	Grout Material	Cement/Bentonite Mixture
Screen Type	SCH 40 PVC	Grout Depth	from 0 to 17 ft
Screen Slot	10	Surface Completion	Flush
Screen Length	10 ft	Drilling Method	HSA
Screen Depth	from 20 to 30 ft	Driller	Jesco Environmental

Lithologic Description	Depth	Sample	USCS	Rec.	PID
Dark brown sand with little silt	0-3	None			
Orange sand with little silt	3-5	None			
Beige sand	5-10	None			
Light brown sand damp	10-12	None			
Wet brown sand with little silt	12-25	None			
Clay with trace sand	25-30	None			
End of Boring					

Logged by: L. Tatar

Completion Date: 09/22/04

Construction Notes:

HSA = hollow stem auger

NA = not applicable

Coring Log Sheet

Boring ID GPT-6-10

Date 9/22/04

Location Site 6, Gulfport

Battelle . . . Putting Technology To Work

Boring Diameter	4.25 in	Total Depth	29.45
Casing Outer Diameter	NA in	Sand Pack	NA
Casing Inner Diameter	2 in	Sand Pack Depth	from 18.2 to 29.2 ft
Casing Material	SCH 40 PVC	Grout Material	Cement/Bentonite Mixture
Screen Type	SCH 40 PVC	Grout Depth	from 0 to 16.2 ft
Screen Slot	10	Surface Completion	Flush
Screen Length	10 ft	Drilling Method	HSA
Screen Depth	from 19.2 to 29.2 ft	Driller	Jesco Environmental

Lithologic Description	Depth	Sample	USCS	Rec.	PID
Light brown sand with little silt	0-3	None			
Orange sand	3-5	None			
Brown sand with little silt	5-7	None			
Tan sand	7-12	None			
Wet dark brown sand with silt	12-25	None			
Clay with trace sand	25-29	None			
End of Boring					

Logged by: L. Tatar

Completion Date: 09/22/04

Construction Notes:

HSA = hollow stem auger

NA = not applicable

Coring Log Sheet

Date 9/22/04

Boring ID GPT-6-11

Location Site 6, Gulfport

Battelle . . . Putting Technology To Work

Boring Diameter	4.25 in	Total Depth	14.66 ft
Casing Outer Diameter	NA in	Sand Pack	NA
Casing Inner Diameter	2 in	Sand Pack Depth	from 3.41 to 14.4 ft
Casing Material	SCH 40 PVC	Grout Material	Cement/Bentonite Mixture
Screen Type	SCH 40 PVC	Grout Depth	from 0 to 1.41 ft
Screen Slot	10	Surface Completion	Flush
Screen Length	10 ft	Drilling Method	HSA
Screen Depth	from 4.41 to 14.41 ft	Driller	Jesco Environmental

Lithologic Description	Depth	Sample	USCS	Rec.	PID
Brown silt with sand	0-2	None			
Brown sand with silt	2-4	None			
Yellow-orange sand with silt	4-6	None			
Tan sand with little clay	6-8	None			
Tan sand – moist	8-10	None			
Brown sand – wet	10-12	None			
Dark brown sand – saturated	12-15	None			
End of Boring					

Logged by: L. Tatar

Completion Date: 09/22/04

HSA = hollow stem auger

NA = not applicable

Construction Notes:

Coring Log Sheet

Boring ID GPT-6-12

Date 9/22/04

Location Site 6, Gulfport

Battelle ... Putting Technology To Work

Boring Diameter	4.25 in	Total Depth	30.25 ft
Casing Outer Diameter	NA in	Sand Pack	NA
Casing Inner Diameter	2 in	Sand Pack Depth	from 19 to 30 ft
Casing Material	SCH 40 PVC	Grout Material	Cement/Bentonite Mixture
Screen Type	SCH 40 PVC	Grout Depth	from 0 to 17 ft
Screen Slot	10	Surface Completion	Flush
Screen Length	10 ft	Drilling Method	HSA
Screen Depth	from 20 to 30 ft	Driller	Jesco Environmental

Lithologic Description	Depth	Sample	USCS	Rec.	PID
Tan sand with little silt	0-2	None			
Brownish-gray sand with little silt	2-4	None			
Orange-brown sand with silt	4-8	None			
Dark brown sand – wet	8-10	None			
Dark brown sand with silt – saturated	10-20	None			
Sandy clay	20-25	None			
Clay	25-30	None			
End of Boring					

Logged by: L. Tatar

Completion Date: 09/22/04

HSA = hollow stem auger

NA = not applicable

Construction Notes:

Coring Log Sheet

Boring ID GPT-6-13

Date 9/22/04

Location Site 6, Gulfport

Battelle . . . Putting Technology To Work

Boring Diameter	4.25 in	Total Depth	15.25 ft
Casing Outer Diameter	NA in	Sand Pack	NA
Casing Inner Diameter	2 in	Sand Pack Depth	from 4 to 15 ft
Casing Material	SCH 40 PVC	Grout Material	Cement/Bentonite Mixture
Screen Type	SCH 40 PVC	Grout Depth	from 0 to 2 ft
Screen Slot	10	Surface Completion	Flush
Screen Length	10 ft	Drilling Method	HSA
Screen Depth	from 5 to 15 ft	Driller	Jesco Environmental

Lithologic Description	Depth	Sample	USCS	Rec.	PID
Brown sand with silt	0-5	None			
Tan sand – damp	5-8	None			
Brown sand – wet	8-10	None			
Dark brown sand with silt - saturated	10-15	None			
End of Boring					

Logged by: L. Tatar

Completion Date: 09/22/04

Construction Notes:

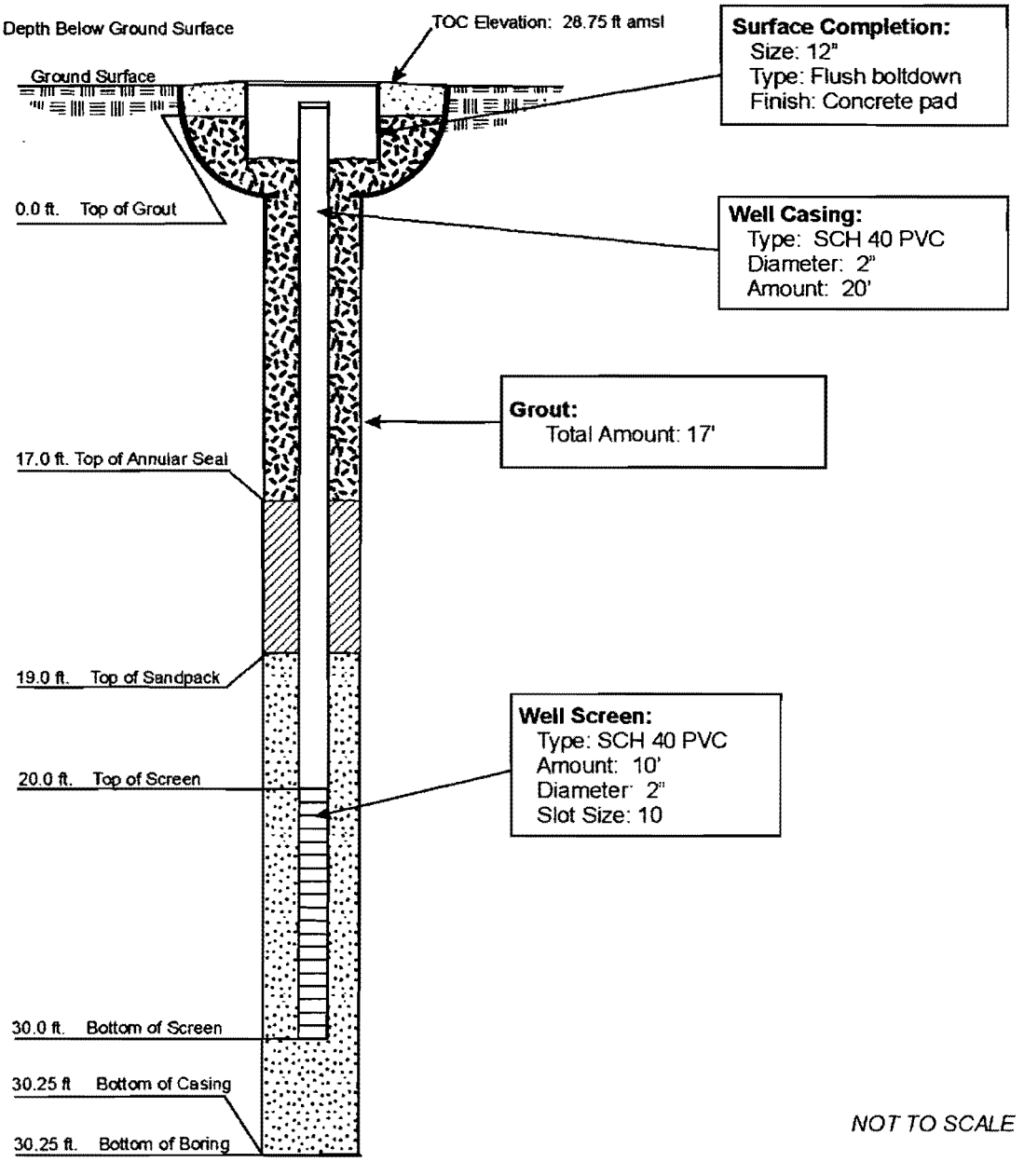
HSA = hollow stem auger

NA = not applicable

Battelle

NCBC GULFPORT
WELL COMPLETION DIAGRAM
GPT-6-9

Project #: G486003-21	Site: Site 6	Well #: GPT-6-9	Northing (NAD 83): 318066.813
Drilling Contractor: Jesco Environmental	Rig Type and Drilling Method: HSA	Date: 9/22/04	Easting (NAD 83): 888665.427
Reviewed by: LC	Driller: Precision Sampling W. Schneider	Geologist: LT	Surface Elevation (NAD 83): 29.20

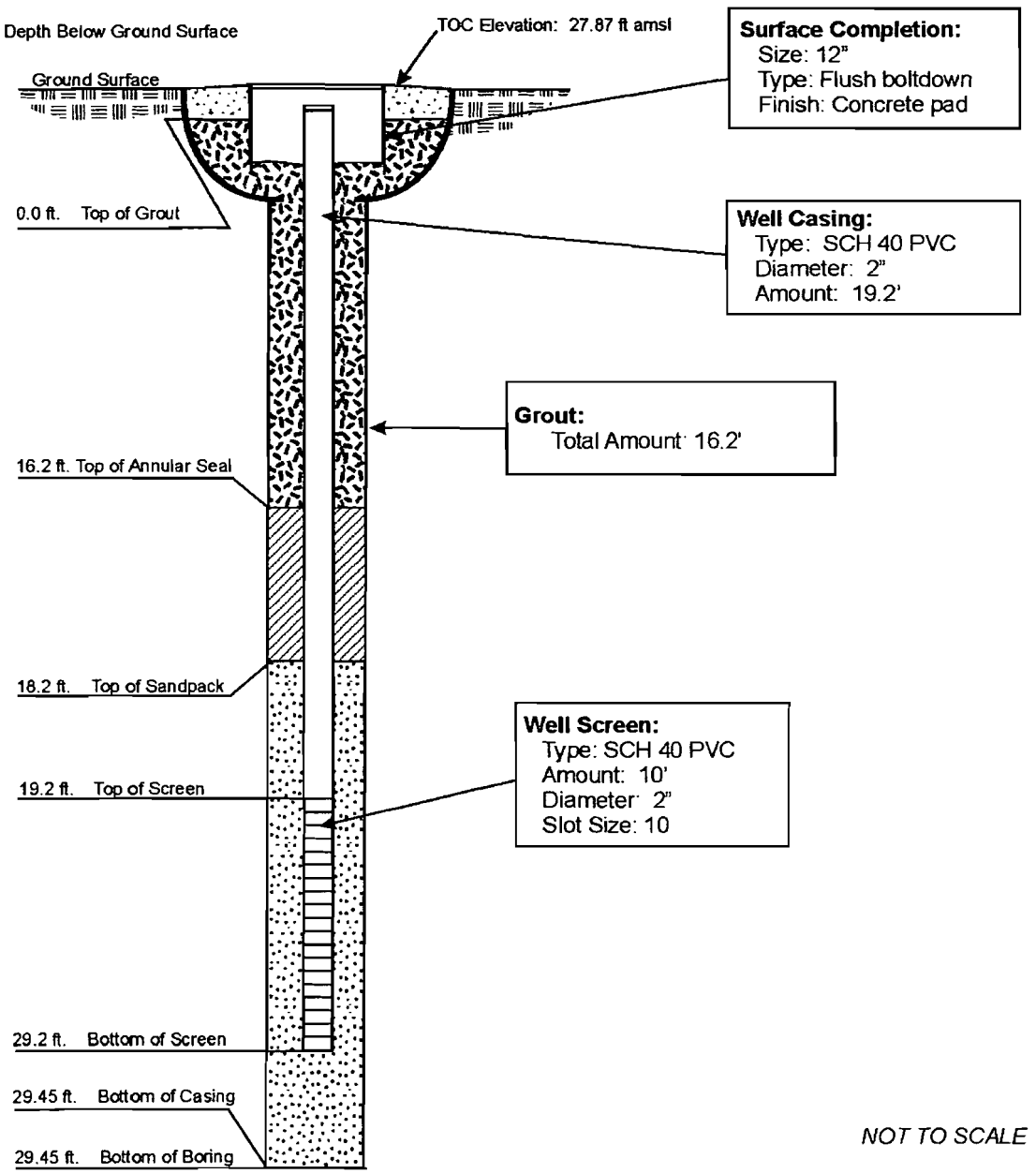


GUWCD-GPT-6-9.CDR

Battelle

NCBC GULFPORT
WELL COMPLETION DIAGRAM
GPT-6-10

Project #: G486003-21	Site: Site 6	Well #: GPT-6-10	Northing (NAD 83): 318208.719
Drilling Contractor: Jesco Environmental	Rig Type and Drilling Method: HSA	Date: 9/22/04	Easting (NAD 83): 888661.048
Reviewed by: LC	Driller: Precision Sampling W. Schneider	Geologist: LT	Surface Elevation (NAD 83): 28.40

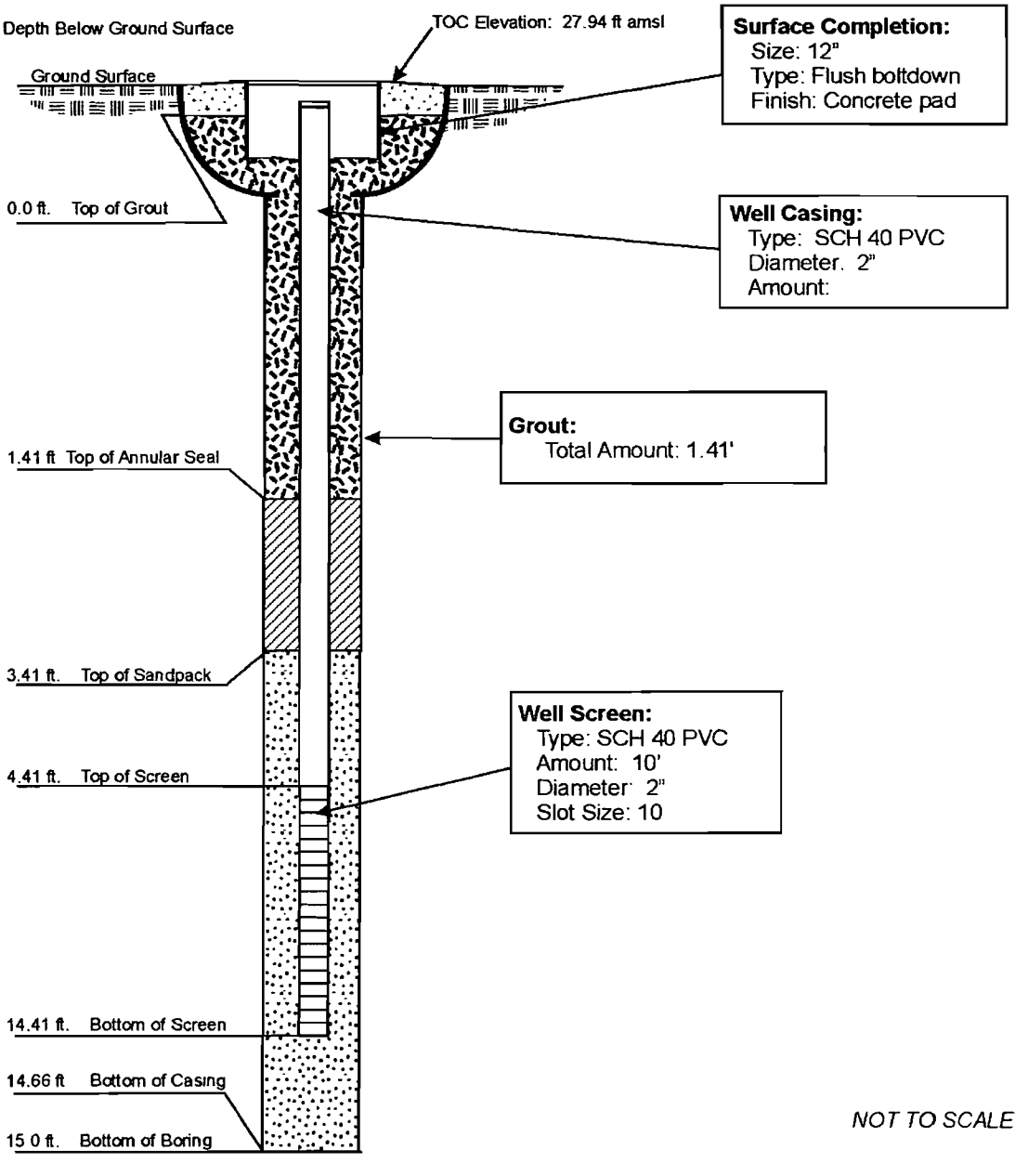


GUWCD-GPT-6-10 CDR

Battelle

NCBC GULFPORT
WELL COMPLETION DIAGRAM
GPT-6-11

Project #: G486003-21	Site: Site 6	Well #: GPT-6-11	Northing (NAD 83): 318208.752
Drilling Contractor: Jesco Environmental	Rig Type and Drilling Method: HSA	Date: 9/22/04	Easting (NAD 83): 888657.327
Reviewed by: LC	Driller: Precision Sampling W. Schneider	Geologist: LT	Surface Elevation (NAD 83): 28.39

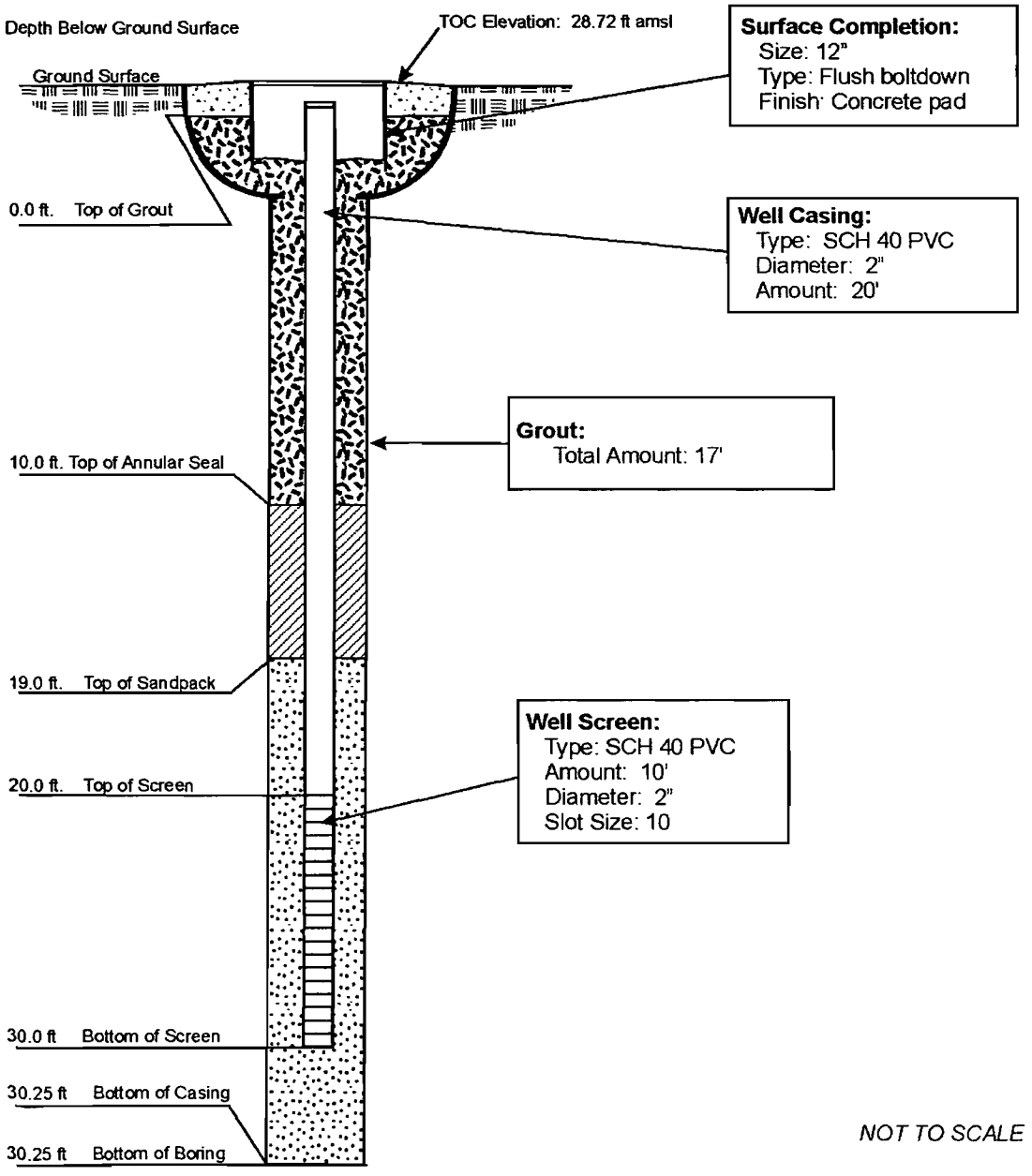


GUWCD-GPT-6-10 CDR

Battelle

NCBC GULFPORT
WELL COMPLETION DIAGRAM
GPT-6-12

Project #: G486003-21	Site: Site 6	Well #: GPT-6-12	Northing (NAD 83): 318200.433
Drilling Contractor: Jesco Environmental	Rig Type and Drilling Method: HSA	Date: 9/22/04	Easting (NAD 83): 888741.703
Reviewed by: LC	Driller: Precision Sampling W. Schneider	Geologist: LT	Surface Elevation (NAD 83): 28.72

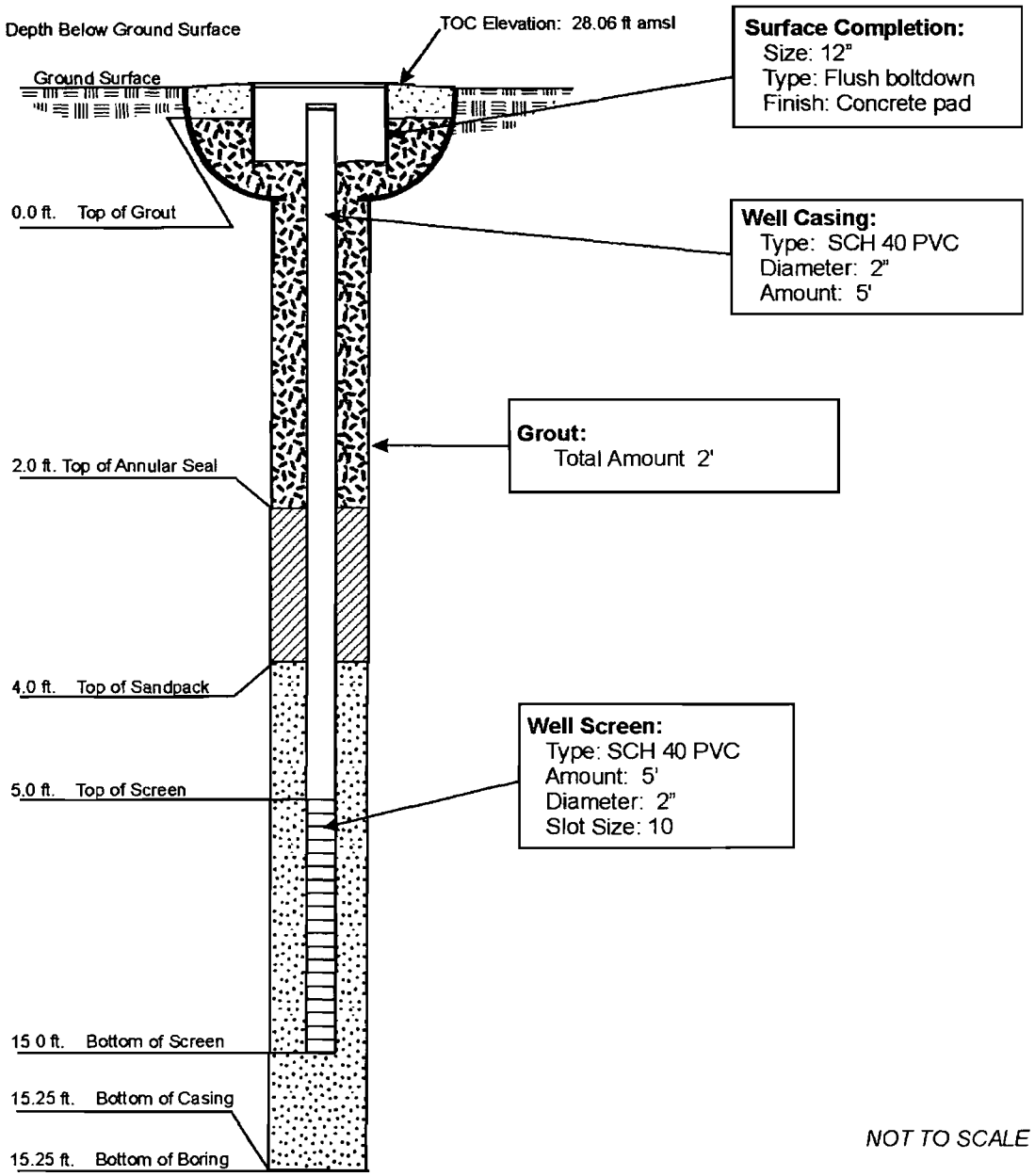


GUWCD-GPT-6-10 CDR

Battelle

NCBC GULFPORT
WELL COMPLETION DIAGRAM
GPT-6-13

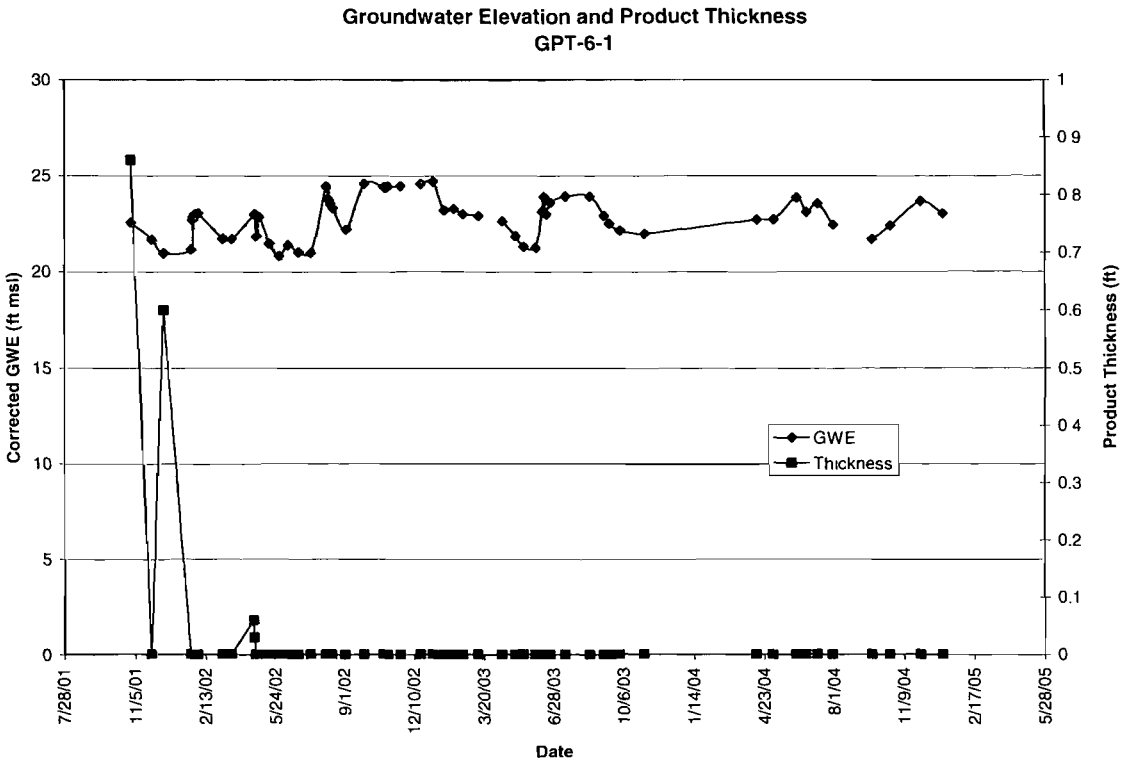
Project #: G486003-21	Site: Site 6	Well #: GPT-6-13	Northing (NAD 83): 318200.444
Drilling Contractor: Jesco Environmental	Rig Type and Drilling Method: HSA	Date: 9/22/04	Easting (NAD 83): 888745.899
Reviewed by: LC	Driller: Precision Sampling W. Schneider	Geologist: LT	Surface Elevation (NAD 83): 28.71

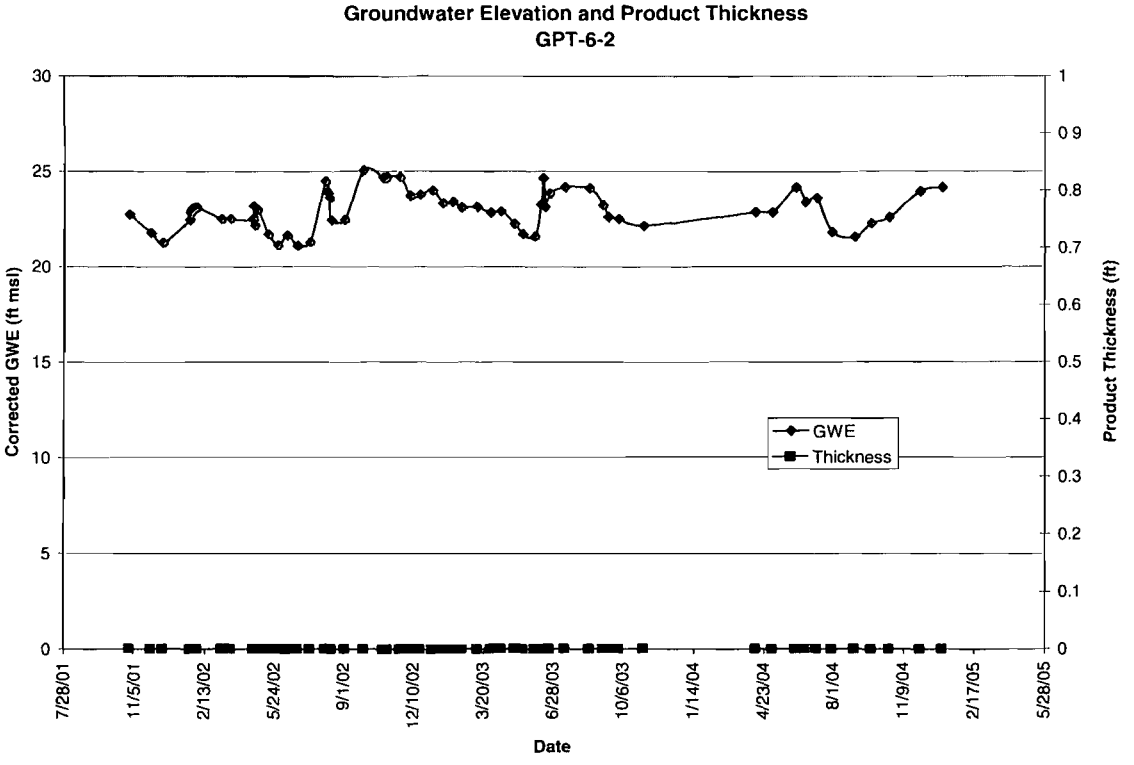


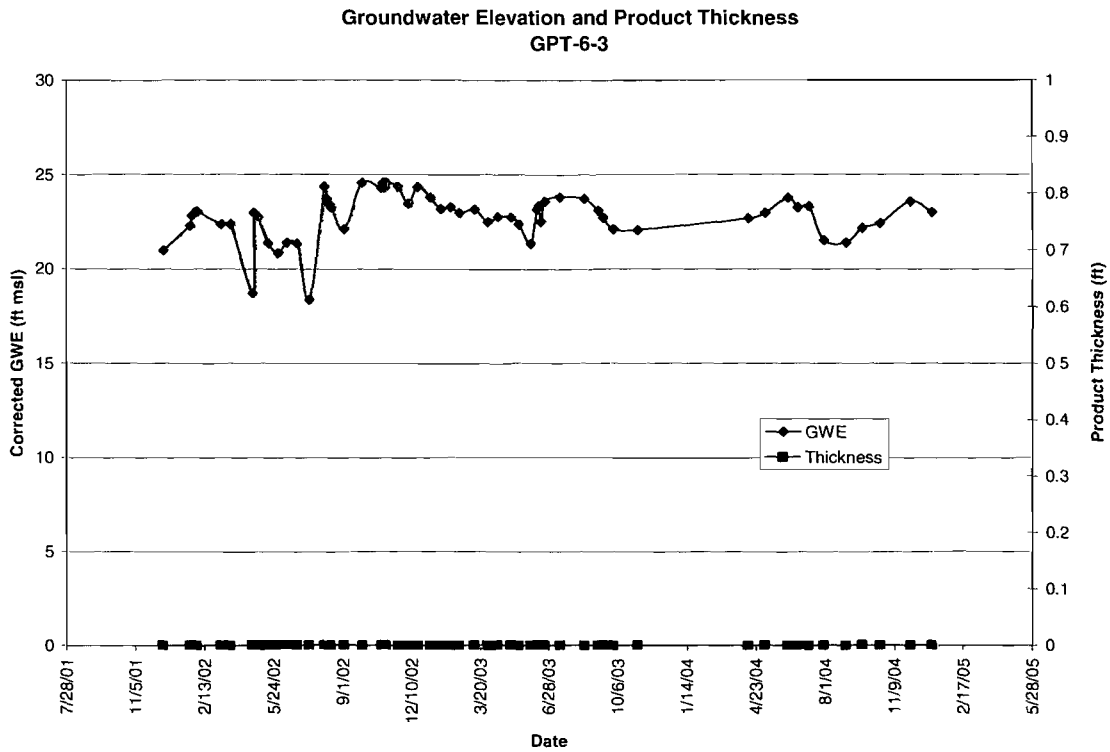
GUWCD-GPT-6-13.CDR

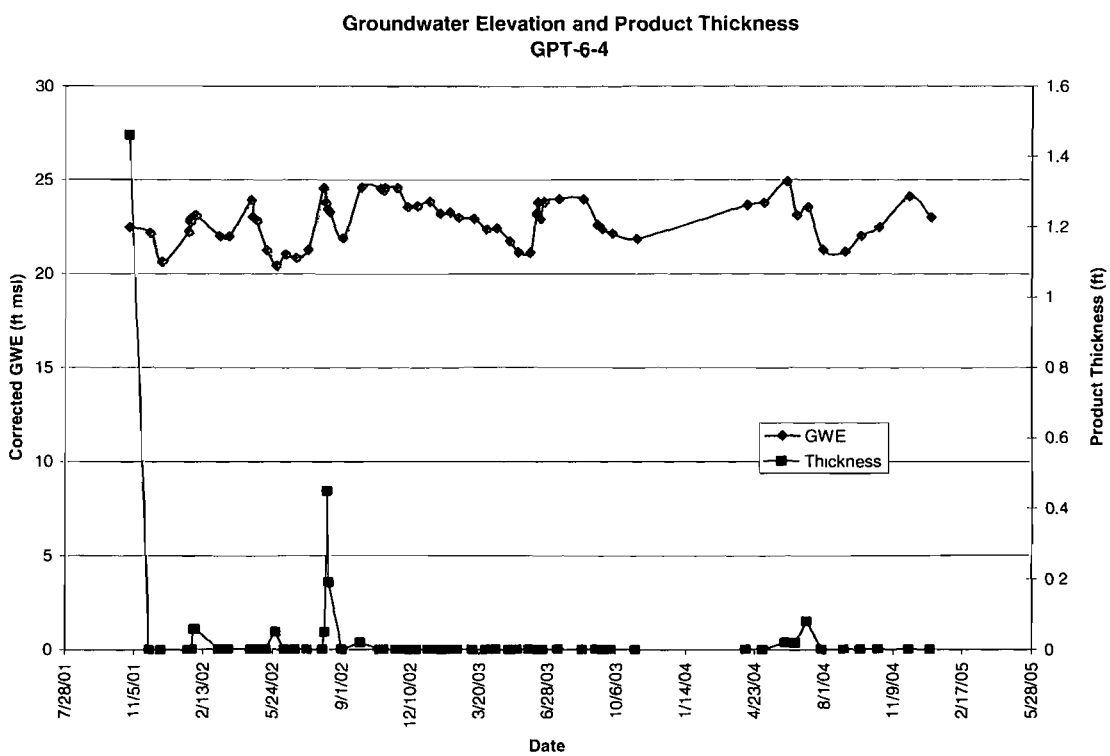
APPENDIX B

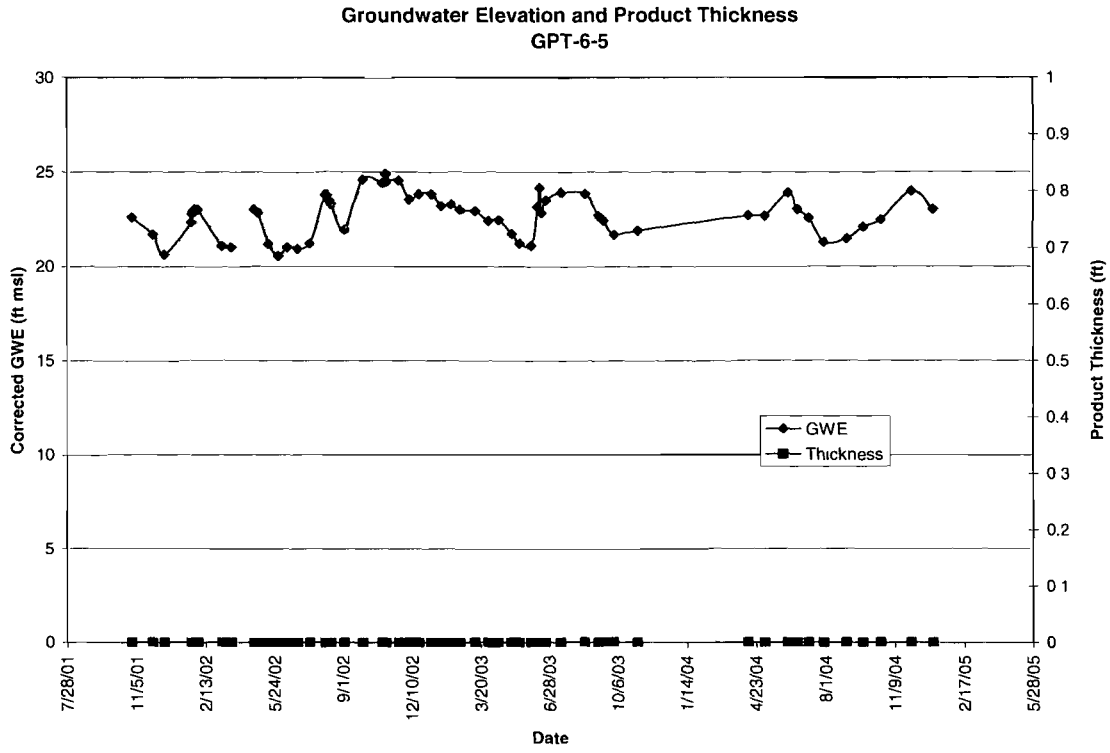
LNAPL THICKNESS AND GROUNDWATER ELEVATION PLOTS

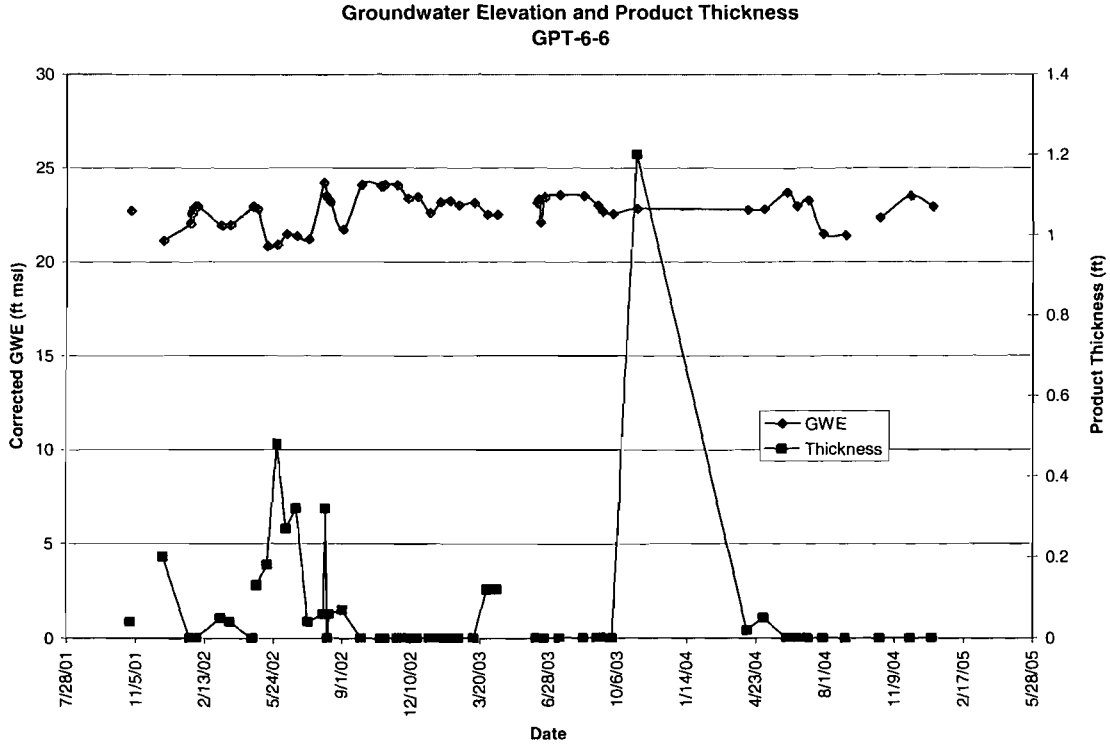

Groundwater Elevation and Product Thickness
GPT-6-1
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05

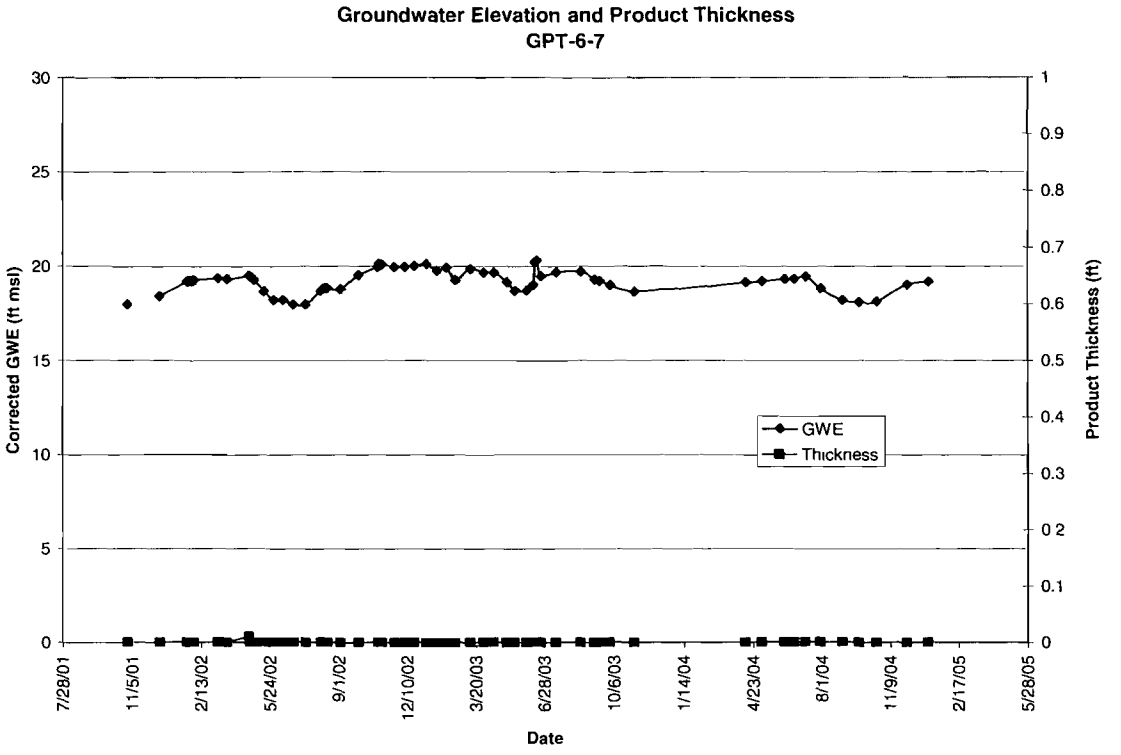

Groundwater Elevation and Product Thickness
GPT-6-2
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05

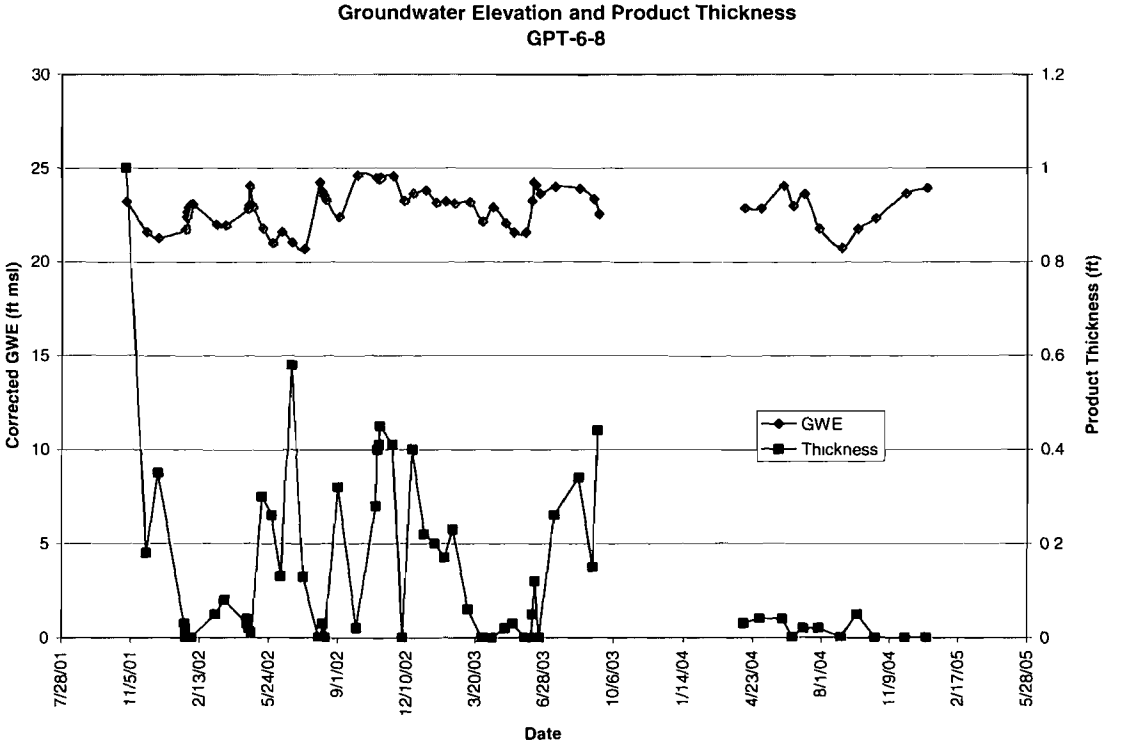

Groundwater Elevation and Product Thickness
GPT-6-3
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05


Groundwater Elevation and Product Thickness
GPT-6-4
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05


Groundwater Elevation and Product Thickness
GPT-6-5
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05


Groundwater Elevation and Product Thickness
GPT-6-6
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1.4
1.2
1
0.8
0.6
0.4
0.2
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05


Groundwater Elevation and Product Thickness
GPT-6-7
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05


Groundwater Elevation and Product Thickness
GPT-6-8
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
1.2
1
0.8
0.6
0.4
0.2
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05

APPENDIX C

ANALYTICAL RESULTS

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-09-2004
EMAX Batch No.: 04J167

Attn: Lydia Cumming

Battelle Memorial Institute
505 King Ave
Columbus OH 43201

Subject: Laboratory Report
Project: NCBC Gulfport

Enclosed is the Laboratory report for samples received on 10/22/04. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
GPT-6-8-102104	J167-01	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-8-102104 DUP	J167-02	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC

Sample ID	Control #	Col Date	Matrix	Analysis
				SULFATE BY IC
GPT-6-4-102104	J167-03	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-5-102104	J167-04	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-7-102104	J167-05	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
				TPH DIESEL
GPT-6-2-102104	J167-06	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC

EMAX LABORATORIES, INC. 1835 W. 205th Street, Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

Sample ID	Control #	Col Date	Matrix	Analysis
GPT-6-1-102104	J167-07	10/21/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
TRIP BLANK	J167-08	10/21/04	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

EMAX LABORATORIES, INC. 1835 W. 205th Street, Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: (310) 618-8889 Fax #: (310) 618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE: G4/VW01-33
EMAX CONTROL NO. * 04J167
PROJECT CODE:

CLIENT: BATTELLE
PROJECT: NCBC GULFPORT
COORDINATOR: Lydia Cumming
TEL: 614-424-7778 FAX: 614-424-3667 EMAIL:
SEND REPORT TO: Lydia Cumming
COMPANY: BATTELLE
ADDRESS: 505 KING AVENUE
Columbus, OH 43201
EMAX PM: KAM PANG

MATRIX CODE	PRESERVATIVE CODE
DW= Drinking Water	IC=Ice
GW=Ground Water	HC=HCl
WW=Waste Water	HN=HN03
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/Sediment	ST=Na2S203
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: VOC (5030B/8260B); SVOC (3520C/8270C); TPH-DRO (3510C/8015B); DHG (RSK-175); Fe/Mn (3550-30/04 6010B); NO3/SO4/ALK (9056-310.1); SULFIDE (376.1)

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☒ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOC (HC)	SVOC (IC)	TPH-DRO (IC)	DHG (HC)	Fe/Mn (HN)	NO3/SO4/ALK (IC)	SULFIDE (ZA)	COMMENTS
* 1	GPT-6-8-102104		10/21/04	1050	SEE					X	X	X	X	X	X	X	Fe/Mn filtered in Field.
* 2	GPT-6-8-102104 DUP		10/21/04	1050						X	X	X	X	X	X	X	
* 3	GPT-6-4-102104		10/21/04	1130	BELOW					X	X	X	X	X	X	X	
* 4	GPT-6-5-102104		10/21/04	1245						X	X	X	X	X	X	X	
* 5		Bottles-each sample		VOC	3	40mL	VOA										
* 6				SVOC	1	1-L	Amber										
* 7				TPH-D	1	1-L	Amber										
* 8				DHG	2	40mL	VOA										
* 9				Fe/Mn	1	125mL	Plastic										
* 0				NO3/SO4/ALK	1	125mL	Plastic										
				Sulfide	1	125mL	Plastic										

Instructions: * DHG = Dissolved hydrogen gas - ethene, ethane, methane

Cooler #	Temp. (°C)
1	3.0

Sample #s

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
Laura [illegible]	10/21/04	1400	VIA Fedex # 844A2046 9270
	10/22/04	0915	[illegible]

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received ~~and discrepancies resolved~~ after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GRAPHICS EXPRESS (626) 330-1595

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.

1835 W. 205th Street, Torrance, CA 90501
Tel #: (310) 618-8889 Fax #: (310) 618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE: G4/VW01-33
EMAX CONTROL NO. *: 04J167
PROJECT CODE:

CLIENT: BATTELLE
PROJECT: NCBC GULFPORT.
COORDINATOR: Lydia Cumming
TEL: 614-424-7778 FAX: 614-424-3667 EMAIL:
SEND REPORT TO: Lydia Cumming
COMPANY: BATTELLE
ADDRESS: 505 KING AVE
COLUMBUS, OH 43201
EMAX PM: KAM PANG

MATRIX CODE	PRESERVATIVE CODE
DW= Drinking Water	IC=Ice
GW=Ground Water	HC=HCl
WW=Waste Water	HN=HN03
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/Sediment	ST=Na2S203
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☒ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOC (HC)	SVOC (IC)	TPH-DRO (IC)	DHG (HC)	Fe2/Mn (HN)	NO3/SO4 (IC)	ALK	Sulfide (SH/ZA)	COMMENTS
5 * 1	GPT-6-7-102104		10/21/04	0845	SEE					X	X	X	X	X	X		X	Fe/Mn Filtered in the field.
6 * 2	GPT-6-2-102104		10/21/04	0940	BELOW					X	X	X	X	X	X		X	
7 * 3	GPT-6-1-102104		10/21/04	1010						X	X	X	X	X	X		X	
8 * 4	TRIP BLANK				2	40mL	VOA			X								
* 5		BOTTLES EACH SAMPLE		VOC	3	40mL	VOA											
* 6				SVOC	1	1L	Amber											
* 7				TPH-D	1	1L	Amber											
* 8				DHG	2	40mL	VOA											
* 9				Fe/Mn	1	125mL	Plastic											
* 0				NO3/SO4/Alk	1	125mL	Plastic											
				Sulfide	1	125mL	Plastic											

Instructions

* DHG = Dissolved Hydrogen gases - Ethene, Ethane, Methane

Cooler #	Temp. (°C)	Sample #s
2	2.7	

SAMPLER

RELINQUISHED BY	Date	Time	RECEIVED BY
Laura J. Tate	10/21/04	1400	VIA Fedex # 844 4204 6928
	10/22/04	0915	

COURIER/AIRBILL

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GRAPHICS EXPRESS (626) 330-8686

1004

Hanh Bui

From: Cumming, Lydia [cummingl@BATTELLE.ORG]
Sent: Thursday, October 28, 2004 6:38 AM
To: Hanh Bui; KPang@emaxlabs.com
Cc: Yoon, Sam
Subject: RE: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Dear Kam:

Sam forwarded your voice message. He cannot respond today because he is out of the office.

I would like to request that the results for the first sample listed in your login review sheet, GPT-6-3-102004, include the level 4 data package. The remaining samples reported on the three COCs should only include the level 3 data package. Our project goal is 10 % of all samples during one sample event will be subject to level 4 data validation (i.e., one sample).

Please call me or respond to this email if you have any other questions. Thank you!

Lydia Cumming

-----Original Message-----
From: Hanh Bui [mailto:HDBui@emaxlabs.com]
Sent: Tuesday, October 26, 2004 2:54 PM
To: Cumming, Lydia
Cc: Yoon, Sam
Subject: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Please find the attached files of Login Review Sheet SDG: 04J149, 04J167,
and 04J166. If you want to change something, please let me know, thanks.
Hanh Bui
<<REVIEW_04J149_j167_J166.pdf>>

1005

Hanh Bui

From: Hanh Bui
Sent: Tuesday, October 26, 2004 1:53 PM
To: Lina Amon
Subject: FW: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCBC Gulfport) BT_0405_

-----Original Message-----
From: Cumming, Lydia [mailto:cummingl@BATTELLE.ORG]
Sent: Tuesday, October 26, 2004 1:41 PM
To: Hanh Bui
Cc: Yoon, Sam
Subject: RE: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

I noticed that only one COC notes that 10% of the samples require a Level 4 data package and 90% need a level 3 data package(04J149). I just want
to clarify that the percentages applies to all the water samples as a whole.

The IDW soil samples just require a standard data quality assurance package.

A copy of the data package for the water samples should be sent to:

Laboratory Data Consultants, Inc.
7750 El Camino Real
Suite 2L
Carlsbad, CA 92009

Attn: Erlinda T Rauto

Her number is (760) 634-0437

Please let me know if you have any questions.

Lydia Cumming
Battelle
505 King Ave
Columbus, OH 43201
(614) 424-7778 (tel)
(614) 424-3667 (fax)

-----Original Message-----
From: Hanh Bui [mailto:HDBui@emaxlabs.com]
Sent: Tuesday, October 26, 2004 2:54 PM
To: Cumming, Lydia
Cc: Yoon, Sam
Subject: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Please find the attached files of Login Review Sheet SDG: 04J149, 04J167,
and 04J166. If you want to change something, please let me know, thanks.
Hanh Bui
<<REVIEW_04J149_j167_J166.pdf>>

1006

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☐ EMAX Courier		ECN	04J167
☐ Client Delivery		Recepient	Luna
☑ Third Party	FEDEX 844420469280 844420469270	Date	10-22-04
		Time	09:15

COC Inspection

☑ Client Name	☑ Sampler Name	☑ Sampling Date/Time/Location
☑ Address	☐ Courier Signature/Date/Time	☑ Analysis Required
☑ Client PM/FC	☑ TAT	☑ Matrix
☑ Tel #/Fax #	☑ Sample ID	☐ Preservative (if any)
Safety Issues ☑ None	☐ High Concentrations expected	☐ Superfund Site Samples
Comments: ☐ Rad Screening Required		

Packaging Inspection

Container	☑ Cooler	☐ Box	☐	☐
Condition	☑ Custody Seal	☑ Intact	☐ Damaged	☐
Packaging	☑ Bubble Pack	☐ Styrofoam	☑ Sufficient	☐
Temperatures	☑ Cooler 1 3.0	☑ Cooler 2 2.7	☐ Cooler 3 _____	☐ Cooler 4 _____
	☐ Cooler 5 _____	☐ Cooler 6 _____	☐ Cooler 7 _____	☐ Cooler 8 _____
	☐ Cooler 9 _____	☐ Cooler 10 _____	☐ Cooler 11 _____	☐ Cooler 12 _____

Comments:

LSCID	Client ID	Discrepancy	Corrective Action
J167-3 (21-25)		No time on vials.	Follow COC
J167-5 (47)		Diesel bottle received broken - No spare bottles.	Shared samples & analyze Diesel

LSCID : Lab Sample Container ID

REVIEWS

Sample Labeling _____ Date 10.22.04.

SRF _____ Date 10/22/04

PM _____ Date 10/22/04

FedEx Express — *USA Airbill*

FedEx Tracking Number: 8444 2046 9280

0200 — **Recipient's Copy**

1 From

Date: 10/21/04

Sender's Name: SAM YOON — Phone: 614 424-4569

Company: BATTELLE

Address: 505 KING AVE — Dept./Floor/Suite/Room

City: COLUMBUS — State: OH — ZIP: 43201

2 Your Internal Billing Reference

3 To

Recipient's Name: SAMPLE RECEIVING — Phone: 310 618-8809

Company: EMAX LABORATORIES

Address: 1835 W. 205th Street — Dept./Floor/Suite/Room

To "HOLD" at FedEx location, print FedEx address — We cannot deliver to P.O. boxes or P.O. ZIP codes

Address

City: Torrance — State: CA — ZIP: 90501

045167
10-22-04
8915

8444 2046 9280

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3

- [ ] SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging

- [ ] Cargo Aircraft Only

7 Payment — *Bill to:* Enter FedEx Acct No. or Credit Card No. below.

- [x] Sender — Acct No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip Acct No

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	57	$ .00	Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See back for details

8 Release Signature — *Sign to authorize delivery without obtaining signature*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1 800 Go FedEx® 800.463.3339

Rev. Date 10/01 • Part # 150612 • ©1994-2001 FedEx • PRINTED IN U.S.A. WCSL 03

446

1008

FedEx Express — *USA Airbill* — FedEx Tracking Number **844420469270**

Form I.D. No. 0200 — **Recipient's Copy**

1 From

Date 10/21/04

Sender's Name SAM YOON Phone 614 424-4569

Company BATTELLE 24J167

Address 505 KING AVE 10-22-04 Dept./Floor/Suite/Room

City COLUMBUS State OH ZIP 43201

2 Your Internal Billing Reference

3 To

Recipient's Name SAMPLE RECEIVING Phone 310 618-8889

Company EMAX LABORATORIES

Address 1835 W. 205th Street

To "HOLD" at FedEx location, print FedEx address — We cannot deliver to P.O. boxes or P.O. ZIP codes

Address Dept./Floor/Suite/Room

City Torrance State CA ZIP 90501

8444 2046 9270

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation.

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip. Acct. No.

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	8	$ .00	Credit Card Auth

†Our liability is limited to $100 unless you declare a higher value. See back for details.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800 Go.FedEx® 800.463.3339.

Rev. Date 10/01 • Part #157612 • ©1994–2001 FedEx • PRINTED IN U.S.A. WCSL 03

446

1009

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 04J167

2000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Eight (8) water samples were received on 10/22/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

   Analytical holding time was met.

2. Tuning and Calibration

   Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

   Method blanks were free of contamination at reporting limit.

4. Surrogate Recovery

   Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

7. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All requirements , were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J167
Instrument ID : T-067

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V067J57Q	1	NA	10/27/0414:48	10/27/0414:48	RJC654	RJC640	V067J57	Method Blank
LCS1W	V067J57L	1	NA	10/27/0411:36	10/27/0411:36	RJC649	RJC640	V067J57	Lab Control Sample (LCS)
LCD1W	V067J57C	1	NA	10/27/0412:14	10/27/0412:14	RJC650	RJC640	V067J57	LCS Duplicate
GPT-6-8-102104	J167-01	1	NA	10/27/0421:09	10/27/0421:09	RJC664	RJC640	V067J57	Field Sample
GPT-6-8-102104 DUP	J167-02	1	NA	10/27/0421:46	10/27/0421:46	RJC665	RJC640	V067J57	Field Sample
GPT-6-4-102104	J167-03	1	NA	10/27/0422:25	10/27/0422:25	RJC666	RJC640	V067J57	Field Sample
MBLK2W	V067J59Q	1	NA	10/28/0403:30	10/28/0403:30	RJC674	RJC640	V067J59	Method Blank
LCS2W	V067J59L	1	NA	10/28/0401:35	10/28/0401:35	RJC671	RJC640	V067J59	Lab Control Sample (LCS)
LCD2W	V067J59C	1	NA	10/28/0402:14	10/28/0402:14	RJC672	RJC640	V067J59	LCS Duplicate
GPT-6-5-102104	J167-04	1	NA	10/28/0407:17	10/28/0407:17	RJC680	RJC640	V067J59	Field Sample
GPT-6-7-102104	J167-05	1	NA	10/28/0407:55	10/28/0407:55	RJC681	RJC640	V067J59	Field Sample
GPT-6-2-102104	J167-06	1	NA	10/28/0408:32	10/28/0408:32	RJC682	RJC640	V067J59	Field Sample
GPT-6-1-102104	J167-07	1	NA	10/28/0409:11	10/28/0409:11	RJC683	RJC640	V067J59	Field Sample
MBLK3W	V067J60Q	1	NA	10/28/0416:06	10/28/0416:06	RJC694	RJC640	V067J60	Method Blank
LCS3W	V067J60L	1	NA	10/28/0414:14	10/28/0414:14	RJC691	RJC640	V067J60	Lab Control Sample (LCS)
LCD3W	V067J60Y	1	NA	10/28/0423:57	10/28/0423:57	RJC707	RJC640	V067J60	LCS Duplicate
TRIP BLANK	J167-08	1	NA	10/28/0416:42	10/28/0416:42	RJC695	RJC640	V067J60	Field Sample
GPT-6-4-102104DL	J167-03T	10	NA	10/28/0417:18	10/28/0417:18	RJC696	RJC640	V067J60	Diluted Sample

FN - Filename
% Moist - Percent Moisture

2002

SAMPLE RESULTS

2003

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/27/04 21:09
Sample ID:	GPT-6-8-102104	Date Analyzed:	10/27/04 21:09
Lab Samp ID:	J167-01	Dilution Factor:	1
Lab File ID:	RJC664	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.55J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.29J	1	.2
M/P-XYLENES	.39J	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	.7J	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	87	63-143
TOLUENE-D8	92	63-143

2004

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Project No.	: 04J167	Date Extracted:	10/27/04 21:46
Sample ID:	GPT-6-8-102104 DUP	Date Analyzed:	10/27/04 21:46
Lab Samp ID:	J167-02	Dilution Factor:	1
Lab File ID:	RJC665	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.43J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.31J	1	.2
M/P-XYLENES	.47J	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	.88J	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/27/04 22:25
Sample ID:	GPT-6-4-102104	Date Analyzed:	10/27/04 22:25
Lab Samp ID:	J167-03	Dilution Factor:	1
Lab File ID:	RJC666	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	16	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	84E	1	.2
1,1-DICHLOROETHENE	5.8	1	.2
1,2-DICHLOROETHANE	1.2	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	7.3J	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	1.9J	10	1
ACETONE	ND	10	2
BENZENE	1.4	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	4.7	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	160E	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	1.4	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	1.9	1	.2
M/P-XYLENES	7.4	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	2.3	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	.24J	1	.2
TOLUENE	14	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	1.0J	1	.2
VINYL CHLORIDE	110E	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	63-143
4-BROMOFLUOROBENZENE	83	63-143
TOLUENE-D8	90	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Project No.	: 04J167	Date Extracted:	10/28/04 17:18
Sample ID:	GPT-6-4-102104DL	Date Analyzed:	10/28/04 17:18
Lab Samp ID:	J167-03T	Dilution Factor:	10
Lab File ID:	RJC696	Matrix :	WATER
Ext Btch ID:	V067J60	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	15	10	2
1,1,2,2-TETRACHLOROETHANE	ND	10	3
1,1,2-TRICHLOROETHANE	ND	10	2
1,1-DICHLOROETHANE	80	10	2
1,1-DICHLOROETHENE	5.9J	10	2
1,2-DICHLOROETHANE	ND	10	2
1,2-DICHLOROPROPANE	ND	10	2
2-BUTANONE	ND	100	50
2-HEXANONE	ND	100	10
4-METHYL-2-PENTANONE	ND	100	10
ACETONE	ND	100	20
BENZENE	ND	10	2
BROMODICHLOROMETHANE	ND	10	2
BROMOFORM	ND	10	5
BROMOMETHANE	ND	20	2
CARBON DISULFIDE	7.2J	10	2
CARBON TETRACHLORIDE	ND	10	2
CHLOROBENZENE	ND	10	2
CHLOROETHANE	180	20	2
CHLOROFORM	ND	10	2
CHLOROMETHANE	ND	20	5
CIS-1,2-DICHLOROETHENE	ND	10	2
CIS-1,3-DICHLOROPROPENE	ND	10	2
DIBROMOCHLOROMETHANE	ND	10	2
ETHYLBENZENE	ND	10	2
M/P-XYLENES	6.3J	20	3
MTBE	ND	10	2
METHYLENE CHLORIDE	ND	20	10
O-XYLENE	2J	10	2
STYRENE	ND	10	2
TETRACHLOROETHENE	ND	10	2
TOLUENE	13	10	2
TRANS-1,2-DICHLOROETHENE	ND	10	2
TRANS-1,3-DICHLOROPROPENE	ND	10	2
TRICHLOROETHENE	ND	10	2
VINYL CHLORIDE	110	10	3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 07:17
Sample ID:	GPT-6-5-102104	Date Analyzed:	10/28/04 07:17
Lab Samp ID:	J167-04	Dilution Factor:	1
Lab File ID:	RJC680	Matrix :	WATER
Ext Btch ID:	V067J59	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.28J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Project No.	: 04J167	Date Extracted:	10/28/04 07:55
Sample ID:	GPT-6-7-102104	Date Analyzed:	10/28/04 07:55
Lab Samp ID:	J167-05	Dilution Factor:	1
Lab File ID:	RJC681	Matrix :	WATER
Ext Btch ID:	V067J59	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.42J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	93	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 08:32
Sample ID	: GPT-6-2-102104	Date Analyzed:	10/28/04 08:32
Lab Samp ID	: J167-06	Dilution Factor:	1
Lab File ID	: RJC682	Matrix :	WATER
Ext Btch ID	: V067J59	% Moisture :	NA
Calib. Ref.	: RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Proj. No.	: 04J167	Date Extracted:	10/28/04 09:11
Sample ID:	GPT-6-1-102104	Date Analyzed:	10/28/04 09:11
Lab Samp ID:	J167-07	Dilution Factor:	1
Lab File ID:	RJC683	Matrix :	WATER
Ext Btch ID:	V067J59	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.5J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 16:42
Sample ID:	TRIP BLANK	Date Analyzed:	10/28/04 16:42
Lab Samp ID:	J167-08	Dilution Factor:	1
Lab File ID:	RJC695	Matrix :	WATER
Ext Btch ID:	V067J60	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	63-143
4-BROMOFLUOROBENZENE	92	63-143
TOLUENE-D8	93	63-143

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

SDG#: 04J167

3000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Seven (7) water samples were received on 10/22/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

   Analytical holding time was met.

2. Tuning and Calibration

   Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

   Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

   Recoveries were within QC limit except the following:

Sample	Surrogate	%Rec	QC limit
J167-02	Terphenyl-d14	150	45-143
J167-05	2-Fluorophenol	35	36-143

5. Lab Control Sample/Lab Control Sample Duplicate

   Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

7. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICL
SEMI VOLATILE ORGANICS BY GC/MS

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J167
Instrument ID : T-041

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVJ025WB	1	NA	10/29/0417:26	10/26/0416:00	RJH301	RJH007	SVJ025W	Method Blank
LCS1W	SVJ025WL	1	NA	10/29/0418:01	10/26/0416:00	RJH302	RJH007	SVJ025W	Lab Control Sample (LCS)
LCD1W	SVJ025WC	1	NA	10/29/0418:35	10/26/0416:00	RJH303	RJH007	SVJ025W	LCS Duplicate
GPT-6-8-102104	J167-01	.94	NA	11/02/0417:19	10/26/0416:00	RKH034	RJH007	SVJ025W	Field Sample
GPT-6-8-102104 DUP	J167-02	.94	NA	11/02/0417:54	10/26/0416:00	RKH035	RJH007	SVJ025W	Field Sample
GPT-6-4-102104	J167-03	.94	NA	11/02/0418:28	10/26/0416:00	RKH036	RJH007	SVJ025W	Field Sample
GPT-6-7-102104	J167-05	1.2	NA	11/02/0419:37	10/26/0416:00	RKH038	RJH007	SVJ025W	Field Sample
GPT-6-2-102104	J167-06	.94	NA	11/02/0420:11	10/26/0416:00	RKH039	RJH007	SVJ025W	Field Sample
GPT-6-1-102104	J167-07	.94	NA	11/02/0420:46	10/26/0416:00	RKH040	RJH007	SVJ025W	Field Sample
GPT-6-5-102104	J167-04W	.94	NA	11/03/0416:40	10/26/0416:00	RKH051	RJH007	SVJ025W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-8-102104	Date Analyzed:	11/02/04 17:19
Lab ID:	J167-01	Dilution Factor:	.94
Lab File ID:	RKH034	Matrix	: WATER
Extraction ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	69	36-143
2-FLUOROBIPHENYL	46	36-143
2-FLUOROPHENOL	41	36-143
NITROBENZENE-D5	47	36-143
PHENOL-D5	46	36-143
TERPHENYL-D14	93	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-8-102104 DUP	Date Analyzed:	11/02/04 17:54
Lab Samp ID:	J167-02	Dilution Factor:	.94
Lab File ID:	RKH035	Matrix :	WATER
Ext Btch ID:	SVJ025W	% Moisture :	NA
Calib. Ref.:	RJH007	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	85	36-143
2-FLUOROBIPHENYL	41	36-143
2-FLUOROPHENOL	37	36-143
NITROBENZENE-D5	38	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	150*	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-4-102104	Date Analyzed:	11/02/04 18:28
Lab Sample ID:	J167-03	Dilution Factor:	.94
Lab File ID:	RKH036	Matrix	: WATER
Extract ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	14	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	32	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	6.6J	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	80	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	40	36-143
NITROBENZENE-D5	47	36-143
PHENOL-D5	47	36-143
TERPHENYL-D14	100	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-5-102104	Date Analyzed:	11/03/04 16:40
Lab Samp ID:	J167-04W	Dilution Factor:	.94
Lab File ID:	RKH051	Matrix :	WATER
Ext Btch ID:	SVJ025W	% Moisture :	NA
Calib. Ref.:	RJH007	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	52	36-143
2-FLUOROBIPHENYL	38	36-143
2-FLUOROPHENOL	38	36-143
NITROBENZENE-D5	40	36-143
PHENOL-D5	39	36-143
TERPHENYL-D14	92	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
S[illegible] ID	: GPT-6-7-102104	Date Analyzed:	11/02/04 19:37
I[illegible]o ID	: J167-05	Dilution Factor:	1.2
L[illegible]e ID	: RKH038	Matrix	: WATER
E[illegible]ch ID	: SVJ025W	% Moisture	: NA
Calib. Ref.	: RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	12	6
1,2-DICHLOROBENZENE	ND	12	6
1,3-DICHLOROBENZENE	ND	12	6
1,4-DICHLOROBENZENE	ND	12	6
2,4,5-TRICHLOROPHENOL	ND	12	6
2,4,6-TRICHLOROPHENOL	ND	12	6
2,4-DICHLOROPHENOL	ND	12	6
2,4-DIMETHYLPHENOL	ND	12	6
2,4-DINITROPHENOL	ND	24	12
2,4-DINITROTOLUENE	ND	24	12
2,6-DINITROTOLUENE	ND	24	12
2-CHLORONAPHTHALENE	ND	12	6
2-CHLOROPHENOL	ND	12	6
2-METHYLNAPHTHALENE	ND	12	6
2-METHYLPHENOL	ND	12	6
2-NITROANILINE	ND	24	7.2
2-NITROPHENOL	ND	12	6
3,3'-DICHLOROBENZIDINE	ND	12	6
3-NITROANILINE	ND	12	6
4,6-DINITRO-2-METHYLPHENOL	ND	24	12
4-BROMOPHENYL-PHENYL ETHER	ND	24	8.4
4-CHLORO-3-METHYLPHENOL	ND	12	6
4-CHLOROANILINE	ND	12	6
4-CHLOROPHENYL-PHENYL ETHER	ND	12	6
4-METHYLPHENOL (1)	ND	12	6
4-NITROANILINE	ND	12	6
4-NITROPHENOL	ND	24	6
ACENAPHTHENE	ND	12	6
ACENAPHTHYLENE	ND	12	6
ANTHRACENE	ND	12	6
BENZO(A)ANTHRACENE	ND	12	6
BENZO(A)PYRENE	ND	12	6
BENZO(B)FLUORANTHENE	ND	12	6
BENZO(K)FLUORANTHENE	ND	12	6
BENZO(G,H,I)PERYLENE	ND	12	6
B[illegible]-CHLOROETHOXY)METHANE	ND	12	6
[illegible]CHLOROETHYL)ETHER	ND	12	6
[illegible]CHLOROISOPROPYL)ETHER	ND	12	6
[illegible]ETHYLHEXYL)PHTHALATE	ND	24	12
BU[illegible]BENZYLPHTHALATE	ND	12	6
CHRYSENE	ND	12	6
DI-N-BUTYLPHTHALATE	ND	12	6
DI-N-OCTYLPHTHALATE	ND	12	6
DIBENZO(A,H)ANTHRACENE	ND	12	6
DIBENZOFURAN	ND	12	6
DIETHYLPHTHALATE	ND	24	7.2
DIMETHYLPHTHALATE	ND	24	7.2
FLUORANTHENE	ND	12	6
FLUORENE	ND	12	6
HEXACHLOROBENZENE	ND	24	7.2
HEXACHLOROBUTADIENE	ND	12	6
HEXACHLOROCYCLOPENTADIENE	ND	12	6
HEXACHLOROETHANE	ND	12	6
INDENO(1,2,3-CD)PYRENE	ND	12	6
ISOPHORONE	ND	12	6
N-NITROSO-DI-N-PROPYLAMINE	ND	12	6
N-NITROSODIPHENYLAMINE (2)	ND	12	6
NAPHTHALENE	ND	12	6
NITROBENZENE	ND	12	6
PENTACHLOROPHENOL	ND	24	12
PHENANTHRENE	ND	24	7.2
PHENOL	ND	12	6
PYRENE	ND	12	6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	56	36-143
2-FLUOROBIPHENYL	40	36-143
2-FLUOROPHENOL	35*	36-143
NITROBENZENE-D5	42	36-143
PHENOL-D5	37	36-143
TERPHENYL-D14	102	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-2-102104	Date Analyzed:	11/02/04 20:11
Lab Samp ID:	J167-06	Dilution Factor:	.94
Lab File ID:	RKH039	Matrix :	WATER
Ext Btch ID:	SVJ025W	% Moisture :	NA
Calib. Ref.:	RJH007	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	65	36-143
2-FLUOROBIPHENYL	51	36-143
2-FLUOROPHENOL	45	36-143
NITROBENZENE-D5	50	36-143
PHENOL-D5	50	36-143
TERPHENYL-D14	103	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
S[illegible] ID	: GPT-6-1-102104	Date Analyzed:	11/02/04 20:46
[illegible]mp ID	: J167-07	Dilution Factor:	.94
[illegible]e ID	: RKH040	Matrix	: WATER
[illegible]ch ID	: SVJ025W	% Moisture	: NA
Calib. Ref.	: RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
[illegible]CHLOROETHYL)ETHER	ND	9.4	4.7
[illegible]CHLOROISOPROPYL)ETHER	ND	9.4	4.7
[illegible]ETHYLHEXYL)PHTHALATE	ND	19	9.4
B[illegible]BENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	47	36-143
2-FLUOROBIPHENYL	38	36-143
2-FLUOROPHENOL	36	36-143
NITROBENZENE-D5	42	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	94	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

RSK-175
DISSOLVED GASES

SDG#: 04J167

4000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

RSK-175
DISSOLVED GASES

Seven (7) water samples were received on 10/22/04 for Dissolved Gases (Ethane, Ethene and Methane) in accordance to SOP EMAX-RSK175.

1. Holding Time

Analytical holding time was met. All samples were preserved. Samples were extracted on 10/26/04.

2. Calibration

A 6-point Initial calibration was performed. All QC requirements were met. Continuing calibrations were carried out at 12-hour interval and the recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the Reporting Limit.

4. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limit.

5. Matrix Spike/Matrix Spike Duplicate

No samples were analyzed for MS/MSD.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
DISSOLVED GASES

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J167
Instrument ID : GCT010

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DG10J06B	1	NA	10/26/0410:52	10/26/0410:00	FJ26003A	FJ26002A	DG10J06	Method Blank
LCS1W	DG10J06L	1	NA	10/26/0411:04	10/26/0410:00	FJ26004A	FJ26002A	DG10J06	Lab Control Sample (LCS)
LCD1W	DG10J06C	1	NA	10/26/0411:20	10/26/0410:00	FJ26005A	FJ26002A	DG10J06	LCS Duplicate
GPT-6-8-102104	J167-01	1	NA	10/26/0411:44	10/26/0410:00	FJ26006A	FJ26002A	DG10J06	Field Sample
GPT-6-8-102104 DUP	J167-02	1	NA	10/26/0411:56	10/26/0410:00	FJ26007A	FJ26002A	DG10J06	Field Sample
GPT-6-4-102104	J167-03	1	NA	10/26/0412:10	10/26/0410:00	FJ26008A	FJ26002A	DG10J06	Field Sample
GPT-6-4-102104DL	J167-03T	200	NA	10/26/0414:36	10/26/0410:00	FJ26017A	FJ26013A	DG10J06	Diluted Sample
GPT-6-5-102104	J167-04	1	NA	10/26/0412:25	10/26/0410:00	FJ26009A	FJ26002A	DG10J06	Field Sample
GPT-6-5-102104DL	J167-04T	5	NA	10/26/0413:48	10/26/0410:00	FJ26014A	FJ26013A	DG10J06	Diluted Sample
GPT-6-7-102104	J167-05	1	NA	10/26/0412:44	10/26/0410:00	FJ26010A	FJ26002A	DG10J06	Field Sample
GPT-6-7-102104DL	J167-05T	25	NA	10/26/0414:18	10/26/0410:00	FJ26016A	FJ26013A	DG10J06	Diluted Sample
GPT-6-2-102104	J167-06	1	NA	10/26/0413:01	10/26/0410:00	FJ26011A	FJ26002A	DG10J06	Field Sample
GPT-6-1-102104	J167-07	1	NA	10/26/0413:20	10/26/0410:00	FJ26012A	FJ26002A	DG10J06	Field Sample
GPT-6-1-102104DL	J167-07T	2	NA	10/26/0414:01	10/26/0410:00	FJ26015A	FJ26013A	DG10J06	Diluted Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-8-102104	Date Analyzed:	10/26/04 11:44
Lab Samp ID:	J167-01	Dilution Factor:	1
Lab File ID:	FJ26006A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	19	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-8-102104 DUP	Date Analyzed:	10/26/04 11:56
Lab Samp ID	: J167-02	Dilution Factor:	1
Lab File ID	: FJ26007A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26002A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	17	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-4-102104	Date Analyzed:	10/26/04 12:10
Lab Samp ID:	J167-03	Dilution Factor:	1
Lab File ID:	FJ26008A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	.66J	1.5	.6
ETHENE	3.8	1.5	.7
METHANE	290E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-4-102104DL	Date Analyzed:	10/26/04 14:36
Lab Samp ID	: J167-03T	Dilution Factor:	200
Lab File ID	: FJ26017A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	300	120
ETHENE	ND	300	140
METHANE	4600	240	120

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-5-102104	Date Analyzed:	10/26/04 12:25
Lab Samp ID:	J167-04	Dilution Factor:	1
Lab File ID:	FJ26009A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	58E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-5-102104DL	Date Analyzed:	10/26/04 13:48
Lab Samp ID	: J167-04T	Dilution Factor:	5
Lab File ID	: FJ26014A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	7.5	3
ETHENE	ND	7.5	3.5
METHANE	85	6	3

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-7-102104	Date Analyzed:	10/26/04 12:44
Lab Samp ID:	J167-05	Dilution Factor:	1
Lab File ID:	FJ26010A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	100E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
P[illegible]	: NCBC GULFPORT	Date Received:	10/22/04
B[illegible]p.	: 04J167	Date Extracted:	10/26/04 10:00
Sa[illegible] ID	: GPT-6-7-102104DL	Date Analyzed:	10/26/04 14:18
Lab Samp ID	: J167-05T	Dilution Factor:	25
Lab File ID	: FJ26016A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	37	15
ETHENE	ND	37	18
METHANE	360	30	15

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-2-102104	Date Analyzed:	10/26/04 13:01
Lab Samp ID:	J167-06	Dilution Factor:	1
Lab File ID:	FJ26011A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	6.2	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-1-102104	Date Analyzed:	10/26/04 13:20
Lab Samp ID	: J167-07	Dilution Factor:	1
Lab File ID	: FJ26012A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26002A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	42E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-1-102104DL	Date Analyzed:	10/26/04 14:01
Lab Samp ID:	J167-07T	Dilution Factor:	2
Lab File ID:	FJ26015A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	3	1.2
ETHENE	ND	3	1.4
METHANE	45	2.4	1.2

RL: Reporting Limit

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 04J167

5000

CASE NARRATIVE

CLIENT: BATTELLE MEMORIAL INSTITUTE

PROJECT: NCBC GULFPORT

SDG: 04J167

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Seven (7) water samples were received on 10/22/04 for Total Petroleum Hydrocarbons by Extraction analysis by Method 3520C/M8015 in accordance with SW846 3rd edition.

1. Holding Time

Analytical holding time was met. Sample extraction was started on 10/25/04 and completed on 10/26/04

2. Calibration

Initial calibrations were seven points for Diesel. %RSD were within 20%. Continuing calibrations were carried out at 12-hour intervals and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No sample was spiked.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met. Sample was quantitated from C10 to C24 using Diesel (C10-C24) calibration factor. All samples except J167-04 and –06 displayed mixed fuel patterns.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J167
Instrument ID : GCT050

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSJ022WB	1	NA	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	Method Blank
LCS1W	DSJ022WL	1	NA	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	Lab Control Sample (LCS)
LCD1W	DSJ022WC	1	NA	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	LCS Duplicate
GPT-6-8-102104	J167-01	.94	NA	10/30/0401:22	10/25/0415:00	TJ29017A	TJ29014A	DSJ022W	Field Sample
GPT-6-8-102104 DUP	J167-02	.94	NA	10/30/0402:04	10/25/0415:00	TJ29018A	TJ29014A	DSJ022W	Field Sample
GPT-6-4-102104	J167-03	.94	NA	10/30/0402:46	10/25/0415:00	TJ29019A	TJ29014A	DSJ022W	Field Sample
GPT-6-5-102104	J167-04	.94	NA	10/30/0403:28	10/25/0415:00	TJ29020A	TJ29014A	DSJ022W	Field Sample
GPT-6-7-102104	J167-05	1	NA	10/30/0404:10	10/25/0415:00	TJ29021A	TJ29014A	DSJ022W	Field Sample
GPT-6-2-102104	J167-06	.94	NA	10/30/0404:53	10/25/0415:00	TJ29022A	TJ29014A	DSJ022W	Field Sample
GPT-6-1-102104	J167-07	.94	NA	10/30/0405:35	10/25/0415:00	TJ29023A	TJ29014A	DSJ022W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

MET[illegible]OC/M8015
TOTAL PETROLEUM [illegible]CARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSJ022WB	ND	86	100	1	NA	.5	.1	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	NA	10/25/04
LCS1W	DSJ022WL	5.21	94	104	1	NA	.5	.1	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	NA	10/25/04
LCD1W	DSJ022WC	5.22	96	117	1	NA	.5	.1	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	NA	10/25/04
GPT-6-8-102104	J167-01	.22J	67	105	.94	NA	.47	.094	10/30/0401:22	10/25/0415:00	TJ29017A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	.24J	74	99	.94	NA	.47	.094	10/30/0402:04	10/25/0415:00	TJ29018A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	3	46	94	.94	NA	.47	.094	10/30/0402:46	10/25/0415:00	TJ29019A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND	79	107	.94	NA	.47	.094	10/30/0403:28	10/25/0415:00	TJ29020A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	.15J	54	89	1	NA	.5	.1	10/30/0404:10	10/25/0415:00	TJ29021A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	ND	70	116	.94	NA	.47	.094	10/30/0404:53	10/25/0415:00	TJ29022A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	.29J	85	105	.94	NA	.47	.094	10/30/0405:35	10/25/0415:00	TJ29023A	TJ29014A	DSJ022W	10/21/04	10/22/04

RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

SDG#: 04J167

7000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

Seven (7) water samples were received on 10/22/04 for Dissolved Manganese analysis by Method 3010A/6010B in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

   Sample J1167-01 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

6. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J167
Instrument ID : T-I07

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IPJ056WB	1	NA	11/01/0420:19	10/27/0408:45	I07K001010	I07K001008	IPJ056W	Method Blank
LCS1W	IPJ056WL	1	NA	11/01/0420:23	10/27/0408:45	I07K001011	I07K001008	IPJ056W	Lab Control Sample (LCS)
LCD1W	IPJ056WC	1	NA	11/01/0420:27	10/27/0408:45	I07K001012	I07K001008	IPJ056W	LCS Duplicate
GPT-6-8-102104AS	J167-01A	1	NA	11/01/0420:31	10/27/0408:45	I07K001013	I07K001008	IPJ056W	Analytical Spike Sample
GPT-6-8-102104	J167-01	1	NA	11/01/0420:37	10/27/0408:45	I07K001014	I07K001008	IPJ056W	Field Sample
GPT-6-8-102104DL	J167-01T	5	NA	11/01/0420:41	10/27/0408:45	I07K001015	I07K001008	IPJ056W	Diluted Sample
GPT-6-8-102104 DUP	J167-02	1	NA	11/01/0420:45	10/27/0408:45	I07K001016	I07K001008	IPJ056W	Field Sample
GPT-6-4-102104	J167-03	1	NA	11/01/0420:49	10/27/0408:45	I07K001017	I07K001008	IPJ056W	Field Sample
GPT-6-5-102104	J167-04	1	NA	11/01/0420:53	10/27/0408:45	I07K001018	I07K001008	IPJ056W	Field Sample
GPT-6-7-102104	J167-05	1	NA	11/01/0420:57	10/27/0408:45	I07K001019	I07K001008	IPJ056W	Field Sample
GPT-6-2-102104	J167-06	1	NA	11/01/0421:10	10/27/0408:45	I07K001022	I07K001020	IPJ056W	Field Sample
GPT-6-1-102104	J167-07	1	NA	11/01/0421:14	10/27/0408:45	I07K001023	I07K001020	IPJ056W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD 30[illegible]10B
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : T-107

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	IPJ056WB	ND	1	NA	10	1	11/01/0420:19	10/27/0408:45	I07K001010	I07K001008	IPJ056W	NA	10/27/04
LCS1W	IPJ056WL	1010	1	NA	10	1	11/01/0420:23	10/27/0408:45	I07K001011	I07K001008	IPJ056W	NA	10/27/04
LCD1W	IPJ056WC	1020	1	NA	10	1	11/01/0420:27	10/27/0408:45	I07K001012	I07K001008	IPJ056W	NA	10/27/04
GPT-6-8-102104AS	J167-01A	984	1	NA	10	1	11/01/0420:31	10/27/0408:45	I07K001013	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104	J167-01	5.98J	1	NA	10	1	11/01/0420:37	10/27/0408:45	I07K001014	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104DL	J167-01T	ND	5	NA	50	5	11/01/0420:41	10/27/0408:45	I07K001015	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	5.97J	1	NA	10	1	11/01/0420:45	10/27/0408:45	I07K001016	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	95.2	1	NA	10	1	11/01/0420:49	10/27/0408:45	I07K001017	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	68.9	1	NA	10	1	11/01/0420:53	10/27/0408:45	I07K001018	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	52.6	1	NA	10	1	11/01/0420:57	10/27/0408:45	I07K001019	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	2.2J	1	NA	10	1	11/01/0421:10	10/27/0408:45	I07K001022	I07K001020	IPJ056W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	15.9	1	NA	10	1	11/01/0421:14	10/27/0408:45	I07K001023	I07K001020	IPJ056W	10/21/04	10/22/04

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
SDG NO.: 04J167
METHOD: METHOD 3010A/6010B

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IPJ056WB	IPJ056WL	IPJ056WC		
LAB FILE ID:	I07K001010	I07K001011	I07K001012		
DATIME EXTRCTD:	10/27/0408:45	10/27/0408:45	10/27/0408:45	DATE COLLECTED:	NA
DATIME ANALYZD:	11/01/0420:19	11/01/0420:23	11/01/0420:27	DATE RECEIVED:	10/27/04
PREP. BATCH:	IPJ056W	IPJ056W	IPJ056W		
CALIB. REF:	I07K001008	I07K001008	I07K001008		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Manganese	ND	1000	1010	101	1000	1020	102	1	80-120	20

7004

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
BATCH NO.: 04J167
METHOD: METHOD 3010A/6010B

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	5		
SAMPLE ID:	GPT-6-8-102104	GPT-6-8-102104DL		
EMAX SAMP ID:	J167-01	J167-01T		
LAB FILE ID:	I07K001014	I07K001015		
DATE EXTRACTED:	10/27/0408:45	10/27/0408:45	DATE COLLECTED:	10/21/04
DATE ANALYZED:	11/01/0420:37	11/01/0420:41	DATE RECEIVED:	10/22/04
PREP. BATCH:	IPJ056W	IPJ056W		
CALIB. REF:	I07K001008	I07K001008		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Manganese	5.98J	ND	NA	10

7005

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
SDG NO.: 04J167
METHOD: METHOD 3010A/6010B

==========

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	GPT-6-8-102104			
CONTROL NO.:	J167-01	J167-01A		
LAB FILE ID:	I07K001014	I07K001013		
DATIME EXTRCTD:	10/27/0408:45	10/27/0408:45	DATE COLLECTED:	10/21/04
DATIME ANALYZD:	11/01/0420:37	11/01/0420:31	DATE RECEIVED:	10/22/04
PREP. BATCH:	IPJ056W	IPJ056W		
CALIB. REF:	I07K001008	I07K001008		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Manganese	5.98J	1000	984	98	75-125

7006

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

WET CHEMICAL ANALYSES

SDG#: 04J167

8000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

METHOD 310.1
TOTAL ALKALINITY

Seven (7) water samples were received on 10/22/04 for Total Alkalinity analysis by Method 310.1 in accordance with "Methods for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limit.

4. Duplicate

   Sample J167-03 was analyzed for duplicate. %RPD was within QC limit.

5. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD
TOTAL ALKALINITY

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : 153

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALJ010WB	ND	1	NA	5	1	10/27/0410:00	NA	ALJ010W-01	NA	ALJ010W	NA	NA
LCS1W	ALJ010WL	35.2	1	NA	5	1	10/27/0410:05	NA	ALJ010W-02	NA	ALJ010W	NA	NA
LCD1W	ALJ010WC	35.2	1	NA	5	1	10/27/0410:10	NA	ALJ010W-03	NA	ALJ010W	NA	NA
GPT-6-8-102104	J167-01	8.50	1	NA	5	1	10/27/0410:15	NA	ALJ010W-04	NA	ALJ010W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	7.55	1	NA	5	1	10/27/0410:20	NA	ALJ010W-05	NA	ALJ010W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	347	1	NA	5	1	10/27/0410:25	NA	ALJ010W-06	NA	ALJ010W	10/21/04	10/22/04
GPT-6-4-102104DUP	J167-03D	350	1	NA	5	1	10/27/0410:30	NA	ALJ010W-07	NA	ALJ010W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	15.1	1	NA	5	1	10/27/0410:35	NA	ALJ010W-08	NA	ALJ010W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	11.1	1	NA	5	1	10/27/0410:40	NA	ALJ010W-09	NA	ALJ010W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	5.03	1	NA	5	1	10/27/0410:45	NA	ALJ010W-10	NA	ALJ010W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	5.03	1	NA	5	1	10/27/0410:50	NA	ALJ010W-11	NA	ALJ010W	10/21/04	10/22/04

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 310.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J167
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: ALJ010WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/27/04 10:05/10:10

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Alkalinity	ND	36.3	35.2	97	36.3	35.2	97	0	80-120	20

8003

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 310.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J167
SAMPLE ID: GPT-6-4-102104DUP
CONTROL NO.: J167-03D

DATE RECEIVED: 10/22/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/27/04 10:30

ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Alkalinity	347	350	1	20

8004

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

METHOD 9056
ANIONS

Seven (7) water samples were received on 10/22/04 for Nitrate-N and Sulfate analyses by Method 9056.

1. Holding Time

   Analyses met holding time criteria.

2. Method Blank

   Method blanks were free of contamination at reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limits.

4. Duplicate Sample

   Sample J167-07 was analyzed for duplicate. All %RPDs were with in QC limits.

5. Matrix Spike/Matrix Spike Duplicate

   Sample J167-07 was spiked. All recoveries were within QC limits.

6. Sample Analyses

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

   Nitrate-N was reported as nitrogen concentration.

SAMPLE RESULTS

METHOD 9056
NITRATE-N

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ020WB	ND	1	NA	.1	.05	10/22/0412:14	NA	AJ22003	AJ22001	ICJ020W	NA	NA
LCS1W	ICJ020WL	3.98	1	NA	.1	.05	10/22/0412:27	NA	AJ22004	AJ22001	ICJ020W	NA	NA
LCD1W	ICJ020WC	3.85	1	NA	.1	.05	10/22/0412:40	NA	AJ22005	AJ22001	ICJ020W	NA	NA
GPT-6-8-102104 DUP	J167-02	ND	1	NA	.1	.05	10/22/0415:10	NA	AJ22016	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	ND	1	NA	.1	.05	10/22/0415:23	NA	AJ22017	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND	1	NA	.1	.05	10/22/0415:36	NA	AJ22018	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	ND	1	NA	.1	.05	10/22/0415:49	NA	AJ22019	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	.189	1	NA	.1	.05	10/22/0416:02	NA	AJ22020	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND	1	NA	.1	.05	10/22/0416:15	NA	AJ22021	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104DUP	J167-07D	ND	1	NA	.1	.05	10/22/0416:28	NA	AJ22022	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MS	J167-07M	3.82	1	NA	.1	.05	10/22/0416:41	NA	AJ22023	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MSD	J167-07S	3.88	1	NA	.1	.05	10/22/0416:54	NA	AJ22024	AJ22013	ICJ020W	10/21/04	10/22/04
MBLK2W	ICJ021WB	ND	1	NA	.1	.05	10/22/0417:33	NA	AJ22027	AJ22025	ICJ021W	NA	NA
LCS2W	ICJ021WL	3.79	1	NA	.1	.05	10/22/0417:46	NA	AJ22028	AJ22025	ICJ021W	NA	NA
LCD2W	ICJ021WC	3.8	1	NA	.1	.05	10/22/0417:59	NA	AJ22029	AJ22025	ICJ021W	NA	NA
GPT-6-8-102104	J167-01	ND	1	NA	.1	.05	10/22/0418:12	NA	AJ22030	AJ22025	ICJ021W	10/21/04	10/22/04

METHOD
SULFATE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ020WB	ND	1	NA	.5	.2	10/22/0412:14	NA	AJ22003	AJ22001	ICJ020W	NA	NA
LCS1W	ICJ020WL	15.4	1	NA	.5	.2	10/22/0412:27	NA	AJ22004	AJ22001	ICJ020W	NA	NA
LCD1W	ICJ020WC	14.7	1	NA	.5	.2	10/22/0412:40	NA	AJ22005	AJ22001	ICJ020W	NA	NA
GPT-6-8-102104 DUP	J167-02	19.3	1	NA	.5	.2	10/22/0415:10	NA	AJ22016	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	.751	1	NA	.5	.2	10/22/0415:23	NA	AJ22017	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	15.8	1	NA	.5	.2	10/22/0415:36	NA	AJ22018	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	9.09	1	NA	.5	.2	10/22/0415:49	NA	AJ22019	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	13.4	1	NA	.5	.2	10/22/0416:02	NA	AJ22020	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	14.8	1	NA	.5	.2	10/22/0416:15	NA	AJ22021	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104DUP	J167-07D	14.7	1	NA	.5	.2	10/22/0416:28	NA	AJ22022	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MS	J167-07M	30.2	1	NA	.5	.2	10/22/0416:41	NA	AJ22023	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MSD	J167-07S	30.7	1	NA	.5	.2	10/22/0416:54	NA	AJ22024	AJ22013	ICJ020W	10/21/04	10/22/04
MBLK2W	ICJ021WB	ND	1	NA	.5	.2	10/22/0417:33	NA	AJ22027	AJ22025	ICJ021W	NA	NA
LCS2W	ICJ021WL	14.7	1	NA	.5	.2	10/22/0417:46	NA	AJ22028	AJ22025	ICJ021W	NA	NA
LCD2W	ICJ021WC	14.5	1	NA	.5	.2	10/22/0417:59	NA	AJ22029	AJ22025	ICJ021W	NA	NA
GPT-6-8-102104	J167-01	18.6	1	NA	.5	.2	10/22/0418:12	NA	AJ22030	AJ22025	ICJ021W	10/21/04	10/22/04

8008

CASE NARRATIVE

CLIENT: BATTELLE MEMORIAL INSTITUTE

PROJECT: NCBC GULFPORT

SDG: 04J167

SM3500
FERROUS IRON

Seven (7) water samples were received on 10/22/04 for Ferrous Iron analysis by Method 3500 in accordance with "Standard Methods for the Examination of Water and Wastewater", 18th edition (1990).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample

   Lab control result was within QC limit.

4. Duplicate

   Sample J167-06 was analyzed for duplicate. %RPD was within QC limit.

5. Matrix Spike

   Sample J167-06 was spiked. %Recovery was within QC limit.

6. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SM
FERROUS IRON

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : I70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	FEJ002WB	ND	1	NA	5	2.5	10/22/0411:38	NA	FEJ002W-09	FEJ002W-07	FEJ002W	NA	NA
LCS1W	FEJ002WL	21.9	1	NA	5	2.5	10/22/0411:39	NA	FEJ002W-10	FEJ002W-07	FEJ002W	NA	NA
GPT-6-8-102104	J167-01R	83.6	2	NA	10	5	10/22/0411:41	NA	FEJ002W-12	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02R	79.4	2	NA	10	5	10/22/0411:43	NA	FEJ002W-14	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	33.4	1	NA	5	2.5	10/22/0411:44	NA	FEJ002W-15	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-5-102104	J167-04R	387	10	NA	50	25	10/22/0411:46	NA	FEJ002W-17	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-7-102104	J167-05R	439	10	NA	50	25	10/22/0411:50	NA	FEJ002W-21	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	20.9	1	NA	5	2.5	10/22/0411:51	NA	FEJ002W-22	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104DUP	J167-06D	21.9	1	NA	5	2.5	10/22/0411:52	NA	FEJ002W-23	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104MS	J167-06M	44.9	1	NA	5	2.5	10/22/0411:53	NA	FEJ002W-24	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND	1	NA	5	2.5	10/22/0411:54	NA	FEJ002W-25	FEJ002W-09	FEJ002W	10/21/04	10/22/04

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

==========

BATCH NO.: 04J167
SAMPLE ID: LCS1W
CONTROL NO.: FEJ002WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/22/04 11:39

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
Ferrous Iron	ND	20.00	21.90	110	80-120

8029

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J167
SAMPLE ID: GPT-6-2-102104MS
CONTROL NO.: J167-06M

DATE RECEIVED: 10/22/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/22/04 11:53

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Ferrous Iron	20.90	20.00	44.90	120	75-125

8030

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J167
SAMPLE ID: GPT-6-2-102104DUP
CONTROL NO.: J167-06D

DATE RECEIVED: 10/22/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/22/04 11:52

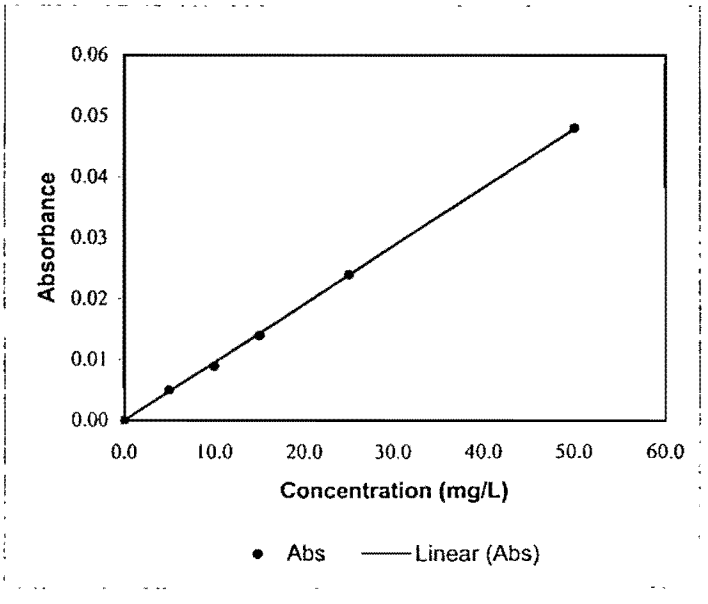
ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Ferrous Iron	20.90	21.90	5	20

8031

CALIBRATION CURVE
FERROUS FE

Conc.	Abs
0.0	0.000
5.0	0.005
10.0	0.009
15.0	0.014
25.0	0.024
50.0	0.048



R^2	0.9997	Comments:	**PASSED**
Eq.Line	0.0010		
CF	1045.1128	Analyzed by:	LA

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J167**

METHOD 376.1
TOTAL SULFIDE

Seven (7) water samples were received on 10/22/04 for Total Sulfide analysis by Method 376.1 in accordance with "Methods for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at reporting limit.

3. Lab Control Sample

   Lab control result was within QC limit.

4. Duplicate

   Sample J167-03 was analyzed for duplicate. %RPD was within QC limit.

5. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD
TOTAL SULFIDE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MDIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	SDJ002WB	ND	1	NA	1	.11	10/25/0413:30	NA	SDJ002W-01	NA	SDJ002W	NA	NA
LCS1W	SDJ002WL	5.50	1	NA	1	.11	10/25/0413:35	NA	SDJ002W-02	NA	SDJ002W	NA	NA
GPT-6-8-102104	J167-01	1.08	1	NA	1	.11	10/25/0413:40	NA	SDJ002W-03	NA	SDJ002W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	1.26	1	NA	1	.11	10/25/0413:45	NA	SDJ002W-04	NA	SDJ002W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	3.79	1	NA	1	.11	10/25/0413:50	NA	SDJ002W-05	NA	SDJ002W	10/21/04	10/22/04
GPT-6-4-102104DUP	J167-03D	3.88	1	NA	1	.11	10/25/0413:55	NA	SDJ002W-06	NA	SDJ002W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND	1	NA	1	.11	10/25/0414:00	NA	SDJ002W-07	NA	SDJ002W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	ND	1	NA	1	.11	10/25/0414:05	NA	SDJ002W-08	NA	SDJ002W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	ND	1	NA	1	.11	10/25/0414:10	NA	SDJ002W-09	NA	SDJ002W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND	1	NA	1	.11	10/25/0414:15	NA	SDJ002W-10	NA	SDJ002W	10/21/04	10/22/04

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 376.1
MATRIX: WATER
% MOISTURE: NA

==========

BATCH NO.: 04J167
SAMPLE ID: LCS1W
CONTROL NO.: SDJ002WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/25/04 13:35

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
Sulfide	ND	5.71	5.50	96	80-120

8035

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 376.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J167
SAMPLE ID: GPT-6-4-102104DUP
CONTROL NO.: J167-03D

DATE RECEIVED: 10/22/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/25/04 13:55

ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Sulfide	3.79	3.88	2	20

8036

EMAX
LABORATORIES, INC.
835 W. 205th Street
orrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-09-2004
EMAX Batch No.: 04J149

Attn: Lydia Cumming

Battelle Memorial Institute
505 King Ave
Columbus OH 43201

Subject: Laboratory Report
Project: NCBC Gulfport

Enclosed is the Laboratory report for samples received on 10/21/04. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
GPT-6-3-102004	J149-01	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-6-102004	J149-02	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC

Sample ID	Control #	Col Date	Matrix	Analysis
				SULFATE BY IC
GPT-6-PZ4-102004	J149-03	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-9-102004	J149-04	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-10-102004	J149-05	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-11-102004	J149-06	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC

EMAX LABORATORIES, INC. 1835 W. 205th Street, Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

Sample ID	Control #	Col Date	Matrix	Analysis
GPT-6-12-102004	J149-07	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
GPT-6-13-102004	J149-08	10/20/04	WATER	ALKALINITY
				DISSOLVED GAS
				TPH DIESEL
				MANGANESE DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
				VOLATILE ORGANICS BY GC/MS
				SULFIDE
				FERROUS IRON
				NITRATE-N BY IC
				SULFATE BY IC
TB-01-04-10-1	J149-09	10/20/04	WATER	VOLATILE ORGANICS BY GC/MS
TB-01-04-10-2	J149-10	10/20/04	WATER	VOLATILE ORGANICS BY GC/MS
TB-01-04-10-3	J149-11	10/20/04	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: (310) 618-8889 Fax #: (310) 618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE D4/VW01-48
EMAX CONTROL NO. * 047149
PROJECT CODE:

CLIENT: BATTELLE
PROJECT: NCBC GULFPORT
COORDINATOR: ~~Lydia~~ Lydia CUMMING
TEL: 614-424-7778 FAX: 614-424-3667 EMAIL:
SEND REPORT TO: Lydia Cumming
COMPANY: BATTELLE
ADDRESS: 505 KING AVE COLUMBUS, OH 43201
EMAX PM: KAM PANG

MATRIX CODE	PRESERVATIVE CODE
DW= Drinking Water	IC=Ice
GW=Ground Water	HC=HCl
WW=Waste Water	HN=HN03
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/Sediment	ST=Na2S203
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: VOC (5030B/8260B); SVOC (3520C/8270C); TPH-D (3520C/8015B); DHG (RSK-175); Fe2/Mn (3500-3010A/6010B); NO_3/SO4/ALK (9056/310.1); Sulfide (376.1)

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☒ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	HC	IC	IC	HC	HN	IC	SH/ZA	COMMENTS
* 1	GPT-6-3-102004		10/21/04	1640	SEE BELOW					X	X	X	X	X	X	X	Fe2/Mn Samples Filtered in Field
* 2	GPT-6-6-102004		10/20/04	1715						X	X	X	X	X	X	X	
* 3		BOTTLES		VOC	3	40mL	VOA										
* 4				TPH-D	1	1-L	Amber										
* 5				SVOC	1	1-L	Amber										
* 6				DHG	2	40mL	VOA										
* 7				Fe2/Mn	1	125mL	Plastic										
* 8				NO_3/SO4/ALK	1	125mL	Plastic										
* 9				Sulfide	1	125mL	Plastic										
* 0																	

Instructions: DHG = Dissolved Hydrogen Carbons (Ethene, Ethane, Methane)

Cooler #	Temp. (°C)
1	2.8

Sample #s

SAMPLER

RELINQUISHED BY	Date	Time	RECEIVED BY
[signature]	10/20/04	1730	VIA FEDEX # 8444204469291
	10.21.04	09:30	

COURIER/AIRBILL

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GRAPHICS EXPRESS (626) 330-5565

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: (310) 618-8889 Fax #: (310) 618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE: D4/VW01-48

EMAX CONTROL NO. *: 04 7149

PROJECT CODE:

CLIENT: BATTELLE
PROJECT: NCBC GULFPORT
COORDINATOR: ~~KAM PANG~~ LYDIA CUMMING
TEL: 614-424-7778 FAX: 614-424-3667 EMAIL: cummingLE@BATTELLE.org
SEND REPORT TO: LYDIA CUMMING
COMPANY: BATTELLE
ADDRESS: 505 KING AVE
COLUMBUS, OH 43201
EMAX PM: KAM PANG

MATRIX CODE	PRESERVATIVE CODE
DW= Drinking Water	IC=Ice
GW=Ground Water	HC=HCl
WW=Waste Water	HN=HN03
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/Sediment	ST=Na2S203
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: VOC (5030B/8260B); SVOC (3520C/8270C); TPH-DRO (3520C/8015B); DHG (RSK-175); Fe2/Mn (3500-3010A/6010B); NO3/SO4/ALK (9056-300A); Sulfide (376.1)

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☒ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

SAMPLE ID LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO	SIZE	TYPE	MATRIX CODE	QC	HC	IC	IC	HC	HN	IC	SH/ZA	COMMENTS
*3	GPT-6-PZ4-102004		10/20/04	1015	SEE			GW		X	X	X	X	X	X	X	* Fe2/Mn Samples Filtered in Field
*4	GPT-6-9-102004		10/20/04	1100	BELOW			GW		X	X	X	X	X	X	X	
*5	GPT-6-10-102004		10/20/04	1230				GW		X	X	X	X	X	X	X	
*4					BOTTLES ⇒ VOC	3	40mL VOA										
*5					SVOC	1	1L	AMBER									
*6					TPH-D	1	1L	AMBER									
*7					DHG	2	40mL	VOA									
*8					Fe/Mn	1	125mL	Plastic									
*9					NO3/SO4/ALK	1	125mL	Plastic									
*0					Sulfide	1	125mL	Plastic									

Instructions

Analyze: 10% Samples LEVEL 4 Validation
90% Samples Level 3 Validation

* DHG = Dissolved Hydrocarbon gas: Ethene, Ethane, methane

Cooler #	Temp. (°C)	Sample #s
2	2.7	

SAMPLER

RELINQUISHED BY	Date	Time	RECEIVED BY
Lauren Tate	10/20/04	1730	VIA FEDEX # 8444 2046 4317
	10.21.04	09:30	

COURIER/AIRBILL

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GRAPHICS EXPRESS (626) 330-8686

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: (310) 618-8889 Fax #: (310) 618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE: D4/VW01-48

EMAX CONTROL NO. *: 047149

PROJECT CODE:

CLIENT: BATTELLE
PROJECT: NCBC GULFPORT
COORDINATOR: ~~KAM PANG~~ LYDIA CUMMING
TEL: 614-424-7778 FAX: 614-424-3667 EMAIL: cummingl@battelle.org
SEND REPORT TO: Lydia Cumming
COMPANY: BATTELLE
ADDRESS: 505 KING AVE
COLUMBUS, OH 43201
EMAX PM: KAM PANG

MATRIX CODE	PRESERVATIVE CODE
DW= Drinking Water	IC=Ice
GW=Ground Water	HC=HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H2SO4
O=	

ANALYSIS REQUIRED: VOC (5038B/8260B); SVOC (3520C/8270C); TPH-DRO (3520C/8015B); DHG (RSK-175); Fe2/Mn (3500-Fe/3500-Mn/6010B); NO3/SO4/ALK (9056-310.1); Sulfide (376.1)

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☒ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	HC	IC	IC	HC	HN	IC	SH/ZA	COMMENTS
* 6	GPT-6-11-102004		10/20/04	1315	SEE			GW		X	X	X	X	X	X	X	Fe2/Mn Samples Filtered in Field
* 7	GPT-6-12-102004		10/20/04	1430	BELOW			GW		X	X	X	X	X	X	X	
* 8	GPT-6-13-102004		10/20/04	1545				GW		X	X	X	X	X	X	X	
* 4		VOC-BOTTLES			3	40mL	VOA										
* 5				SVOC	1	1L	Amber										
* 6				TPH-D	1	1L	Amber										
* 7				DHG	2	40mL	VOA										
* 8				Fe2/Mn	1	125mL	Plastic										
* 9				NO3/SO4/ALK	1	125mL	Plastic										
* 0				Sulfide	1	125mL	Plastic										

Instructions: * DHG = Dissolved Hydrogen Carbons (Ethene, Ethane, Methane)

Cooler #	Temp. (°C)
3	2.9

Sample #s

SAMPLER

RELINQUISHED BY	Date	Time	RECEIVED BY
Laura J. Tate	10/20/04	1730	VIA FEDEX # 844420469306
	10.21.04	09:30	

COURIER/AIRBILL

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

GRAPHICS EXPRESS (626) 330-8585

Hanh Bui

From: Hanh Bui
Sent: Tuesday, October 26, 2004 1:53 PM
To: Lina Amon
Subject: FW: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCBC Gulfport) BT_0405_

-----Original Message-----
From: Cumming, Lydia [mailto:cummingl@BATTELLE.ORG]
Sent: Tuesday, October 26, 2004 1:41 PM
To: Hanh Bui
Cc: Yoon, Sam
Subject: RE: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

I noticed that only one COC notes that 10% of the samples require a Level 4 data package and 90% need a level 3 data package(04J149). I just want
to clarify that the percentages applies to all the water samples as a whole.

The IDW soil samples just require a standard data quality assurance package.

A copy of the data package for the water samples should be sent to:

Laboratory Data Consultants, Inc.
7750 El Camino Real
Suite 2L
Carlsbad, CA 92009

Attn: Erlinda T Rauto

Her number is (760) 634-0437

Please let me know if you have any questions.

Lydia Cumming
Battelle
505 King Ave
Columbus, OH 43201
(614) 424-7778 (tel)
(614) 424-3667 (fax)

-----Original Message-----
From: Hanh Bui [mailto:HDBui@emaxlabs.com]
Sent: Tuesday, October 26, 2004 2:54 PM
To: Cumming, Lydia
Cc: Yoon, Sam
Subject: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Please find the attached files of Login Review Sheet SDG: 04J149, 04J167,
and 04J166. If you want to change something, please let me know, thanks.
Hanh Bui
<<REVIEW_04J149_j167_J166.pdf>>

1006

Ferrous Iron/ Nitrate

Cecilia Chavez

From: Kam Pang
Sent: Wednesday, October 20, 2004 5:05 PM
To: Cecilia Chavez
Subject: FW: IDW Soil sample

Cecilia, this is a new project, I am working on the PSR.

Kam
-----Original Message-----
From: Yoon, Sam [mailto:yoon@BATTELLE.ORG]
Sent: Wednesday, October 20, 2004 4:59 PM
To: Kam Pang
Subject: RE: IDW Soil sample

Hi Kam,

We shipped out three coolers via FedEx. The coolers contain 8 sets of groundwater samples. The tracking numbers are as follows:

84420469317
84420469291
84420469306

Note that we forgot to write down trip blanks on a chain-of-custody. Please analyze the trip blanks for SW8260. We will be shipping out two more coolers with water samples and one small cooler for one soil sample tomorrow.

Thanks.
Sam

> -----Original Message-----
> From: Kam Pang [mailto:KPang@emaxlabs.com]
> Sent: Tue 10/19/2004 9:40 PM
> To: Yoon, Sam
> Cc:
> Subject: RE: IDW Soil sample

Hanh Bui

From: Cumming, Lydia [cummingl@BATTELLE.ORG]
Sent: Thursday, October 28, 2004 6:38 AM
To: Hanh Bui; KPang@emaxlabs.com
Cc: Yoon, Sam
Subject: RE: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Dear Kam:

Sam forwarded your voice message. He cannot respond today because he is out of the office.

I would like to request that the results for the first sample listed in your login review sheet, GPT-6-3-102004, include the level 4 data package. The remaining samples reported on the three COCs should only include the level 3 data package. Our project goal is 10 % of all samples during one sample event will be subject to level 4 data validation (i.e., one sample).

Please call me or respond to this email if you have any other questions. Thank you!

Lydia Cumming

-----Original Message-----
From: Hanh Bui [mailto:HDBui@emaxlabs.com]
Sent: Tuesday, October 26, 2004 2:54 PM
To: Cumming, Lydia
Cc: Yoon, Sam
Subject: Login Review Sheet SDG: 04J149, 04J167, and 04J166 (Battelle/ NCB C Gulfport) BT_0405_

Please find the attached files of Login Review Sheet SDG: 04J149, 04J167,
and 04J166. If you want to change something, please let me know, thanks.
Hanh Bui
<<REVIEW_04J149_j167_J166.pdf>>

1008

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN	041149
☐ EMAX Courier		Recepient	Sitnikov
☐ Client Delivery		Date	10-21-04
☑ Third Party FEDEX	8444 2046 9306	Time	09:30
	8444 2046 9317, 8444 2046 9291		

COC Inspection

☑ Client Name	☑ Sampler Name	☑ Sampling Date/Time/Location
☑ Address	☐ Courier Signature/Date/Time	☑ Analysis Required
☑ Client PM/FC	☑ TAT	☑ Matrix
☑ Tel #/Fax #	☑ Sample ID	☑ Preservative (if any)
Safety Issues ☑ None	☐ High Concentrations expected	☐ Superfund Site Samples
Comments: ☐ Rad Screening Required		

Packaging Inspection

Container	☑ Cooler	☐ Box	☐	☐
Condition	☐ Custody Seal	☐ Intact	☐ Damaged	☐
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Sufficient	☐
Temperatures	☑ Cooler 1 2.8°	☑ Cooler 2 2.7	☑ Cooler 3 2.9	☐ Cooler 4 _____
	☐ Cooler 5 _____	☐ Cooler 6 _____	☐ Cooler 7 _____	☐ Cooler 8 _____
	☐ Cooler 9 _____	☐ Cooler 10 _____	☐ Cooler 11 _____	☐ Cooler 12 _____

Comments:

LSCID	Client ID	Discrepancy	Corrective Action
J149-9,-10,-11		Received one trip blank per cooler, not listed on COC. ID only reads TB-01-04-10	Analyze 8260 per Sam's instruction 10/20/04
J149-7		Sulfide label does not have sample ID.	Follow COC

LSCID : Lab Sample Container ID

REVIEWS

Sample Labeling NH
Date 10-21-04

SRF [signature]
Date 10/21/04

PM [signature]
Date 10/21

FedEx Express *USA Airbill*

FedEx Tracking Number 8444 2046 9291

Form I.D. No. 0200 — Recipient's Copy

1 From

Date 10/20/04 [redacted]

Sender's Name SAM YOON Phone 614 424-4569

cooler #1
047149
10.21.04.
9:30

Company BATTELLE

Address 505 KING AVE Dept/Floor/Suite/Room

City COLUMBUS State OH ZIP 43201

2 Your Internal Billing Reference

3 To

Recipient's Name SAMPLE RECEIVING Phone 310 1018-8889

Company EMAX LABORATORIES

Address 1835 W 205th St

To "HOLD" at FedEx location, print FedEx address — We cannot deliver to P.O. boxes or P.O. ZIP codes

Address Dept/Floor/Suite/Room

City TORRANCE State CA ZIP 90501

8444 2046 9291

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3

- [ ] SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below

- [x] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip Acct. No.

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	53	$ 00	Credit Card Auth

†Our liability is limited to $100 unless you declare a higher value. See back for details

8 Release Signature *Sign to authorize delivery without obtaining signature*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800 463 3339

Rev. Date 10/01 • Part #15/612 • ©1994–2001 FedEx • PRINTED IN U.S.A. • WCSL 03

446

1010

FedEx Express USA Airbill — FedEx Tracking Number 8444 2046 9306

Form ID No. 0200

1 From

Date 10/20/04

Sender's Name [redacted] Phone 614 424-4969

Company Battelle

Address 505 KING Ave — Dept./Floor/Suite/Room

City Columbus State OH ZIP 43201

2 Your Internal Billing Reference 3171

3 To

Recipient's Name SAMPLE RECEIVING Phone 319 618-8889

Company EMAX LABORATORIES

Address 205th Street

To "HOLD" at FedEx location, check here — We cannot deliver to P.O. boxes or P.O. ZIP codes

Address — Dept./Floor/Suite/Room

City Torrance [redacted] CA ZIP 90501

8444 2046 9306

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [x] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day* — Second business day
- [ ] FedEx Express Saver — Third business day

* FedEx Envelope rate not available. Minimum charge: One pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3

- [ ] SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below — Obtain Recip Acct. No.

- [x] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	60	$ ____ .00	Credit Card Auth

†Our liability is limited to $100 unless you declare a higher value. See back for details

8 Release Signature *Sign to authorize delivery without obtaining signature*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800 Go.FedEx® 800 463 3339.

Rev. Date 10/01 • Part #153617 • ©1994-2001 FedEx • PRINTED IN U.S.A. WCSL 03

446

1011

FedEx Express USA Airbill

FedEx Tracking Number 8444 2046 9317

Form I.D. No. 0200

Shipper's Copy

1 From

Date 10/20/04

Sender's Name Sam Yoon Phone 614 424-4569

Company Battelle

Address 505 KING Ave Dept./Floor/Suite/Room

City Columbus State OH ZIP 43201

water #2
04J149
10.21.04
9:30

2 Your Internal Billing Reference 3171

3 To

Recipient's Name Sample Receiving Phone 310 618-8889

Company EMAX LABORATORIES

Address 1835 W. 205th Street

To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes

Address Dept./Floor/Suite/Room

City Torrance State CA ZIP 90501

8444 2046 9317

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3

- [ ] SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below

- [x] Sender — Acct. No. in Section 1 will be billed
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip Acct. No.

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	54	$ .00	

†Our liability is limited to $100 unless you declare a higher value. See back for details

Credit Card Auth

8 Release Signature *Sign to authorize delivery without obtaining signature*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com
or call 1.800.Go FedEx® 800.463.3339

Rev. Date 10/01 • Part #151612 • ©1994-2001 FedEx • PRINTED IN U.S.A. WCSL 03

146

1012

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 04J149

2000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Eleven (11) water samples were received on 10/21/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

   Analytical holding time was met.

2. Tuning and Calibration

   Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

   Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

   Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

   All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

7. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICL
VOLATILE ORGANICS BY GC/MS

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J149
Instrument ID : T-067

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V067J53B	1	NA	10/26/0404:50	10/26/0404:50	RJC600	RJC470	V067J53	Method Blank
LCS1W	V067J53L	1	NA	10/26/0403:35	10/26/0403:35	RJC598	RJC470	V067J53	Lab Control Sample (LCS)
LCD1W	V067J53C	1	NA	10/26/0404:13	10/26/0404:13	RJC599	RJC470	V067J53	LCS Duplicate
TB-01-04-10-1	J149-09	1	NA	10/26/0411:06	10/26/0411:06	RJC610	RJC470	V067J53	Field Sample
TB-01-04-10-2	J149-10	1	NA	10/26/0411:43	10/26/0411:43	RJC611	RJC470	V067J53	Field Sample
TB-01-04-10-3	J149-11	1	NA	10/26/0412:20	10/26/0412:20	RJC612	RJC470	V067J53	Field Sample
GPT-6-3-102004	J149-01	1	NA	10/26/0412:58	10/26/0412:58	RJC613	RJC470	V067J53	Field Sample
MBLK2W	V067J54B	1	NA	10/26/0417:24	10/26/0417:24	RJC620	RJC470	V067J54	Method Blank
LCS2W	V067J54L	1	NA	10/26/0416:09	10/26/0416:09	RJC618	RJC470	V067J54	Lab Control Sample (LCS)
LCD2W	V067J54C	1	NA	10/26/0416:46	10/26/0416:46	RJC619	RJC470	V067J54	LCS Duplicate
GPT-6-6-102004	J149-02	1	NA	10/26/0421:08	10/26/0421:08	RJC626	RJC470	V067J54	Field Sample
GPT-6-PZ4-102004	J149-03	1	NA	10/26/0421:45	10/26/0421:45	RJC627	RJC470	V067J54	Field Sample
GPT-6-9-102004	J149-04	1	NA	10/26/0422:23	10/26/0422:23	RJC628	RJC470	V067J54	Field Sample
GPT-6-10-102004	J149-05	1	NA	10/26/0423:01	10/26/0423:01	RJC629	RJC470	V067J54	Field Sample
GPT-6-11-102004	J149-06	1	NA	10/26/0423:38	10/26/0423:38	RJC630	RJC470	V067J54	Field Sample
GPT-6-12-102004	J149-07	1	NA	10/27/0400:15	10/27/0400:15	RJC631	RJC470	V067J54	Field Sample
GPT-6-13-102004	J149-08	1	NA	10/27/0400:52	10/27/0400:52	RJC632	RJC470	V067J54	Field Sample

FN - Filename
% Moist - Percent Moisture

2002

SAMPLE RESULTS

2003

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 12:58
Sample ID:	GPT-6-3-102004	Date Analyzed:	10/26/04 12:58
Lab Samp ID:	J149-01	Dilution Factor:	1
Lab File ID:	RJC613	Matrix :	WATER
Ext Btch ID:	V067J53	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

2004

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\04J25\RJC613.D Vial: 20
Acq On : 26 Oct 2004 12:58 pm Operator: MN
Sample : 04J149-01 25mL Inst : TO67
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Oct 26 18:12 2004 Quant Results File: VO67J20.RE

Quant Method : D:\HPCHEM\1\METHODS\VO67J20.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Thu Oct 21 12:52:02 2004
Response via : Initial Calibration
DataAcq Meth : VO67J20

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.47	114	1654907	10.00 ug/l	-0.01
36) CHLOROBENZENE-D5	17.21	117	1269675	10.00 ug/l	0.00
66) 1,2-DICHLOROBENZENE-D4	23.63	152	363728	10.00 ug/l	0.00
System Monitoring Compounds					
35) 1,2-Dichloroethane-d4	10.96	65	285417	9.38 ug/l	0.00
Spiked Amount 10.000			Recovery	= 93.80%	
49) Toluene-d8	14.16	98	1528246	9.25 ug/l	0.00
Spiked Amount 10.000			Recovery	= 92.50%	
70) 4-Bromofluorobenzene	19.85	95	399777	9.07 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 90.70%	
Target Compounds					Qvalue
12) 1,1-Dichloroethene	7.27	61	15650	0.17 ug/l	98
28) cis-1,2-Dichloroethene	9.73	61	10619	0.13 ug/l	8

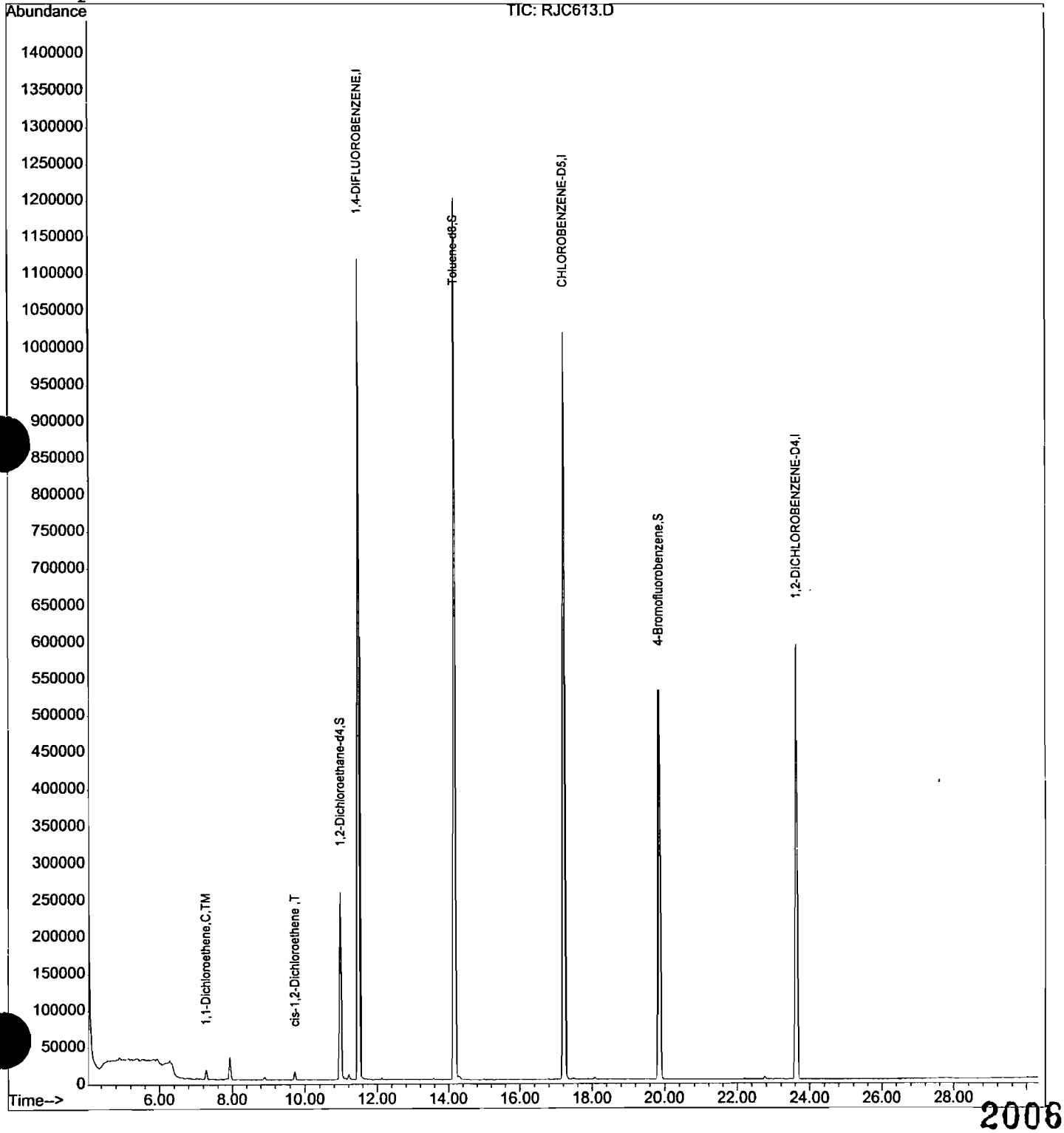
(#) = qualifier out of range (m) = manual integration
RJC613.D VO67J20.M Tue Oct 26 18:13:03 2004

2005

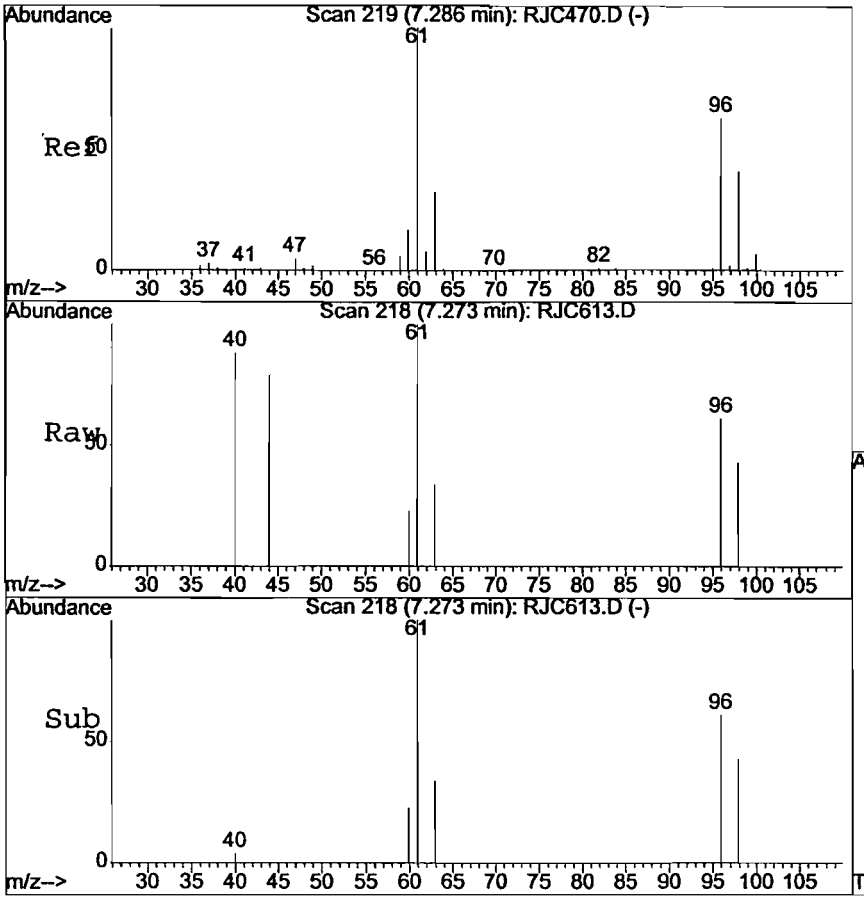
Quantitation Report

Data File : D:\HPCHEM\1\DATA\04J25\RJC613.D Vial: 20
Acq On : 26 Oct 2004 12:58 pm Operator: MN
Sample : 04J149-01 25mL Inst : TO67
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Oct 26 18:12 2004 Quant Results File: VO67J20.RES

Method : D:\HPCHEM\1\METHODS\VO67J20.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Thu Oct 21 12:52:02 2004
Response via : Initial Calibration



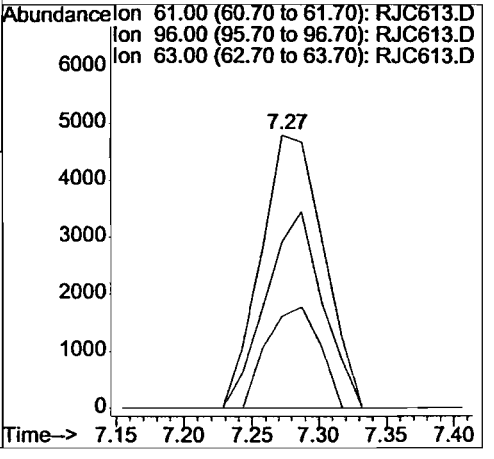
2006

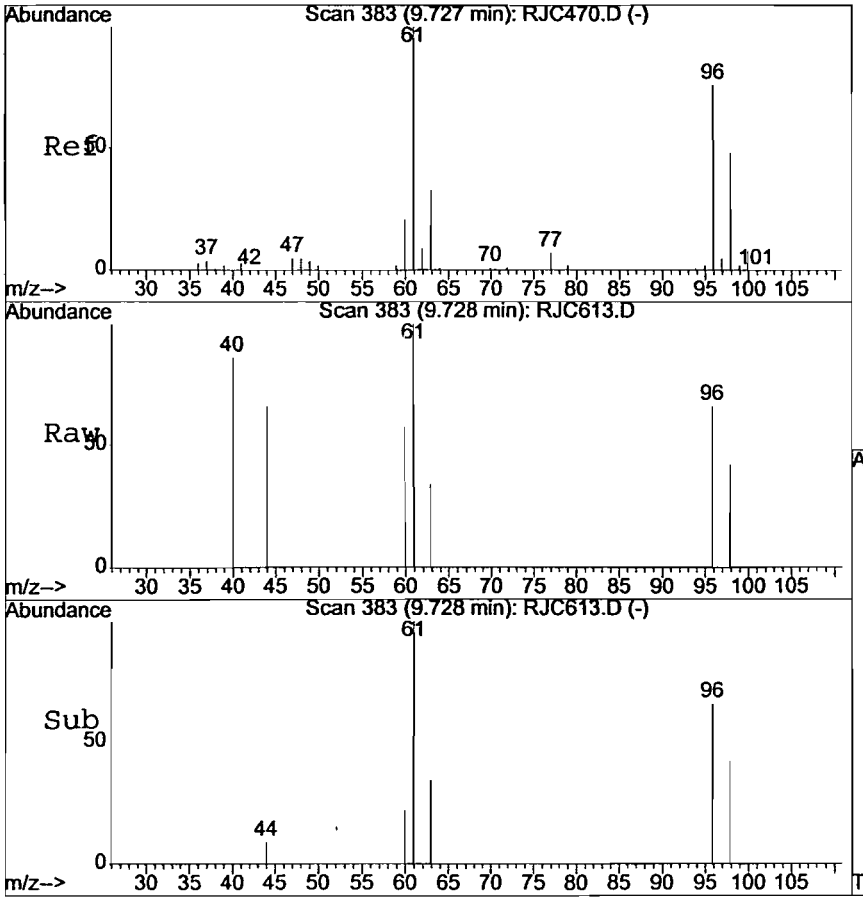


#12
1,1-Dichloroethene
Concen: 0.17 ug/l
RT: 7.27 min Scan# 218
Delta R.T. -0.01 min
Lab File: RJC613.D
Acq: 26 Oct 2004 12:58 pm

Tgt Ion: 61 Resp: 15650

Ion	Ratio	Lower	Upper
61	100		
96	65.2	33.7	93.7
63	31.4	2.5	62.5

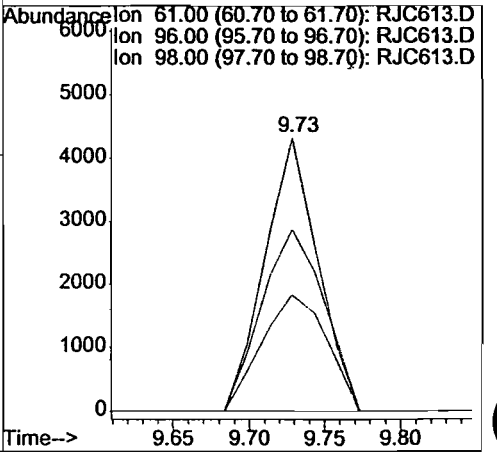




#28
cis-1,2-Dichloroethene
Concen: 0.13 ug/l
RT: 9.73 min Scan# 383
Delta R.T. 0.00 min
Lab File: RJC613.D
Acq: 26 Oct 2004 12:58 pm

Tgt Ion: 61 Resp: 10619

Ion	Ratio	Lower	Upper
61	100		
96	78.0	38.5	98.5
98	51.7	14.3	74.3



2007

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/26/04 21:08
Sample ID:	GPT-6-6-102004	Date Analyzed:	10/26/04 21:08
Lab Samp ID:	J149-02	Dilution Factor:	1
Lab File ID:	RJC626	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	.6J	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.5J	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	3	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.65J	1	.2
M/P-XYLENES	1.6J	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	1.2	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	1.8	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	.28J	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	84	63-143
4-BROMOFLUOROBENZENE	85	63-143
TOLUENE-D8	92	63-143

SW 50308/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 21:45
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	10/26/04 21:45
Lab Samp ID:	J149-03	Dilution Factor:	1
Lab File ID:	RJC627	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	82	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/26/04 22:23
Sample ID:	GPT-6-9-102004	Date Analyzed:	10/26/04 22:23
Lab Samp ID:	J149-04	Dilution Factor:	1
Lab File ID:	RJC628	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.42J	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 23:01
Sample ID:	GPT-6-10-102004	Date Analyzed:	10/26/04 23:01
Lab Samp ID:	J149-05	Dilution Factor:	1
Lab File ID:	RJC629	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.21J	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	84	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 23:38
Sample ID:	GPT-6-11-102004	Date Analyzed:	10/26/04 23:38
Lab Samp ID:	J149-06	Dilution Factor:	1
Lab File ID:	RJC630	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	91	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/27/04 00:15
Sample ID:	GPT-6-12-102004	Date Analyzed:	10/27/04 00:15
Lab Samp ID:	J149-07	Dilution Factor:	1
Lab File ID:	RJC631	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.24J	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	82	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/27/04 00:52
Sample ID:	GPT-6-13-102004	Date Analyzed:	10/27/04 00:52
Lab Samp ID:	J149-08	Dilution Factor:	1
Lab File ID:	RJC632	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	85	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 11:06
Sample ID:	TB-01-04-10-1	Date Analyzed:	10/26/04 11:06
Lab Samp ID:	J149-09	Dilution Factor:	1
Lab File ID:	RJC610	Matrix :	WATER
Ext Btch ID:	V067J53	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	92	63-143
TOLUENE-D8	93	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 11:43
Sample ID:	TB-01-04-10-2	Date Analyzed:	10/26/04 11:43
Lab Samp ID:	J149-10	Dilution Factor:	1
Lab File ID:	RJC611	Matrix :	WATER
Ext Btch ID:	V067J53	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	93	63-143

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 12:20
Sample ID:	TB-01-04-10-3	Date Analyzed:	10/26/04 12:20
Lab Samp ID:	J149-11	Dilution Factor:	1
Lab File ID:	RJC612	Matrix :	WATER
Ext Btch ID:	V067J53	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND	10	2
BENZENE	ND	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	93	63-143

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

SDG#: 04J149

3000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Eight (8) water samples were received on 10/21/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

   Analytical holding time was met.

2. Tuning and Calibration

   Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

   Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

   Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

   Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

7. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICL
SEMI VOLATILE ORGANICS C/MS

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J149
Instrument ID : T-052

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVJ024WB	1	NA	10/28/0413:40	10/25/0415:00	RJK166	RJK146	SVJ024W	Method Blank
LCS1W	SVJ024WL	1	NA	10/28/0414:04	10/25/0415:00	RJK167	RJK146	SVJ024W	Lab Control Sample (LCS)
LCD1W	SVJ024WC	1	NA	10/28/0414:28	10/25/0415:00	RJK168	RJK146	SVJ024W	LCS Duplicate
GPT-6-3-102004	J149-01	.94	NA	11/03/0415:42	10/25/0415:00	RKK037	RJK146	SVJ024W	Field Sample
GPT-6-6-102004	J149-02	.94	NA	11/03/0416:06	10/25/0415:00	RKK038	RJK146	SVJ024W	Field Sample
GPT-6-PZ4-102004	J149-03	.94	NA	11/03/0416:30	10/25/0415:00	RKK039	RJK146	SVJ024W	Field Sample
GPT-6-9-102004	J149-04	.94	NA	11/03/0416:54	10/25/0415:00	RKK040	RJK146	SVJ024W	Field Sample
GPT-6-10-102004	J149-05	.94	NA	11/03/0417:18	10/25/0415:00	RKK041	RJK146	SVJ024W	Field Sample
GPT-6-11-102004	J149-06	.94	NA	11/03/0417:42	10/25/0415:00	RKK042	RJK146	SVJ024W	Field Sample
GPT-6-12-102004	J149-07	.94	NA	11/03/0418:06	10/25/0415:00	RKK043	RJK146	SVJ024W	Field Sample
GPT-6-13-102004	J149-08	.94	NA	11/03/0418:30	10/25/0415:00	RKK044	RJK146	SVJ024W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-3-102004	Date Analyzed:	11/03/04 15:42
Lab Sample ID:	J149-01	Dilution Factor:	.94
Lab File ID:	RKK037	Matrix	: WATER
Extract ID:	SVJ024W	% Moisture	: NA
Calib. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	58	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	43	36-143
PHENOL-D5	42	36-143
TERPHENYL-D14	81	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Quantitation Report (QT Reviewed)

Data File : D:\CHEMDATA\04K03\RKK037.D
Acq On : 3 NOV 2004 15:42
Sample : 04J149-01
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 5 18:41 2004

Vial: 11
Operator: SG
Inst : TO52
Multiplr: 1.00
Quant Results File: SV52J27.RES

Quant Method : C:\HPCHEM\1\METHODS\SV52J27.M (RTE Integrator)
Title : METHOD 8270C
Last Update : Thu Oct 28 12:24:08 2004
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.04	152	423606	40.00 ng	0.00
20) Naphthalene-d8	5.74	136	1479815	40.00 ng	-0.02
35) Acenaphthene-d10	8.57	164	654910	40.00 ng	-0.02
59) Phenanthrene-d10	10.71	188	844273	40.00 ng	-0.02
68) Chrysene-d12	13.25	240	695164	40.00 ng	-0.02
77) Perylene-d12	14.47	264	659935	40.00 ng	-0.02
System Monitoring Compounds					
4) 2-Fluorophenol	2.78	112	919018	58.02 ng	0.00
Spiked Amount 150.000			Recovery = 38.68%		
8) Phenol-d5	3.63	99	1203883	63.22 ng	0.00
Spiked Amount 150.000			Recovery = 42.15%		
13) 1,2-Dichlorobenzene-d4	4.22	152	375357	41.02 ng	-0.0
Spiked Amount 100.000			Recovery = 41.02%		
21) Nitrobenzene-d5	4.73	82	494619	42.62 ng	-0.02
Spiked Amount 100.000			Recovery = 42.62%		
39) 2-Fluorobiphenyl	7.49	172	977094	43.15 ng	-0.02
Spiked Amount 100.000			Recovery = 43.15%		
58) 2,4,6-Tribromophenol	9.83	330	393762	86.73 ng	-0.02
Spiked Amount 150.000			Recovery = 57.82%		
71) Terphenyl-d14	12.35	244	1380829	80.74 ng	0.00
Spiked Amount 100.000			Recovery = 80.74%		
Target Compounds					Qvalue
25) 2,4-Dimethylphenol	5.31	122	8672	0.76 ng	92
76) bis(2-Ethylhexyl)phthalate	13.28	149	14268	3.25 ng	92

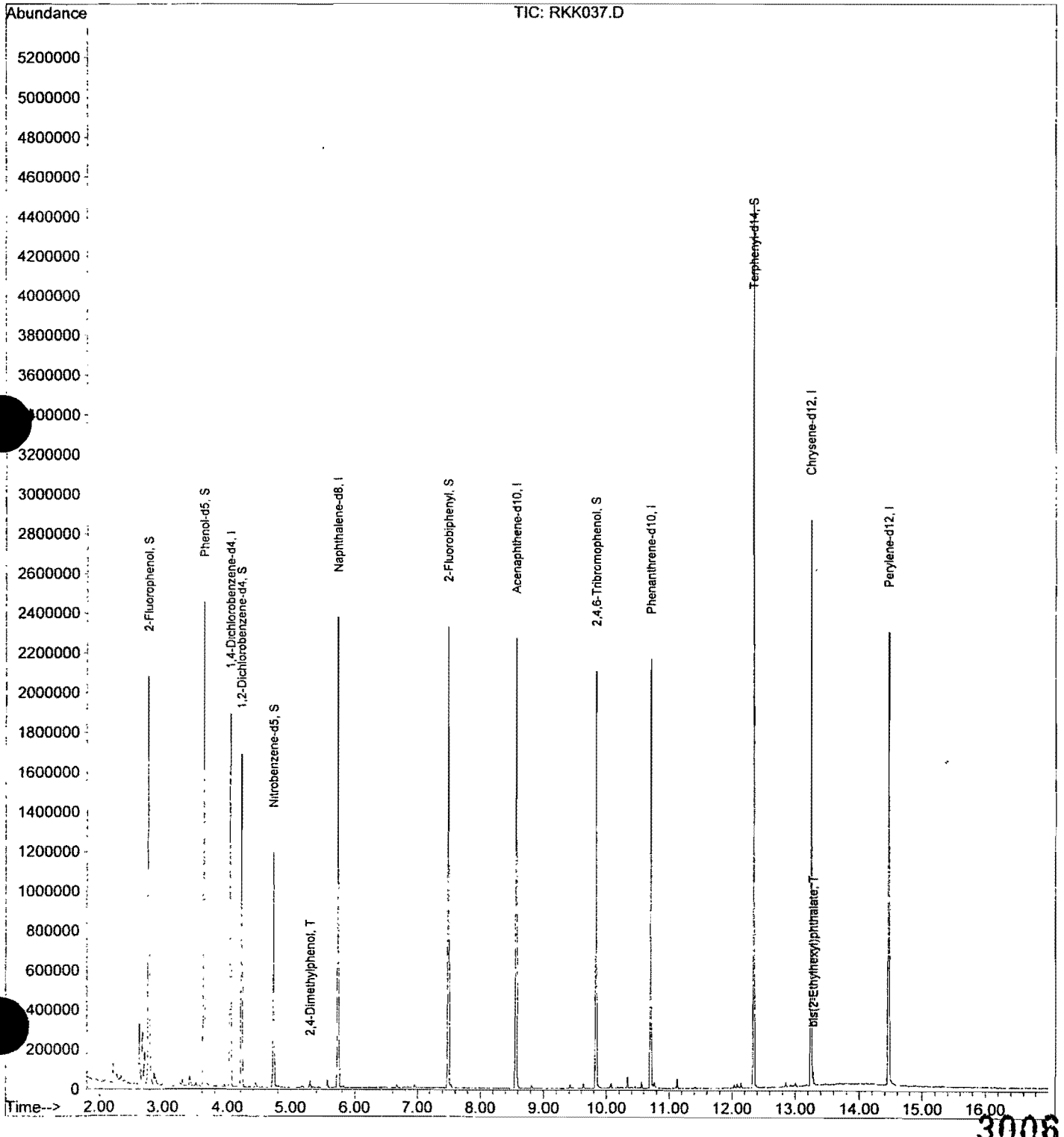
(#) = qualifier out of range (m) = manual integration

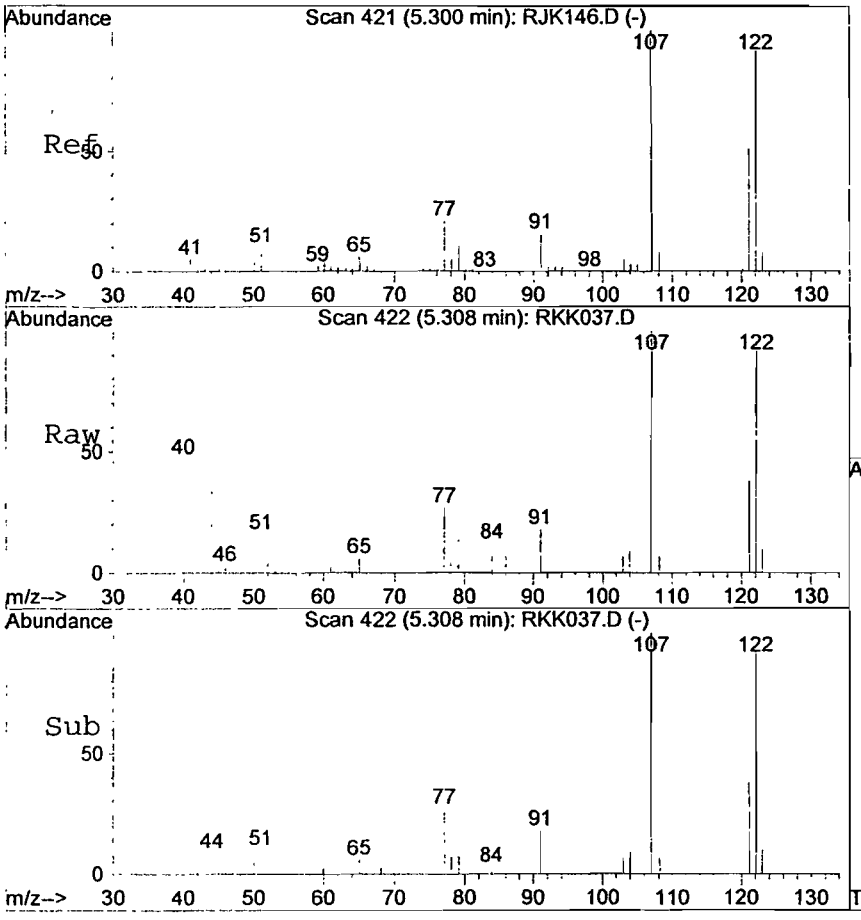
Quantitation Report

Data File : D:\CHEMDATA\04K03\RKK037.D
Acq On : 3 NOV 2004 15:42
Sample : 04J149-01
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 5 18:41 2004

Vial: 11
Operator: SG
Inst : TO52
Multiplr: 1.00
Quant Results File: SV52J27.RES

Method : C:\HPCHEM\1\METHODS\SV52J27.M (RTE Integrator)
Title : METHOD 8270C
Last Update : Thu Oct 28 12:24:08 2004
Response via : Initial Calibration

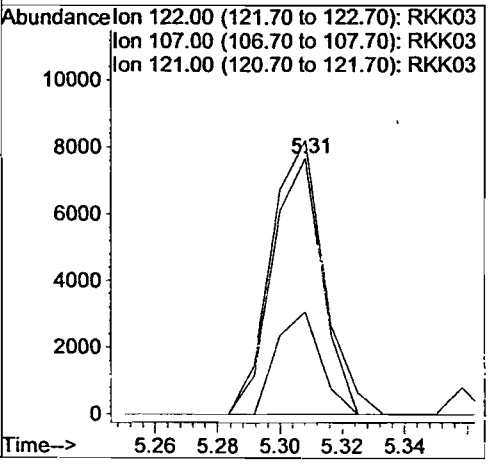


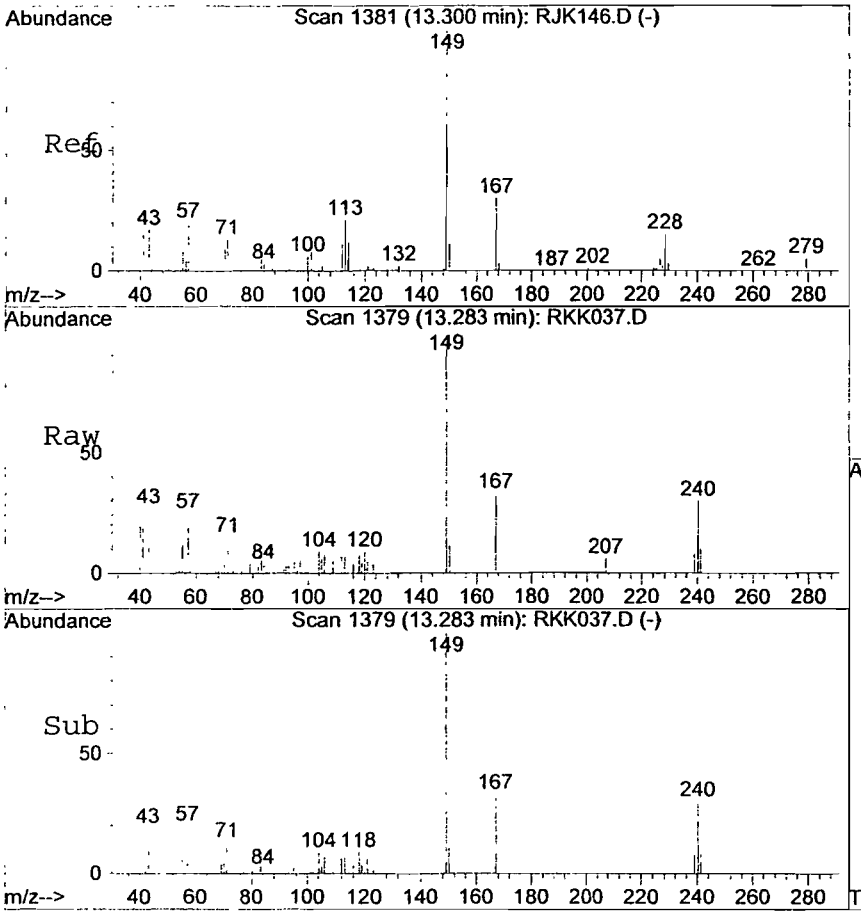


#25
2,4-Dimethylphenol
Concen: 0.76 ng
RT: 5.31 min Scan# 422
Delta R.T. 0.01 min
Lab File: RKK037.D
Acq: 3 NOV 2004 15:42

Tgt Ion:122 Resp: 8672

Ion	Ratio	Lower	Upper
122	100		
107	106.8	78.0	138.0
121	40.1	25.0	85.0

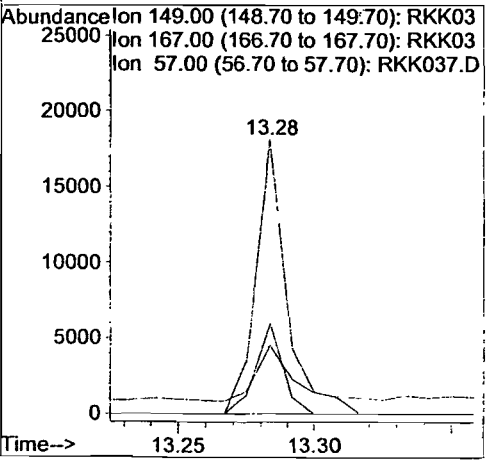




#76
bis(2-Ethylhexyl)phthalate
Concen: 3.25 ng
RT: 13.28 min Scan# 1379
Delta R.T. -0.02 min
Lab File: RKK037.D
Acq: 3 NOV 2004 15:42

Tgt Ion:149 Resp: 14268

Ion	Ratio	Lower	Upper
149	100		
167	33.1	0.0	59.9
57	25.1	0.0	49.9



SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-6-102004	Date Analyzed:	11/03/04 16:06
Lab Sample ID:	J149-02	Dilution Factor:	.94
Lab File ID:	RKK038	Matrix	: WATER
Extract ID:	SVJ024W	% Moisture	: NA
Calib. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	77	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	49	36-143
NITROBENZENE-D5	57	36-143
PHENOL-D5	55	36-143
TERPHENYL-D14	85	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	11/03/04 16:30
Lab Samp ID:	J149-03	Dilution Factor:	.94
Lab File ID:	RKK039	Matrix	: WATER
Ext Btch ID:	SVJ024W	% Moisture	: NA
Calib. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	67	36-143
2-FLUOROBIPHENYL	56	36-143
2-FLUOROPHENOL	47	36-143
NITROBENZENE-D5	53	36-143
PHENOL-D5	51	36-143
TERPHENYL-D14	77	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-9-102004	Date Analyzed:	11/03/04 16:54
Lab ID:	J149-04	Dilution Factor:	.94
Lab File ID:	RKK040	Matrix :	WATER
Extract ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	55	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	40	36-143
NITROBENZENE-D5	46	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	83	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-10-102004	Date Analyzed:	11/03/04 17:18
Lab Samp ID:	J149-05	Dilution Factor:	.94
Lab File ID:	RKK041	Matrix :	WATER
Ext Btch ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	53	36-143
2-FLUOROBIPHENYL	41	36-143
2-FLUOROPHENOL	36	36-143
NITROBENZENE-D5	41	36-143
PHENOL-D5	38	36-143
TERPHENYL-D14	82	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-11-102004	Date Analyzed:	11/03/04 17:42
Lab Sample ID:	J149-06	Dilution Factor:	.94
Lab File ID:	RKK042	Matrix :	WATER
Extract ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	48	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	44	36-143
PHENOL-D5	41	36-143
TERPHENYL-D14	78	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-12-102004	Date Analyzed:	11/03/04 18:06
Lab Samp ID:	J149-07	Dilution Factor:	.94
Lab File ID:	RKK043	Matrix :	WATER
Ext Btch ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	69	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	47	36-143
NITROBENZENE-D5	55	36-143
PHENOL-D5	50	36-143
TERPHENYL-D14	80	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
S[illegible] ID:	GPT-6-13-102004	Date Analyzed:	11/03/04 18:30
[illegible]p ID:	J149-08	Dilution Factor:	.94
[illegible]e ID:	RKK044	Matrix :	WATER
E[illegible]ch ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BI[illegible]-CHLOROETHOXY)METHANE	ND	9.4	4.7
[illegible]CHLOROETHYL)ETHER	ND	9.4	4.7
[illegible]HLOROISOPROPYL)ETHER	ND	9.4	4.7
[illegible]ETHYLHEXYL)PHTHALATE	ND	19	9.4
BU[illegible]BENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	51	36-143
2-FLUOROBIPHENYL	45	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	45	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	78	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

RSK-175
DISSOLVED GASES

SDG#: 04J149

4000

CASE NARRATIVE

CLIENT: BATTELLE MEMORIAL INSTITUTE

PROJECT: NCBC GULFPORT

SDG: 04J149

RSK-175
DISSOLVED GASES

Eight (8) water samples were received on 10/21/04 for Dissolved Gases (Ethane, Ethene and Methane) in accordance to SOP EMAX-RSK175.

1. **Holding Time**

   Analytical holding time was met. All samples were preserved. Samples were extracted on 10/25/04.

2. **Calibration**

   A six points Initial calibration was performed. All QC requirements were met. Continuing calibrations were carried out at 12-hour interval and the recoveries were within 85-115%.

3. **Method Blank**

   Method blank was free of contamination at the reporting limit.

4. **Lab Control Sample/Lab Control Sample Duplicate**

   All recoveries were within QC limit.

5. **Matrix Spike/Matrix Spike Duplicate**

   No MS/MSD sample was designated in this SDG.

6. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

THIS PAGE INTENTIONALLY LEFT BLANK

LAB CHRONICL
DISSOLVED GASES

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J149
Instrument ID : GCT010

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DG10J05B	1	NA	10/25/0412:22	10/25/0410:30	FJ25003A	FJ25002A	DG10J05	Method Blank
LCS1W	DG10J05L	1	NA	10/25/0412:35	10/25/0410:30	FJ25004A	FJ25002A	DG10J05	Lab Control Sample (LCS)
LCD1W	DG10J05C	1	NA	10/25/0412:53	10/25/0410:30	FJ25005A	FJ25002A	DG10J05	LCS Duplicate
GPT-6-3-102004	J149-01	1	NA	10/25/0413:07	10/25/0410:30	FJ25006A	FJ25002A	DG10J05	Field Sample
GPT-6-6-102004	J149-02	1	NA	10/25/0413:21	10/25/0410:30	FJ25007A	FJ25002A	DG10J05	Field Sample
GPT-6-6-102004DL	J149-02T	25	NA	10/25/0415:35	10/25/0410:30	FJ25015A	FJ25013A	DG10J05	Diluted Sample
GPT-6-PZ4-102004	J149-03	1	NA	10/25/0413:36	10/25/0410:30	FJ25008A	FJ25002A	DG10J05	Field Sample
GPT-6-9-102004	J149-04	1	NA	10/25/0413:56	10/25/0410:30	FJ25009A	FJ25002A	DG10J05	Field Sample
GPT-6-9-102004DL	J149-04T	2	NA	10/25/0415:50	10/25/0410:30	FJ25016A	FJ25013A	DG10J05	Diluted Sample
GPT-6-10-102004	J149-05	1	NA	10/25/0414:09	10/25/0410:30	FJ25010A	FJ25002A	DG10J05	Field Sample
GPT-6-10-102004DL	J149-05T	2	NA	10/25/0416:05	10/25/0410:30	FJ25017A	FJ25013A	DG10J05	Diluted Sample
GPT-6-11-102004	J149-06	1	NA	10/25/0414:29	10/25/0410:30	FJ25011A	FJ25002A	DG10J05	Field Sample
GPT-6-12-102004	J149-07	1	NA	10/25/0414:48	10/25/0410:30	FJ25012A	FJ25002A	DG10J05	Field Sample
GPT-6-12-102004DL	J149-07T	10	NA	10/25/0416:26	10/25/0410:30	FJ25018A	FJ25013A	DG10J05	Diluted Sample
GPT-6-13-102004	J149-08	1	NA	10/25/0415:18	10/25/0410:30	FJ25014A	FJ25013A	DG10J05	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-3-102004	Date Analyzed:	10/25/04 13:07
Lab Samp ID:	J149-01	Dilution Factor:	1
Lab File ID:	FJ25006A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	25	1.2	.6

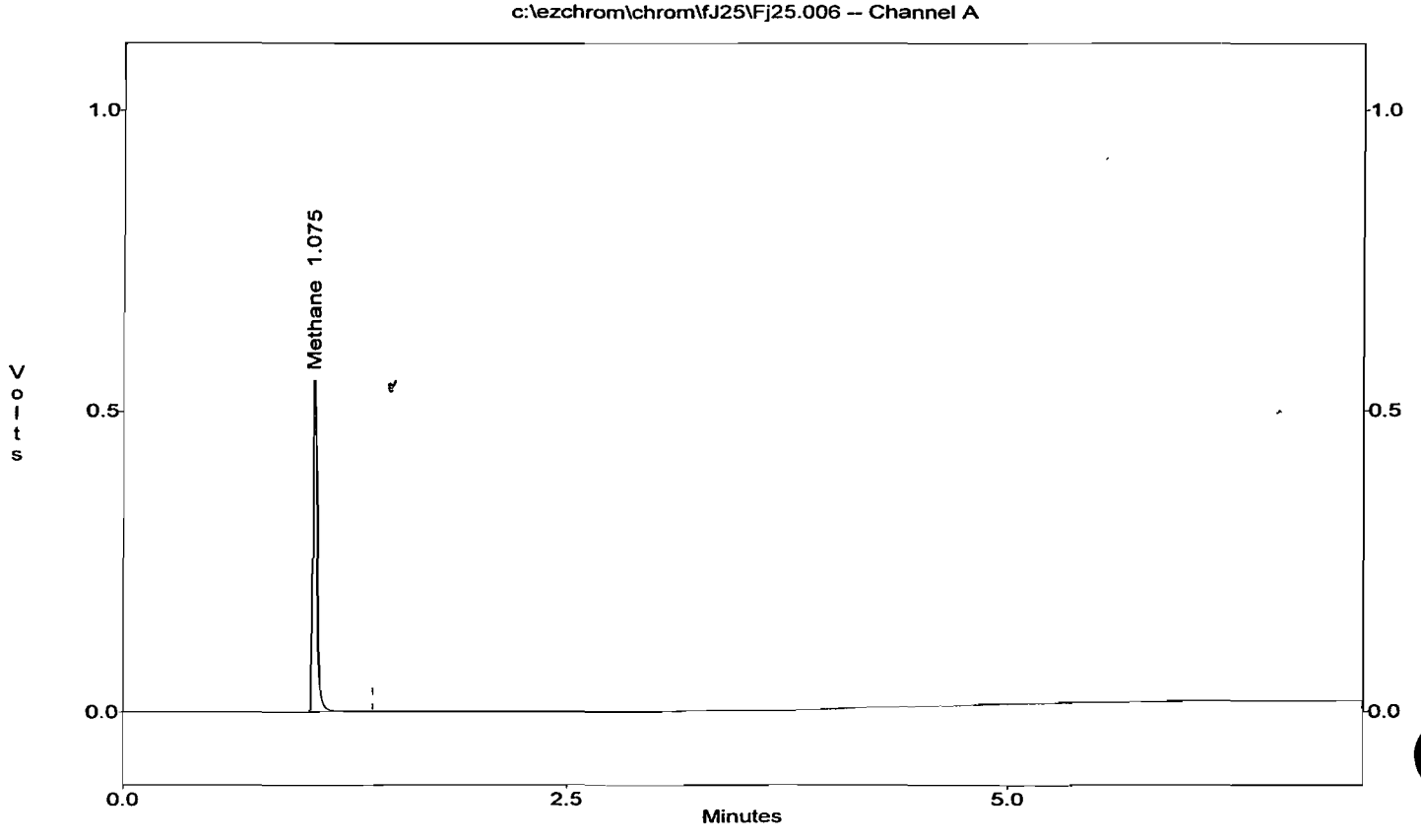
RL: Reporting Limit

EPA DGAS by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\fJ25\Fj25.006
Method : c:\ezchrom\methods\Dg10f15.met
Sample ID : 04J149-01
Acquired : Oct 25, 2004 13:07:13
Printed : Oct 25, 2004 13:14:14
User : SERGIO

Channel A Results

#	Peak Name	Ret. Time(Min)	Area	Ave. CF	ESTD Conc.(ppb)
1	Methane	1.075	874179.0	35570.9	24.58
--	Ethylene	2.675	0.0	0.0	0.00
--	Ethane	3.142	0.0	0.0	0.00
--	Propane	6.025	0.0	0.0	0.00



RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-6-102004	Date Analyzed:	10/25/04 13:21
Lab Samp ID:	J149-02	Dilution Factor:	1
Lab File ID:	FJ25007A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	120E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-6-102004DL	Date Analyzed:	10/25/04 15:35
Lab Samp ID:	J149-02T	Dilution Factor:	25
Lab File ID:	FJ25015A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	37	15
ETHENE	ND	37	18
METHANE	640	30	15

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	10/25/04 13:36
Lab Samp ID:	J149-03	Dilution Factor:	1
Lab File ID:	FJ25008A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	.84J	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-9-102004	Date Analyzed:	10/25/04 13:56
Lab Samp ID:	J149-04	Dilution Factor:	1
Lab File ID:	FJ25009A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	36E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-9-102004DL	Date Analyzed:	10/25/04 15:50
Lab Samp ID:	J149-04T	Dilution Factor:	2
Lab File ID:	FJ25016A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	3	1.2
ETHENE	ND	3	1.4
METHANE	36	2.4	1.2

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-10-102004	Date Analyzed:	10/25/04 14:09
Lab Samp ID:	J149-05	Dilution Factor:	1
Lab File ID:	FJ25010A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	37E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-10-1020040L	Date Analyzed:	10/25/04 16:05
Lab Samp ID:	J149-05T	Dilution Factor:	2
Lab File ID:	FJ25017A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	3	1.2
ETHENE	ND	3	1.4
METHANE	35	2.4	1.2

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-11-102004	Date Analyzed:	10/25/04 14:29
Lab Samp ID:	J149-06	Dilution Factor:	1
Lab File ID:	FJ25011A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	3.7	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-12-102004	Date Analyzed:	10/25/04 14:48
Lab Samp ID:	J149-07	Dilution Factor:	1
Lab File ID:	FJ25012A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	68E	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-12-102004DL	Date Analyzed:	10/25/04 16:26
Lab Samp ID:	J149-07T	Dilution Factor:	10
Lab File ID:	FJ25018A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	15	6
ETHENE	ND	15	7
METHANE	110	12	6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-13-102004	Date Analyzed:	10/25/04 15:18
Lab Samp ID:	J149-08	Dilution Factor:	1
Lab File ID:	FJ25014A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	9.3	1.2	.6

RL: Reporting Limit

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 04J149

5000

CASE NARRATIVE

CLIENT: BATTELLE MEMORIAL INSTITUTE

PROJECT: NCBC GULFPORT

SDG: 04J149

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Eight (8) water samples were received on 10/21/04 for Total Petroleum Hydrocarbons by Extraction analysis by Method 3520C/M8015 in accordance with SW846 3rd edition.

1. **Holding Time**

   Analytical holding time was met. Sample extraction was started on 10/25/04 and completed on 10/26/04

2. **Calibration**

   Initial calibrations were seven points for Diesel. %RSD were within 20%. Continuing calibrations were carried out at 12-hour intervals and all recoveries were within 85-115%.

3. **Method Blank**

   Method blank was free of contamination at the reporting limit.

4. **Surrogate Recovery**

   Recoveries were within QC limit.

5. **Lab Control Sample/Lab Control Sample Duplicate**

   Recoveries were within QC limit.

6. **Matrix Spike/Matrix Spike Duplicate**

   No sample was spiked.

7. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met. Sample was quantitated from C10 to C24 using Diesel (C10-C24) calibration factor. Sample J149-02 displayed diesel-like fuel pattern.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : D4J149
Instrument ID : GCT050

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSJ022WB	1	NA	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	Method Blank
LCS1W	DSJ022WL	1	NA	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	Lab Control Sample (LCS)
LCD1W	DSJ022WC	1	NA	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	LCS Duplicate
GPT-6-3-102004	J149-01	.94	NA	10/29/0419:01	10/25/0415:00	TJ29008A	TJ29003A	DSJ022W	Field Sample
GPT-6-6-102004	J149-02	.94	NA	10/29/0419:44	10/25/0415:00	TJ29009A	TJ29003A	DSJ022W	Field Sample
GPT-6-PZ4-102004	J149-03	.94	NA	10/29/0420:26	10/25/0415:00	TJ29010A	TJ29003A	DSJ022W	Field Sample
GPT-6-9-102004	J149-04	.94	NA	10/29/0421:09	10/25/0415:00	TJ29011A	TJ29003A	DSJ022W	Field Sample
GPT-6-10-102004	J149-05	.94	NA	10/29/0421:51	10/25/0415:00	TJ29012A	TJ29003A	DSJ022W	Field Sample
GPT-6-11-102004	J149-06	.94	NA	10/29/0422:33	10/25/0415:00	TJ29013A	TJ29003A	DSJ022W	Field Sample
GPT-6-12-102004	J149-07	.94	NA	11/01/0410:52	10/25/0415:00	TK01003A	TK01002A	DSJ022W	Field Sample
GPT-6-13-102004	J149-08	.94	NA	10/30/0400:40	10/25/0415:00	TJ29016A	TJ29014A	DSJ022W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSJ022WB	ND	86	100	1	NA	.5	.1	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	NA	10/25/04
LCS1W	DSJ022WL	5.21	94	104	1	NA	.5	.1	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	NA	10/25/04
LCD1W	DSJ022WC	5.22	96	117	1	NA	.5	.1	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	NA	10/25/04
GPT-6-3-102004	J149-01	ND	84	113	.94	NA	.47	.094	10/29/0419:01	10/25/0415:00	TJ29008A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	.45J	74	105	.94	NA	.47	.094	10/29/0419:44	10/25/0415:00	TJ29009A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND	88	117	.94	NA	.47	.094	10/29/0420:26	10/25/0415:00	TJ29010A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	86	122	.94	NA	.47	.094	10/29/0421:09	10/25/0415:00	TJ29011A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	84	104	.94	NA	.47	.094	10/29/0421:51	10/25/0415:00	TJ29012A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	ND	73	107	.94	NA	.47	.094	10/29/0422:33	10/25/0415:00	TJ29013A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	73	116	.94	NA	.47	.094	11/01/0410:52	10/25/0415:00	TK01003A	TK01002A	DSJ022W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	76	91	.94	NA	.47	.094	10/30/0400:40	10/25/0415:00	TJ29016A	TJ29014A	DSJ022W	10/20/04	10/21/04

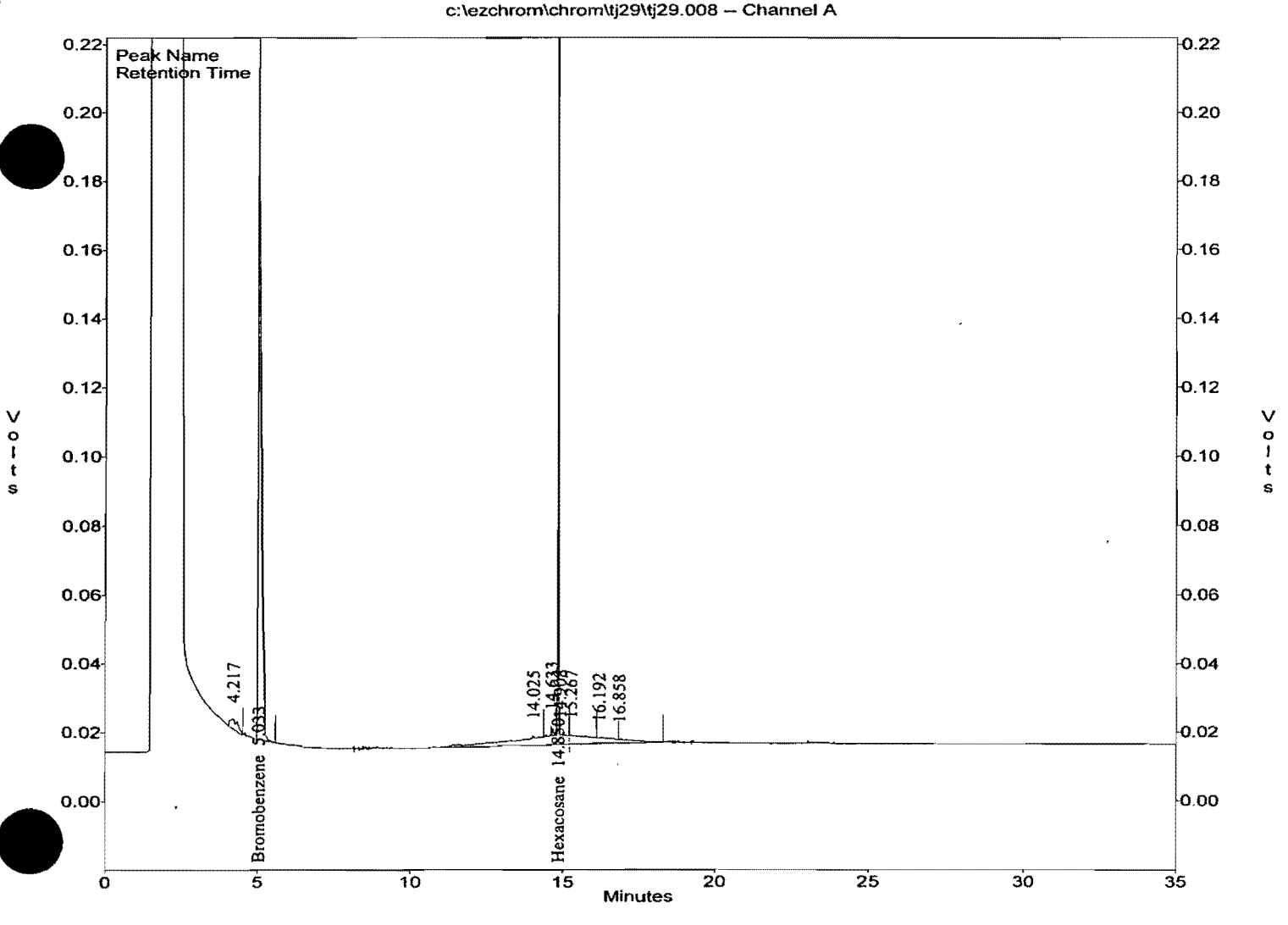
RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tj29\tj29.008
Method : c:\ezchrom\methods\ds50h20.met
Sample ID : 04J149-01
Acquired : Oct 29, 2004 19:01:56
Printed : Nov 02, 2004 16:20:24
User : ALFRED

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.033	1239210	14806.9	83.7
5	Hexacosane	14.850	971494	34252.9	28.4
G1	Diesel(TOTAL)		577414	28956.0	19.9
G2	Diesel(C10-C24)		228475	28657.2	8.0
G3	Diesel(C10-C28)		410878	28676.0	14.3



LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

SDG#: 04J149

7000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

Eight (8) water samples were received on 10/21/04 for Dissolved Manganese analysis by Method 3010A/6010B in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

   Sample J149-01 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

   No MS/MSD sample was designated in this SDG.

6. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT

SDG NO. : 04J149
Instrument ID : T-I07

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IPJ054WB	1	NA	11/01/0421:19	10/27/0408:15	I07K001024	I07K001020	IPJ054W	Method Blank
LCS1W	IPJ054WL	1	NA	11/01/0421:23	10/27/0408:15	I07K001025	I07K001020	IPJ054W	Lab Control Sample (LCS)
LCD1W	IPJ054WC	1	NA	11/01/0421:28	10/27/0408:15	I07K001026	I07K001020	IPJ054W	LCS Duplicate
GPT-6-3-102004AS	J149-01A	1	NA	11/01/0421:32	10/27/0408:15	I07K001027	I07K001020	IPJ054W	Analytical Spike Sample
GPT-6-3-102004	J149-01	1	NA	11/01/0421:37	10/27/0408:15	I07K001028	I07K001020	IPJ054W	Field Sample
GPT-6-3-102004DL	J149-01T	5	NA	11/01/0421:41	10/27/0408:15	I07K001029	I07K001020	IPJ054W	Diluted Sample
GPT-6-6-102004	J149-02	1	NA	11/01/0421:45	10/27/0408:15	I07K001030	I07K001020	IPJ054W	Field Sample
GPT-6-PZ4-102004	J149-03	1	NA	11/01/0421:49	10/27/0408:15	I07K001031	I07K001020	IPJ054W	Field Sample
GPT-6-9-102004	J149-04	1	NA	11/01/0422:02	10/27/0408:15	I07K001034	I07K001032	IPJ054W	Field Sample
GPT-6-10-102004	J149-05	1	NA	11/01/0422:06	10/27/0408:15	I07K001035	I07K001032	IPJ054W	Field Sample
GPT-6-11-102004	J149-06	1	NA	11/01/0422:10	10/27/0408:15	I07K001036	I07K001032	IPJ054W	Field Sample
GPT-6-12-102004	J149-07	1	NA	11/01/0422:14	10/27/0408:15	I07K001037	I07K001032	IPJ054W	Field Sample
GPT-6-13-102004	J149-08	1	NA	11/01/0422:18	10/27/0408:15	I07K001038	I07K001032	IPJ054W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD 30[illegible]0B
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : T-107

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	IPJ054WB	ND	1	NA	10	1	11/01/0421:19	10/27/0408:15	I07K001024	I07K001020	IPJ054W	NA	10/27/04
LCS1W	IPJ054WL	975	1	NA	10	1	11/01/0421:23	10/27/0408:15	I07K001025	I07K001020	IPJ054W	NA	10/27/04
LCD1W	IPJ054WC	969	1	NA	10	1	11/01/0421:28	10/27/0408:15	I07K001026	I07K001020	IPJ054W	NA	10/27/04
GPT-6-3-102004AS	J149-01A	1000	1	NA	10	1	11/01/0421:32	10/27/0408:15	I07K001027	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-3-102004	J149-01	16.9	1	NA	10	1	11/01/0421:37	10/27/0408:15	I07K001028	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-3-102004DL	J149-01T	9.85J	5	NA	50	5	11/01/0421:41	10/27/0408:15	I07K001029	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	8.63J	1	NA	10	1	11/01/0421:45	10/27/0408:15	I07K001030	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	1.46J	1	NA	10	1	11/01/0421:49	10/27/0408:15	I07K001031	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	74.6	1	NA	10	1	11/01/0422:02	10/27/0408:15	I07K001034	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	158	1	NA	10	1	11/01/0422:06	10/27/0408:15	I07K001035	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	38.9	1	NA	10	1	11/01/0422:10	10/27/0408:15	I07K001036	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	66.4	1	NA	10	1	11/01/0422:14	10/27/0408:15	I07K001037	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	65.9	1	NA	10	1	11/01/0422:18	10/27/0408:15	I07K001038	I07K001032	IPJ054W	10/20/04	10/21/04

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
SDG NO.: 04J149
METHOD: METHOD 3010A/6010B

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	IPJ054WB	IPJ054WL	IPJ054WC		
LAB FILE ID:	I07K001024	I07K001025	I07K001026		
DATIME EXTRCTD:	10/27/0408:15	10/27/0408:15	10/27/0408:15	DATE COLLECTED:	NA
DATIME ANALYZD:	11/01/0421:19	11/01/0421:23	11/01/0421:28	DATE RECEIVED:	10/27/04
PREP. BATCH:	IPJ054W	IPJ054W	IPJ054W		
CALIB. REF:	I07K001020	I07K001020	I07K001020		

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Manganese	ND	1000	975	98	1000	969	97	1	80-120	20

7004

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
BATCH NO.: 04J149
METHOD: METHOD 3010A/6010B

==========

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	5		
SAMPLE ID:	GPT-6-3-102004	GPT-6-3-102004DL		
EMAX SAMP ID:	J149-01	J149-01T		
LAB FILE ID:	I07K001028	I07K001029		
DATE EXTRACTED:	10/27/0408:15	10/27/0408:15	DATE COLLECTED:	10/20/04
DATE ANALYZED:	11/01/0421:37	11/01/0421:41	DATE RECEIVED:	10/21/04
PREP. BATCH:	IPJ054W	IPJ054W		
CALIB. REF:	I07K001020	I07K001020		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Manganese	16.9	9.85J	NA	10

7005

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
SDG NO.: 04J149
METHOD: METHOD 3010A/6010B

==========

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	GPT-6-3-102004			
CONTROL NO.:	J149-01	J149-01A		
LAB FILE ID:	I07K001028	I07K001027		
DATIME EXTRCTD:	10/27/0408:15	10/27/0408:15	DATE COLLECTED:	10/20/04
DATIME ANALYZD:	11/01/0421:37	11/01/0421:32	DATE RECEIVED:	10/21/04
PREP. BATCH:	IPJ054W	IPJ054W		
CALIB. REF:	I07K001020	I07K001020		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Manganese	16.9	1000	1000	98	75-125

7006

REGULAR ICP QC CHECK TABLE

QC	ICV HIGH	ICV	CCV	ICSAB	ICSA
Limit%	95-105	90-110	90-110	80-120	80-120
Comp	mg/L	mg/L	mg/L	mg/L	mg/L
Al	10	5	5	500	500
Sb	2	1	1	1	0
As	2	1	1	1	0
Ba	2	1	1	0.5	0
Be	2	1	1	0.5	0
B	2	1	1	0.5	0
Cd	2	1	1	1	0
Ca	100	50	50	500	500
Cr	2	1	1	0.5	0
Co	2	1	1	0.5	0
Cu	2	1	1	0.5	0
Fe	10	5	5	200	200
Pb	2	1	1	1	0
Mg	100	50	50	500	500
Mn	2	1	1	0.5	0
Mo	2	1	1	1	0
Ni	2	1	1	1	0
K	100	50	50	50	0
Se	2	1	1	3.6	0
Ag	2	1	1	1	0
Na	100	50	50	10	0
Sr	2	1	1	0.5	0
Tl	2	1	1	3.6	0
Sn	10	5	5	1	0
Ti	2	1	1	1	0
V	2	1	1	0.5	0
Zn	2	1	1	1	0

ANALYSIS RUN LOG FOR ICP

SOP ☑ EMAX-6010-Rev. 3 ☐ EMAX-CLP-TAL ☐ Method File: GCICPAE5 Autosampler Table: ICP

Matrix: WATER Start Date: 11/1/04 Time: 19:40 End Date: 11/1/04 Time: 22:26 Book# A24-033

ANALYTICAL BATCH # 107-096 107-001

Data File Name	Prep. Batch	Lab Sample ID	DF	Matrix	Notes
01		S0			
02		S3			
03		S6			
04		ICV			
05		ICB			
06		ICSA1			
07		ICSAB1			
08		CCV1			
09		CCB1			
10	IPJ056W	IPJ056WB	1	W	
11		WL	1		
12		WC	1		
13		J167-01A	1		
14		01	1		
15		01T	5		
16		02	1		
17		03	1		
18		04	1		
19		05	1		
20		CCV2	1		
21		CCB2	1		
22		J167-06	1		
23		07	1		
24	IPJ054W	IPJ054WB	1		
25		WL	1		

ANALYTICAL BATCH # _____

Data File Name	Prep. Batch	Lab Sample ID	DF	Matrix	Notes
26	IPJ054W	IPJ054WC	1	W	
27		J149-01A	1		
28		01	1		
29		01T	5		
30		02	1		
31		03	1		
32		CCV3 ~~04~~	1		
33		CCB3 ~~05~~	1		
34		J149-04	1		
35		05	1		
36		06	1		
37		07	1		
38		08	1		
39		CCV4	1		
40		CCB4	1		
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

Given 11/1/04

Given 11/1/04

Instrument No.	24
Std.	ID
S_0	SMI1BC8.89.01
S_1	NA
S_2	NA
S_3	SMI1BU8.73.01
S_4	NA
S_5	
S_6	SMI1BU8.73.02
ICV	08.74.07
ICVH1	NA
ICVH2	NA
CCV	SMI1BC8.71.02
ICSA	08.74.05
ICSAB	08.74.04
CRI	

Comments:

OK

Analyzed By: Given

Date Disposed:

This page is checked during data

EMAX LABORATORIES, INC. 1835 W 205th St. Torrance, CA 90501

7008

LABORATORY REPORT FOR

BATTELLE MEMORIAL INSTITUTE

NCBC GULFPORT

WET CHEMICAL ANALYSES

SDG#: 04J149

8000

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

METHOD 310.1
TOTAL ALKALINITY

Eight (8) water samples were received on 10/21/04 for Total Alkalinity analysis by Method 310.1 in accordance with "Method for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limit.

4. Duplicate

   Sample J149-03 was analyzed for duplicate. %RPD was within QC limit.

5. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD
TOTAL ALKALINITY

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALJ009WB	ND	1	NA	5	1	10/25/0410:00	NA	ALJ009W-01	NA	ALJ009W	NA	NA
LCS1W	ALJ009WL	37.9	1	NA	5	1	10/25/0410:05	NA	ALJ009W-02	NA	ALJ009W	NA	NA
LCD1W	ALJ009WC	37.9	1	NA	5	1	10/25/0410:10	NA	ALJ009W-03	NA	ALJ009W	NA	NA
GPT-6-3-102004	J149-01	ND	1	NA	5	1	10/25/0410:15	NA	ALJ009W-04	NA	ALJ009W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	7.57	1	NA	5	1	10/25/0410:20	NA	ALJ009W-05	NA	ALJ009W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	111	1	NA	5	1	10/25/0410:25	NA	ALJ009W-06	NA	ALJ009W	10/20/04	10/21/04
GPT-6-PZ4-102004DUP	J149-03D	111	1	NA	5	1	10/25/0410:30	NA	ALJ009W-07	NA	ALJ009W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	5.55	1	NA	5	1	10/25/0410:35	NA	ALJ009W-08	NA	ALJ009W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	55.5	1	NA	5	1	10/25/0410:40	NA	ALJ009W-09	NA	ALJ009W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	48.0	1	NA	5	1	10/25/0410:45	NA	ALJ009W-10	NA	ALJ009W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	9.09	1	NA	5	1	10/25/0410:50	NA	ALJ009W-11	NA	ALJ009W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	5.55	1	NA	5	1	10/25/0410:55	NA	ALJ009W-12	NA	ALJ009W	10/20/04	10/21/04

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 310.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: ALJ009WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/25/04 10:05/10:10

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Alkalinity	ND	36.30	37.90	104	36.30	37.90	104	0	80-120	20

8003

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 310.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: GPT-6-PZ4-102004DUP
CONTROL NO.: J149-03D

DATE RECEIVED: 10/21/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/25/04 10:30

ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Alkalinity	111.00	111.00	0	20

8004

ANALYSIS LOG FOR ALKALINITY

SOP ☑ EMAX-310.1 Rev. No. 2 ☐ SM2320B Rev. No. 0 ☐ Book # AAL-008

Start Date: 10/25/04 Time: 10:00 Ending Date: 10/25/04 Time: 10:55 Instrument No: ☑ 53 ☐ 97

Data File Name	Lab Sample ID	Time	Sample Amt. (ml)	Initial pH	Acid Titrant pH=8.3	Acid Titrant pH=4.5	Acid Titrant pH=4.2	Final pH	ALKALINITY (mg/L) Total	Hydroxide (OH)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Total Notes mg/L	Standard Reagent	ID	Conc. mg/L
*01	AL1009WB	10:00	20	5.08	NA	0.015	NA	4.44					ND	LCS	SW7A-06-110	36.3
*02	WL	10:05	↓	8.17		0.75	↓	4.48					37.9	Spike	NA	
*03	WC	10:10	↓	8.20		0.75	↓	4.49					37.9	Na_2CO_3 Soln	SW7A-06-077	2360
*04	J149-01	10:15	100	4.90		0.30	0.45	4.20					1.5 ≈ ND	Acid Titrant HCL	SW3B-02-593	0.02N
*05	-02	10:20	100	5.26		1.00	1.25	4.22					7.57 ✓			
*06	-03	10:25	20	6.61		2.20	NA	4.48					111	Standardization		
*07	-03D	10:30	20	6.63		2.20	↓	4.49					111	Na_2CO_3 Soln. (ml)	Acid Titrant (ml)	Normality, N
*08	-04	10:35	100	5.36		0.75	0.95	4.22					5.55	BLK	0.015	ND
*09	-06	10:40	20	6.28		1.10	NA	4.48					55.5	5	11.65	0.02020
*10	-05	10:45	20	6.12		0.95	↓	4.49					48.0	5	11.70	0.02016
*11	-07	10:50	100	5.48		1.15	1.40	4.22					9.09	5	11.70	0.02016
*12	J149-08	10:55	100	5.56	↓	0.75	0.95	4.19					5.55	Ave. N = 0.02019		
*13														pH METER CALIBRATION		
*14														pH Buffer	ID	Reading
*15														pH 4	SW7A-06-097	4.00
*16														pH 7	-098	7.01
*17														pH 10	-1N	10.0
*18														Slope	100.1	
*19																
*20														Comments:		
*21																
*22																
*23																
*24														Analyzed By: DM		
													RM 11/2/04	This page is checked during data r		

ANALYTICAL BATCH # AL1009W

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

8005

CASE NARRATIVE

CLIENT: BATTELLE MEMORIAL INSTITUTE

PROJECT: NCBC GULFPORT

SDG: 04J149

METHOD 9056
ANIONS

Eight (8) water samples were received on 10/21/04 for Nitrate-N and Sulfate analyses by Method 9056.

1. Holding Time

   Analyses met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

   Lab control results were within QC limits.

4. Duplicate Sample

   Sample J149-01 was analyzed for duplicate. %RPDs were with in QC limits.

5. Matrix Spike

   No MS sample was designated in this SDG.

6. Sample Analyses

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

   Nitrate-N was reported as nitrogen concentration.

SAMPLE RESULTS

METHOD
NITRAT

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ018WB	ND	1	NA	.1	.05	10/21/0422:17	NA	AJ21037	AJ21035	ICJ018W	NA	NA
LCS1W	ICJ018WL	3.82	1	NA	.1	.05	10/21/0422:30	NA	AJ21038	AJ21035	ICJ018W	NA	NA
LCD1W	ICJ018WC	3.81	1	NA	.1	.05	10/21/0422:43	NA	AJ21039	AJ21035	ICJ018W	NA	NA
GPT-6-3-102004	J149-01	ND	1	NA	.1	.05	10/21/0422:56	NA	AJ21040	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	ND	1	NA	.1	.05	10/21/0423:09	NA	AJ21041	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	.177	1	NA	.1	.05	10/21/0423:22	NA	AJ21042	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	1	NA	.1	.05	10/21/0423:35	NA	AJ21043	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	1	NA	.1	.05	10/21/0423:48	NA	AJ21044	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	.081J	1	NA	.1	.05	10/22/0400:01	NA	AJ21045	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	1	NA	.1	.05	10/22/0400:14	NA	AJ21046	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	1	NA	.1	.05	10/22/0400:53	NA	AJ21049	AJ21047	ICJ018W	10/20/04	10/21/04
GPT-6-3-102004DUP	J149-01D	ND	1	NA	.1	.05	10/22/0401:06	NA	AJ21050	AJ21047	ICJ018W	10/20/04	10/21/04

8008

METHOD 9056
SULFATE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : TI022

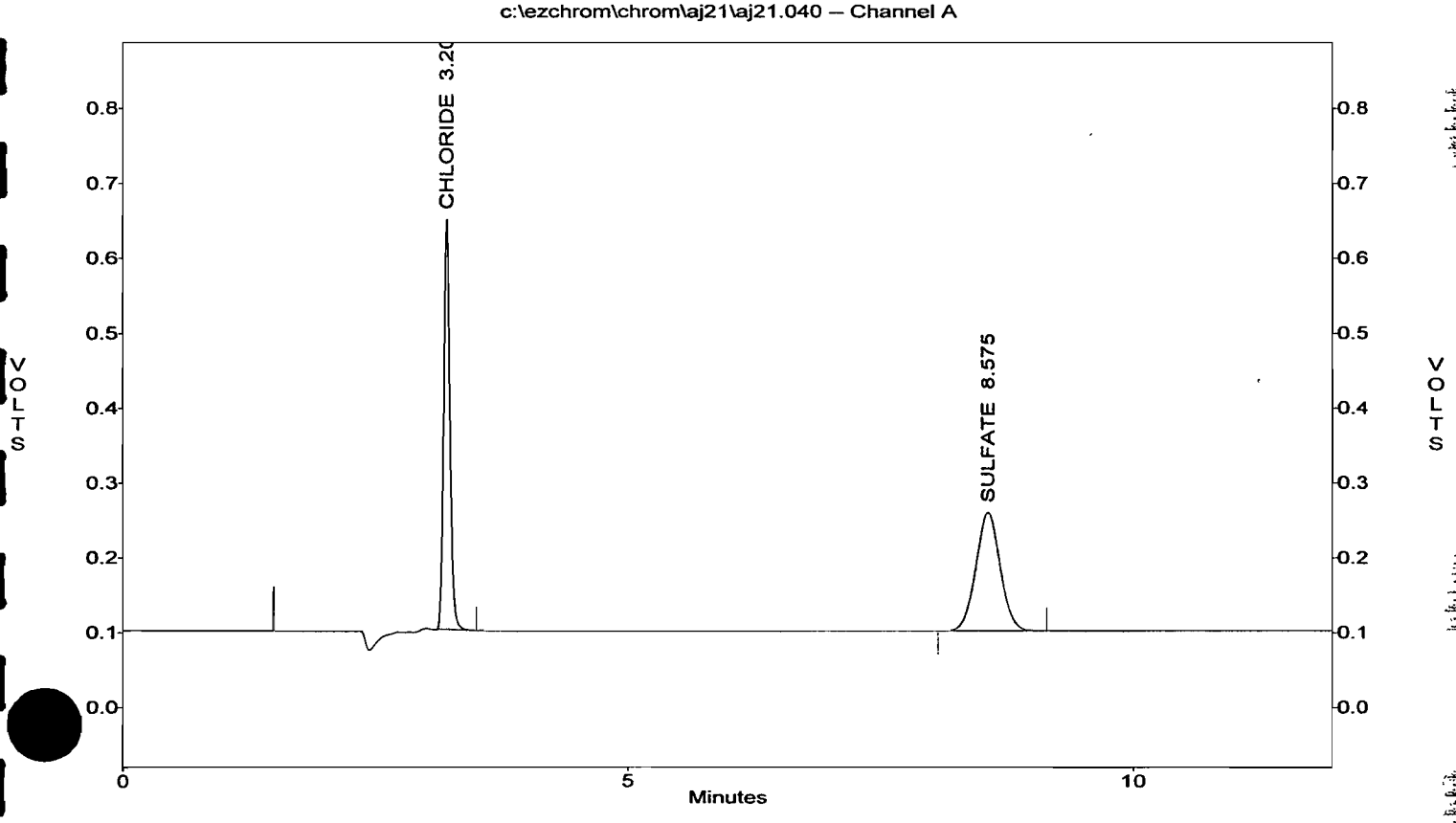
SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ018WB	ND	1	NA	.5	.2	10/21/0422:17	NA	AJ21037	AJ21035	ICJ018W	NA	NA
LCS1W	ICJ018WL	14.6	1	NA	.5	.2	10/21/0422:30	NA	AJ21038	AJ21035	ICJ018W	NA	NA
LCD1W	ICJ018WC	14.4	1	NA	.5	.2	10/21/0422:43	NA	AJ21039	AJ21035	ICJ018W	NA	NA
GPT-6-3-102004	J149-01	12.8	1	NA	.5	.2	10/21/0422:56	NA	AJ21040	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	9.34	1	NA	.5	.2	10/21/0423:09	NA	AJ21041	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	15.5	1	NA	.5	.2	10/21/0423:22	NA	AJ21042	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	9.88	1	NA	.5	.2	10/21/0423:35	NA	AJ21043	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	11.3	1	NA	.5	.2	10/21/0423:48	NA	AJ21044	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	11.2	1	NA	.5	.2	10/22/0400:01	NA	AJ21045	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	20.7	1	NA	.5	.2	10/22/0400:14	NA	AJ21046	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	15.4	1	NA	.5	.2	10/22/0400:53	NA	AJ21049	AJ21047	ICJ018W	10/20/04	10/21/04
GPT-6-3-102004DUP	J149-01D	12.7	1	NA	.5	.2	10/22/0401:06	NA	AJ21050	AJ21047	ICJ018W	10/20/04	10/21/04

EPA METHOD 300.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\aj21\aj21.040
Method : c:\ezchrom\methods\ic22j21.met
Sample ID : J149-01
Acquired : Oct 21, 2004 22:56:17
Printed : Oct 25, 2004 12:42:18
User : DAVID

Channel A Results

#	Peak Name	Ret.Time(min)	AREA	Ave. CF	ESTD Conc.(ppm)
--	FLUORIDE	2.58	0	0.000	0.000
1	CHLORIDE	3.21	2283057	272333.156	8.103
--	NITRITE-N	3.53	0	0.000	0.000
--	BROMIDE	4.67	0	0.000	0.000
--	NITRATE-N	5.17	0	0.000	0.000 ✓
--	PHOSPHATE-P	6.79	0	0.000	0.000
2	SULFATE	8.57	2668157	205462.281	12.823 ✓



8010

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

SM3500
FERROUS IRON

Eight (8) samples were received on 10/21/04 for Ferrous Iron analysis by Method 3500 in accordance with "Standard Methods for the Examination of Water and Wastewater", 18th edition (1990).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample

   Lab control result was within QC limit.

4. Duplicate

   Sample J149-02 was analyzed for duplicate. %RPD was within QC limit.

5. Matrix Spike

   Sample J149-02 was spiked. %Recovery was within QC limit.

6. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SM35
FERROUS IRON

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : I70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	FEJ001WB	ND	1	NA	5	2.5	10/21/0416:53	NA	FEJ001W-09	FEJ001W-07	FEJ001W	NA	NA
LCS1W	FEJ001WL	21.2	1	NA	5	2.5	10/21/0416:54	NA	FEJ001W-10	FEJ001W-07	FEJ001W	NA	NA
GPT-6-3-102004	J149-01	24.1	1	NA	5	2.5	10/21/0416:55	NA	FEJ001W-11	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	28.9	1	NA	5	2.5	10/21/0416:55	NA	FEJ001W-12	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004DUP	J149-02D	30.8	1	NA	5	2.5	10/21/0416:57	NA	FEJ001W-13	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004MS	J149-02MR	48.1	2	NA	10	5	10/21/0416:59	NA	FEJ001W-15	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND	1	NA	5	2.5	10/21/0417:00	NA	FEJ001W-16	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-9-102004	J149-04R	385	10	NA	50	25	10/21/0417:02	NA	FEJ001W-18	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-10-102004	J149-05R	173	10	NA	50	25	10/21/0417:06	NA	FEJ001W-22	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	19.3	1	NA	5	2.5	10/21/0417:07	NA	FEJ001W-23	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-12-102004	J149-07R	298	10	NA	50	25	10/21/0417:09	NA	FEJ001W-25	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-13-102004	J149-08R	50.1	2	NA	10	5	10/21/0417:11	NA	FEJ001W-27	FEJ001W-19	FEJ001W	10/20/04	10/21/04

RL : Reporting Limit

8048

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

==========

BATCH NO.: 04J149 DATE RECEIVED: 10/21/04
SAMPLE ID: GPT-6-6-102004MS DATE EXTRACTED: NA
CONTROL NO.: J149-02MR DATE ANALYZED: 10/21/04 16:59

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Ferrous Iron	57.80	40.00	96.20	96	75-125

8049

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: LCS1W
CONTROL NO.: FEJ001WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/21/04 16:54

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
Ferrous Iron	ND	20.00	21.20	106	80-120

8050

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: SM3500
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: GPT-6-6-102004DUP
CONTROL NO.: J149-02D

DATE RECEIVED: 10/21/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/21/04 16:57

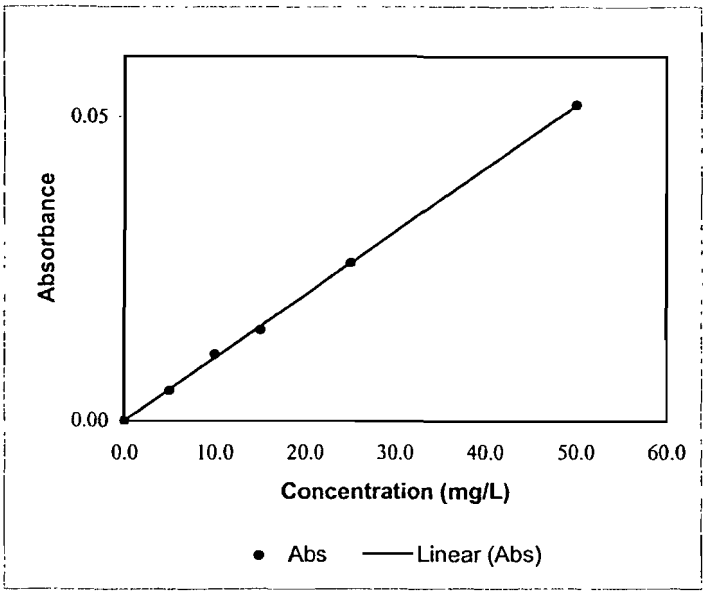
ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Ferrous Iron	28.90	30.80	6	20

8051

CALIBRATION CURVE
FERROUS FE

Conc.	Abs
0.0	0.000
5.0	0.005
10.0	0.011
15.0	0.015
25.0	0.026
50.0	0.052



R^2	0.9996
Eq.Line	0.0010
CF	962.6039

Comments: **PASSED**

Analyzed by: LA

ANALYSIS LOG FOR FERROUS IRON

SOP ☑ EMAX-3500-Fe D/C Rev. No. 0 ☐ Starting Date 10-21-04 Time 16:45 Ending Date 10-21-04 Time 17:13 Book # A70-Fe D/C-001

ANALYTICAL BATCH * FEJ001

	Data File Name	Preparative Batch	Lab Sample ID	Matrix S	Matrix W	Sample Amount (ml)	DF	Abs. (510 nm)	Time	Ferrous Iron (mg/L)	Notes
* 1		FeJ001W	S-0.0		✓	50	1	0.000	16:45		
* 2			S-~~0~~ 5.0					0.005	-46		
* 3			S-10					0.011	-47		
* 4			S-15					0.015	-48		
* 5			S-25					0.026	-49		
* 6			S-50					0.052	-50		
* 7			ICV					0.021	-51	20.2	
* 8			ICB					0.000	-52	ND	
* 9			FEJ001WD					0.000	-53	ND	
* 0			↓ WC				↓	0.022	-54	21.2	
* 1			J149-01				1	0.025	-55	24.1	✓
* 2			-02					0.030	-56	28.9	✓
* 3			-02D				↓	0.032	-57	30.8	✓
* 4			-02M				1	—	-58	overranged	
* 5			-02 MR				2x	0.025	-59	48.1	✓
* 6			-03				1	0.000	~~-60~~	ND	✓
* 7			-04				1	—	-01	overranged	
* 8			↓ -04R				10x	0.04	-02	~~[illegible]~~	✓
* 9			CCV1				1	0.019	-03	18.3	
* 0			CCB1				1	0.000	-04	ND	
* 1			J149-05				1	—	-05	overranged	
* 2			-05R				10x	0.018	-06	173	✓
* 3			-06				1	0.020	-07	19.3	✓
* 4			-07				1	—	-08	overranged	
* 5			-07R				10x	0.021	-09	298	✓
* 6			-08				1	—	-10	overranged	
* 7			↓ -08R				2x	0.026	-11	50.1	✓
* 8			CCV2		✓	↓	1	0.021	-12	20.2	
* 9		✓	CCB2		✓	50	1	0.000	-13	ND	
* 0											

Instrument No.: 70	Wavelength: 510 nm

Standard	ID	Conc. (mg/L)
S_0	nanopure	0.0
S_1	SW7B-06-042B	5
S_2		10
S_3		15
S_4	↓	25
S_5	SW7B-06-042B	50
ICV/LCS/MS	↓ -042C	20
CCV	SW7B-06-042B	20

Reagents	
Name	ID
HCl	SWA-02-1539
$NH_4C_2H_3O_2$ Buffer	SW7B-06-228B
Phenanthroline Sol'n	↓ -228A
$NaC_2H_3O_2$ Sol'n	NA
Hydroxylamine Soln	↓

Standard Curve	
R (≤0.995)	0.9996
Y	0.0010
CF	962.404

Comments: Dark color samples just turned green prior to analysis

Analyzed By: [illegible]

Disposal Date:

This page i[illegible] during data review.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

8053

CASE NARRATIVE

CLIENT: **BATTELLE MEMORIAL INSTITUTE**

PROJECT: **NCBC GULFPORT**

SDG: **04J149**

METHOD 376.1
TOTAL SULFIDE

Eight (8) water samples were received on 10/21/04 for Total Sulfide analysis by Method 376.1 in accordance with "Methods for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

   Analysis met holding time criteria.

2. Method Blank

   Method blank was free of contamination at the reporting limit.

3. Lab Control Sample

   Lab control result was within QC limit.

4. Duplicate

   Sample J149-02 was analyzed for duplicate. %RPD was within QC limit.

5. Sample Analysis

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD 376.1
TOTAL SULFIDE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	SDJ001WB	ND	1	NA	1	.11	10/21/0411:30	NA	SDJ001W-01	NA	SDJ001W	NA	NA
LCS1W	SDJ001WL	5.59	1	NA	1	.11	10/21/0411:35	NA	SDJ001W-02	NA	SDJ001W	NA	NA
GPT-6-3-102004	J149-01	ND	1	NA	1	.11	10/21/0411:40	NA	SDJ001W-03	NA	SDJ001W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	1.35	1	NA	1	.11	10/21/0411:45	NA	SDJ001W-04	NA	SDJ001W	10/20/04	10/21/04
GPT-6-6-102004DUP	J149-02D	1.44	1	NA	1	.11	10/21/0411:50	NA	SDJ001W-05	NA	SDJ001W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND	1	NA	1	.11	10/21/0411:55	NA	SDJ001W-06	NA	SDJ001W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	1	NA	1	.11	10/21/0412:00	NA	SDJ001W-07	NA	SDJ001W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	1	NA	1	.11	10/21/0412:05	NA	SDJ001W-08	NA	SDJ001W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	ND	1	NA	1	.11	10/21/0412:10	NA	SDJ001W-09	NA	SDJ001W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	1	NA	1	.11	10/21/0412:15	NA	SDJ001W-10	NA	SDJ001W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	1	NA	1	.11	10/21/0412:20	NA	SDJ001W-11	NA	SDJ001W	10/20/04	10/21/04

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 376.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: LCS1W
CONTROL NO.: SDJ001WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 10/21/04 11:35

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
Sulfide	ND	5.71	5.59	98	80-120

8056

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: BATTELLE MEMORIAL INSTITUTE
PROJECT: NCBC GULFPORT
METHOD: METHOD 376.1
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 04J149
SAMPLE ID: GPT-6-6-102004DUP
CONTROL NO.: J149-02D

DATE RECEIVED: 10/21/04
DATE EXTRACTED: NA
DATE ANALYZED: 10/21/04 11:50

ACCESSION:

PARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
Sulfide	1.35	1.44	6	20

8057

ANALYSIS LOG FOR SULFIDE

SOP ☑ EMAX-376.1 Rev. No. 1 ☐ EMAX-9034 Rev. No. 0 ☐ Starting Date: 10-21-04 Time: 11:20 Ending Date: 10-21-04 Time: 12:20 Book # ASD-006

ANALYTICAL BATCH # SDJ001 W

Data File Name		Lab Sample ID	Time	Sample Amt. (ml)	Volume of Iodine (ml)	Volume of PAO/$Na_2S_2O_3$ (ml)	Notes mg/L
*	1	SDJ001 W B	11:30	100	10	10.0	ND
*	2	↓ W C	-35	50		6.9	5.79
*	3	J149-01	-40	100		9.8	ND
*	4	-02	-45			8.5	1.35
*	5	-02D	-50			8.4	1.44
*	6	-03	-55			9.9	ND
*	7	-04	12:00			10.0	ND
*	8	-05	-05			9.8	ND
*	9	-06	-10			9.8	ND
*	0	-07	-15	↓	↓	9.9	ND
*	1	↓ -08	-20	100	10	9.7	ND
*	2						
*	3						
*	4						
*	5						
*	6						
*	7						
*	8						
*	9						
*	0						
*	1						
*	2						
*	3						
*	4						
*	5						
*	6						
*	7						
*	8						
*	9						
*	0						

Standard	ID	Conc. (mg/L)
LCS	SWTB-06-107	5.71
Spike	N/A	
$Na_2S_2O_3$	SWTB-02-596	0.0056 N
PAO/I2	SWTB-02-572	0.00564
Indicator	SWTB-06-064	NA
HCl	SWTB-06-108	6N

STANDARDIZATION

Vol. Of Iodine (ml)	Volume of PAO/Na2S2O3 (ml)	Conc. Of Iodine (N)
10	10	0.00564
10	10	0.00564
10	10	0.00564
Average Iodine Conc. (N)		0.00564

Comments:

Analyzed By: [illegible]

This page is checked during data review.

10-21-04

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

8058

APPENDIX D

DATA VALIDATION REPORTS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Battelle
505 King Ave
Columbus, OH 43201-2693
ATTN: Ms. Lydia Cumming

November 30, 2004

SUBJECT: NCBC Gulfport, Data Validation

Dear Ms. Cumming,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on November 11, 2004. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 12758:

SDG #	Fraction
04J149, 04J167	Volatiles, Semivolatiles, Dissolved Manganese, Wet Chemistry, TPH as Extractables, Methane-Ethane-Ethene

The data validation was performed under EPA Level III and Level IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

ERauto

Erlinda T. Rauto
Operations Manager/Senior Chemist

V:\LOGIN\Battelle\Gulfport\12758COV wpd

Attachment 1

LDC #12758 (Battelle-Columbus, OH / NCBC Gulfport)

LDC	SDG#	DATE REC'D	DATE DUE	VOA (8260B)		SVOA (8270C)		Diss. Mn (6010B)		TPH-E (8015)		Methane Ethane Ethene		Alk. (310.1)		NO_3-N (9056)		SO_4 (9056)		FeII (3500)		S= (376.1)															
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	04J149	11/11/04	12/02/04	10	0	7	0	7	0	7	0	11	0	7	0	7	0	7	0	7	0	7	0														
A	04J149	11/11/04	12/02/04	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0														
B	04J167	11/11/04	12/02/04	9	0	7	0	7	0	7	0	11	0	7	0	7	0	7	0	7	0	7	0														
Total	B			20	0	15	0	15	0	15	0	23	0	15	0	15	0	15	0	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	163

Sha[illegible]s indicate Level IV validation (all other cells are Level III validation).

127[illegible]pd

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

Volatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-10-102004
GPT-6-11-102004
GPT-6-12-102004
GPT-6-13-102004
TB-01-04-10-1
TB-01-04-10-2
TB-01-04-10-3

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/20/04	Acetone	0.025 (≥0.05)	All samples in SDG 04J149	J (all detects) UJ (all non-detects)	A
	2-Butanone	0.034 (≥0.05)		J (all detects) UJ (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/26/04	Bromomethane	31.7	GPT-6-3-102004** TB-01-04-10-1 TB-01-04-10-2 MBLK1W-V067J53B	J (all detects) UJ (all non-detects)	A
10/26/04	Bromomethane	37.0	GPT-6-6-102004 GPT-6-PZ4-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-11-102004 GPT-6-12-102004 GPT-6-13-102004 MBLK2W-V067J54B	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/26/04	Acetone 2-Butanone	0.025 (≥0.05) 0.036 (≥0.05)	GPT-6-3-102004** TB-01-04-10-1 TB-01-04-10-2 MBLK1W-V067J53B	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
10/26/04	Acetone 2-Butanone	0.025 (≥0.05) 0.034 (≥0.05)	GPT-6-6-102004 GPT-6-PZ4-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-11-102004 GPT-6-12-102004 GPT-6-13-102004 MBLK2W-V067J54B	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Samples TB-01-04-10-1, TB-01-04-10-2, and TB-01-04-10-3 were identified as trip blanks. No volatile contaminants were found in these blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Volatiles - Data Qualification Summary - SDG 04J149

SDG	Sample	Compound	Flag	A or P	Reason
04J149	GPT-6-3-102004** GPT-6-6-102004 GPT-6-PZ4-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-11-102004 GPT-6-12-102004 GPT-6-13-102004 TB-01-04-10-1 TB-01-04-10-2 TB-01-04-10-3	Acetone 2-Butanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
04J149	GPT-6-3-102004** GPT-6-6-102004 GPT-6-PZ4-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-11-102004 GPT-6-12-102004 GPT-6-13-102004 TB-01-04-10-1 TB-01-04-10-2 TB-01-04-10-3	Bromomethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04J149	GPT-6-3-102004** GPT-6-6-102004 GPT-6-PZ4-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-11-102004 GPT-6-12-102004 GPT-6-13-102004 TB-01-04-10-1 TB-01-04-10-2 TB-01-04-10-3	Acetone 2-Butanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

NCBC Gulfport, MS
Volatiles - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Volatiles - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

LDC #: 12758A1
SDG #: 04J149
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 11/20/04
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/20/04
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD, r^2 ≥0.990
IV.	Continuing calibration	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation. not reported
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 9 → 11

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	GPT-6-3-102004**	11	TB-01-04-10-3	21	MBLKW-V067J53	31	
2	GPT-6-6-102004	12		22	MBLKW-V067J54	32	
3	GPT-6-PZ4-102004	13		23		33	
4	GPT-6-9-102004	14		24		34	
5	GPT-6-10-102004	15		25		35	
6	GPT-6-11-102004	16		26		36	
7	GPT-6-12-102004	17		27		37	
8	GPT-6-13-102004	18		28		38	
9	TB-01-04-10-1	19		29		39	
10	TB-01-04-10-2	20		30		40	

LDC #: 12758A1
SDG #: 0U3149

VALIDATION FINDINGS CHECKLIST

Reviewer: B
2nd Reviewer: h

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 30% and relative response factors (RRF) $\geq$ 0.05?	NA	✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) $\leq$ 25% and relative response factors (RRF) $\geq$ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 12758A)
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: B
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	

LDC #: 12758A1
SDG #: 045149

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chloride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC. 1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

[redacted]

LDC #: 12[redacted]A)
SDG #: 04[redacted]

VALIDATION FINDI[redacted]S WORKSHEET
Initial Ca[redacted]tion

Page: [redacted] of 1
Revie[redacted] B
2nd Reviewer: [redacted]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?__________
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/20/04	V067J20-ICAL	F		0.025 *	All + Blk	J/UJ/A
			M		0.034 *	↓	↓
					* R.L. > lowest conc. of std in ICAL		

LDC #: 12758A1
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/26/04	RJC596	B	31.7		1, 9 → 10,	J/UJ/A
			F		0.025 *	MBLK1W-V067J53B	↓
			M		0.036 *	↓	↓
	10/26/04	RJC617	B	37.0		2 → 8,	J/UJ/A
			F		0.025 *	MBLK2W-V067J54B	↓
			M		0.034 *		↓

* good response

LDC #: 12750A1
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: B
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	V067J20	10/20/04	Vinyl chloride ~~Methylene chloride~~ (1st internal standard)	0.548	0.548	0.510	0.510	9.90	9.90
			Benzene ~~Trichlorethene~~ (2nd internal standard)	1.637	1.637	1.628	1.628	3.32	3.32
			1,1,2,2-TCA Toluene (3rd internal standard)	0.477	0.477	0.483	0.483	4.33	4.33
2			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A1
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: B
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RJ6596	10/26/04	~~Methylene chloride~~ Vinyl chloride (1st internal standard)	0.510	0.520	0.520	2.0	2.0
			~~Trichlorethene~~ Benzene (2nd internal standard)	1.628	1.620	1.620	0.5	0.5
			~~Toluene~~ 1,1,2,2-TCA (3rd internal standard)	0.483	0.477	0.477	1.2	1.2
2			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
3			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
4			Methylene chloride (1st internal standard)					
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A1
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	10	9.25	92	92	0
Bromofluorobenzene	↓	9.07	91	91	↓
1,2-Dichloroethane-d4			94		
Dibromofluoromethane	↓	9.38	↓	94	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 12758A1
SDG #: 07J149

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: V067J532L/C

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	9.81	10.3	98	98	103	103	5	5
Trichloroethene	↓	↓	9.83	10.4	98	98	104	104	5	↓
Benzene	↓	↓	9.49	10	95	95	100	100	5	↓
Toluene	↓	↓	9.99	10.5	100	100	105	105	5	5
Chlorobenzene	↓	↓	9.99	10.6	100	↓	106	106	6	6

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A1
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: B
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. _____, _____:

Conc. = (_____)(_____)(_____)_____

(_____)(_____)(_____)(_____)

= all ND

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 12:58
Sample ID:	GPT-6-3-102004	Date Analyzed:	10/26/04 12:58
Lab Samp ID:	J149-01	Dilution Factor:	1
Lab File ID:	RJC613	Matrix :	WATER
Ext Btch ID:	V067J53	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2004

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/26/04 21:08
Sample ID:	GPT-6-6-102004	Date Analyzed:	10/26/04 21:08
Lab Samp ID:	J149-02	Dilution Factor:	1
Lab File ID:	RJC626	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	.6J J	1	.2
BROMODICHLOROMETHANE	ND U	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	.5J J	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	3	1	.2
CIS-1,3-DICHLOROPROPENE	ND U	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.65J J	1	.2
M/P-XYLENES	1.6J J	2	.3
MTBE	ND U	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	1.2	1	.2
STYRENE	ND U	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	1.8	1	.2
TRANS-1,2-DICHLOROETHENE	ND U	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	.28J J	1	.2
VINYL CHLORIDE	ND U	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	84	63-143
4-BROMOFLUOROBENZENE	85	63-143
TOLUENE-D8	92	63-143

11/09/04

2008

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 21:45
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	10/26/04 21:45
Lab Samp ID:	J149-03	Dilution Factor:	1
Lab File ID:	RJC627	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	82	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	92	63-143

11/29/04

2009

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/26/04 22:23
Sample ID	: GPT-6-9-102004	Date Analyzed:	10/26/04 22:23
Lab Samp ID	: J149-04	Dilution Factor:	1
Lab File ID	: RJC628	Matrix	: WATER
Ext Btch ID	: V067J54	% Moisture	: NA
Calib. Ref.	: RJC470	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.42J J	1	.2
1,2-DICHLOROETHANE	ND U	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

11/29/04

2010

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 23:01
Sample ID:	GPT-6-10-102004	Date Analyzed:	10/26/04 23:01
Lab Samp ID:	J149-05	Dilution Factor:	1
Lab File ID:	RJC629	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.21J J	1	.2
1,2-DICHLOROETHANE	ND U	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	84	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

11/29/04

2011

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/26/04 23:38
Sample ID:	GPT-6-11-102004	Date Analyzed:	10/26/04 23:38
Lab Samp ID:	J149-06	Dilution Factor:	1
Lab File ID:	RJC630	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	83	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	91	63-143

11/29/04

2012

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/27/04 00:15
Sample ID:	GPT-6-12-102004	Date Analyzed:	10/27/04 00:15
Lab Samp ID:	J149-07	Dilution Factor:	1
Lab File ID:	RJC631	Matrix :	WATER
Ext Btch ID:	V067J54	% Moisture :	NA
Calib. Ref.:	RJC470	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	.24J J	1	.2
1,2-DICHLOROETHANE	ND U	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	82	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2013

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/27/04 00:52
Sample ID:	GPT-6-13-102004	Date Analyzed:	10/27/04 00:52
Lab Samp ID:	J149-08	Dilution Factor:	1
Lab File ID:	RJC632	Matrix	: WATER
Ext Btch ID:	V067J54	% Moisture	: NA
Calib. Ref.:	RJC470	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	85	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2014

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 11:06
Sample ID:	FB-01-04-10-1	Date Analyzed:	10/26/04 11:06
Lab Samp ID:	J149-09	Dilution Factor:	1
Lab File ID:	RJC610	Matrix	: WATER
Ext Btch ID:	V067J53	% Moisture	: NA
Calib. Ref.:	RJC470	Instrument ID	: F-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	92	63-143
TOLUENE-D8	93	63-143

Fitzgalt

2015

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 11:43
Sample ID	: TB-01-04-10-2	Date Analyzed:	10/26/04 11:43
Lab Samp ID	: J149-10	Dilution Factor:	1
Lab File ID	: RJC611	Matrix	: WATER
Ext Btch ID	: V067J53	% Moisture	: NA
Calib. Ref.	: RJC470	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	93	63-143

11/29/04

2016

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/26/04 12:20
Sample ID:	TB-01-04-10-3	Date Analyzed:	10/26/04 12:20
Lab Samp ID:	J149-11	Dilution Factor:	1
Lab File ID:	RJC612	Matrix	: WATER
Ext Btch ID:	V067J53	% Moisture	: NA
Calib. Ref.:	RJC470	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND UJ	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND UJ	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND UJ	2	.2
CARBON DISULFIDE	ND U	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	93	63-143

11/29/04

2017

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-4-102104DL
GPT-6-5-102104
GPT-6-7-102104
GPT-6-2-102104
GPT-6-1-102104
TRIP BLANK

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/27/04	Acetone	0.026 (≥0.05)	All samples in SDG 04J167	J (all detects) R (all non-detects)	A
	2-Butanone	0.034 (≥0.05)		J (all detects) R (all non-detects)	

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
10/27/04	Acetone 2-Butanone	0.024 (≥0.05) 0.035 (≥0.05)	GPT-6-8-102104 GPT-6-8-102104 Dup GPT-6-4-102104 MBLK1W-V067J57Q	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A
10/28/04 (RJC669-CCV)	Acetone 2-Butanone	0.025 (≥0.05) 0.036 (≥0.05)	GPT-6-5-102104 GPT-6-7-102104 GPT-6-2-102104 GPT-6-1-102104 MBLK3W-V067J59Q	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A
10/28/04 (RJC690-CCV)	Acetone 2-Butanone	0.026 (≥0.05) 0.036 (≥0.05)	GPT-6-4-102104DL TRIP BLANK MBLK3W-V067J60Q	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample "TRIP BLANK" was identified as a trip blank. No volatile contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
GPT-6-4-102104	1,1-Dichloroethane Chloroethane Vinyl chloride	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects)	A

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
Carbon disulfide	0.55	0.43	24

Compound	Concentration (ug/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
Ethylbenzene	0.29	0.31	7
m,p-Xylenes	0.39	0.47	19
o-Xylene	0.70	0.88	23

NCBC Gulfport, MS
Volatiles - Data Qualification Summary - SDG 04J167

SDG	Sample	Compound	Flag	A or P	Reason
04J167	GPT-6-8-102104 GPT-6-8-102104 Dup GPT-6-4-102104 GPT-6-4-102104DL GPT-6-5-102104 GPT-6-7-102104 GPT-6-2-102104 GPT-6-1-102104 TRIP BLANK	Acetone 2-Butanone	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A	Initial calibration (RRF)
04J167	GPT-6-8-102104 GPT-6-8-102104 Dup GPT-6-4-102104 GPT-6-4-102104DL GPT-6-5-102104 GPT-6-7-102104 GPT-6-2-102104 GPT-6-1-102104 TRIP BLANK	Acetone 2-Butanone	J (all detects) R (all non-detects) J (all detects) R (all non-detects)	A	Continuing calibration (RRF)
04J167	GPT-6-4-102104	1,1-Dichloroethane Chloroethane Vinyl chloride	J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs

NCBC Gulfport, MS
Volatiles - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Volatiles - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/27/04 21:09
Sample ID:	GPT-6-8-102104	Date Analyzed:	10/27/04 21:09
Lab Samp ID:	J167-01	Dilution Factor:	1
Lab File ID:	RJC664	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.55J J	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.29J J	1	.2
M/P-XYLENES	.39J J	2	.3
MTBE	ND U	1	.2
METHYLENE CHLORIDE	ND U	2	1
O-XYLENE	.7J J	1	.2
STYRENE	ND U	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	94	63-143
4-BROMOFLUOROBENZENE	87	63-143
TOLUENE-D8	92	63-143

11/29/04

2004

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/27/04 21:46
Site ID:	GPT-6-8-102104 DUP	Date Analyzed:	10/27/04 21:46
Lab Samp ID:	J167-02	Dilution Factor:	1
Lab File ID:	RJC665	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND U	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.43J J	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	.31J J	1	.2
M/P-XYLENES	.47J J	2	.3
MTBE	ND U	1	.2
METHYLENE CHLORIDE	ND U	2	1
O-XYLENE	.88J J	1	.2
STYRENE	ND U	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	96	63-143
4-BROMOFLUOROBENZENE	89	63-143
TOLUENE-D8	92	63-143

11/29/04

2005

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/27/04 22:25
Sample ID:	GPT-6-4-102104	Date Analyzed:	10/27/04 22:25
Lab Samp ID:	J167-03	Dilution Factor:	1
Lab File ID:	RJC666	Matrix :	WATER
Ext Btch ID:	V067J57	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	16	1	.2
1,1,2,2-TETRACHLOROETHANE	ND U	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	84E J	1	.2
1,1-DICHLOROETHENE	5.8	1	.2
1,2-DICHLOROETHANE	1.2	1	.2
1,2-DICHLOROPROPANE	ND U	1	.2
2-BUTANONE	7.3J J	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	1.9J J	10	1
ACETONE	ND R	10	2
BENZENE	1.4	1	.2
BROMODICHLOROMETHANE	ND U	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	4.7	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	160E J	2	.2
CHLOROFORM	ND U	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	1.4	1	.2
CIS-1,3-DICHLOROPROPENE	ND U	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	1.9	1	.2
M/P-XYLENES	7.4	2	.3
MTBE	ND U	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	2.3	1	.2
STYRENE	ND U	1	.2
TETRACHLOROETHENE	.24J J	1	.2
TOLUENE	14	1	.2
TRANS-1,2-DICHLOROETHENE	ND U	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	1.0J J	1	.2
VINYL CHLORIDE	110E J	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	63-143
4-BROMOFLUOROBENZENE	83	63-143
TOLUENE-D8	90	63-143

11/29/04

2006

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 17:18
Sample ID	: GPT-6-4-102104DL	Date Analyzed:	10/28/04 17:18
Lab Samp ID	: J167-03T	Dilution Factor:	10
Lab File ID	: RJC696	Matrix	: WATER
Ext Btch ID	: V067J60	% Moisture	: NA
Calib. Ref.	: RJC640	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)		RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	15		10	2
1,1,2,2-TETRACHLOROETHANE	ND	U	10	3
1,1,2-TRICHLOROETHANE	ND		10	2
1,1-DICHLOROETHANE	80		10	2
1,1-DICHLOROETHENE	5.9J	J	10	2
1,2-DICHLOROETHANE	ND	U	10	2
1,2-DICHLOROPROPANE	ND	U	10	2
2-BUTANONE	ND	R	100	50
2-HEXANONE	ND	U	100	10
4-METHYL-2-PENTANONE	ND	U	100	10
ACETONE	ND	R	100	20
BENZENE	ND	U	10	2
BROMODICHLOROMETHANE	ND		10	2
BROMOFORM	ND		10	5
BROMOMETHANE	ND		20	2
CARBON DISULFIDE	7.2J	J	10	2
CARBON TETRACHLORIDE	ND	U	10	2
CHLOROBENZENE	ND		10	2
CHLOROETHANE	180		20	2
CHLOROFORM	ND	U	10	2
CHLOROMETHANE	ND		20	5
CIS-1,2-DICHLOROETHENE	ND		10	2
CIS-1,3-DICHLOROPROPENE	ND		10	2
DIBROMOCHLOROMETHANE	ND		10	2
ETHYLBENZENE	ND		10	2
M/P-XYLENES	6.3J	J	20	3
MTBE	ND	U	10	2
METHYLENE CHLORIDE	ND		20	10
O-XYLENE	2J	J	10	2
STYRENE	ND	U	10	2
TETRACHLOROETHENE	ND	U	10	2
TOLUENE	13		10	2
TRANS-1,2-DICHLOROETHENE	ND	U	10	2
TRANS-1,3-DICHLOROPROPENE	ND		10	2
TRICHLOROETHENE	ND		10	2
VINYL CHLORIDE	110		10	3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2007

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 07:17
Sample ID	: GPT-6-5-102104	Date Analyzed:	10/28/04 07:17
Lab Samp ID	: J167-04	Dilution Factor:	1
Lab File ID	: RJC680	Matrix	: WATER
Ext Btch ID	: V067J59	% Moisture	: NA
Calib. Ref.	: RJC640	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.28J J	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2008

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 07:55
Sample ID	: GPT-6-7-102104	Date Analyzed:	10/28/04 07:55
Lab Samp ID	: J167-05	Dilution Factor:	1
Lab File ID	: RJC681	Matrix	: WATER
Ext Btch ID	: V067J59	% Moisture	: NA
Calib. Ref.	: RJC640	Instrument ID	: T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	.42J J	1	.2
CARBON TETRACHLORIDE	ND U	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	95	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	93	63-143

11/29/04

2009

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 08:32
Sample ID:	GPT-6-2-102104	Date Analyzed:	10/28/04 08:32
Lab Samp ID:	J167-06	Dilution Factor:	1
Lab File ID:	RJC682	Matrix :	WATER
Ext Btch ID:	V067J59	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND	10	1
4-METHYL-2-PENTANONE	ND	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	91	63-143
TOLUENE-D8	92	63-143

11/29/04

2010

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/28/04 09:11
Sample ID:	GPT-6-1-102104	Date Analyzed:	10/28/04 09:11
Lab Samp ID:	J167-07	Dilution Factor:	1
Lab File ID:	RJC683	Matrix :	WATER
Ext Btch ID:	V067J59	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)		RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND		1	.3
1,1,2-TRICHLOROETHANE	ND		1	.2
1,1-DICHLOROETHANE	ND		1	.2
1,1-DICHLOROETHENE	ND		1	.2
1,2-DICHLOROETHANE	ND		1	.2
1,2-DICHLOROPROPANE	ND		1	.2
2-BUTANONE	ND	R	10	5
2-HEXANONE	ND	U	10	1
4-METHYL-2-PENTANONE	ND		10	1
ACETONE	ND	R	10	2
BENZENE	ND	U	1	.2
BROMODICHLOROMETHANE	ND		1	.2
BROMOFORM	ND		1	.5
BROMOMETHANE	ND		2	.2
CARBON DISULFIDE	.5J	J	1	.2
CARBON TETRACHLORIDE	ND	U	1	.2
CHLOROBENZENE	ND		1	.2
CHLOROETHANE	ND		2	.2
CHLOROFORM	ND		1	.2
CHLOROMETHANE	ND		2	.5
CIS-1,2-DICHLOROETHENE	ND		1	.2
CIS-1,3-DICHLOROPROPENE	ND		1	.2
DIBROMOCHLOROMETHANE	ND		1	.2
ETHYLBENZENE	ND		1	.2
M/P-XYLENES	ND		2	.3
MTBE	ND		1	.2
METHYLENE CHLORIDE	ND		2	1
O-XYLENE	ND		1	.2
STYRENE	ND		1	.2
TETRACHLOROETHENE	ND		1	.2
TOLUENE	ND		1	.2
TRANS-1,2-DICHLOROETHENE	ND		1	.2
TRANS-1,3-DICHLOROPROPENE	ND		1	.2
TRICHLOROETHENE	ND		1	.2
VINYL CHLORIDE	ND		1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	93	63-143
4-BROMOFLUOROBENZENE	90	63-143
TOLUENE-D8	92	63-143

11/29/04

2011

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/28/04 16:42
Sample ID:	TRIP BLANK	Date Analyzed:	10/28/04 16:42
Lab Samp ID:	J167-08	Dilution Factor:	1
Lab File ID:	RJC695	Matrix :	WATER
Ext Btch ID:	V067J60	% Moisture :	NA
Calib. Ref.:	RJC640	Instrument ID :	T-067

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND U	1	.2
1,1,2,2-TETRACHLOROETHANE	ND	1	.3
1,1,2-TRICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHANE	ND	1	.2
1,1-DICHLOROETHENE	ND	1	.2
1,2-DICHLOROETHANE	ND	1	.2
1,2-DICHLOROPROPANE	ND	1	.2
2-BUTANONE	ND R	10	5
2-HEXANONE	ND U	10	1
4-METHYL-2-PENTANONE	ND U	10	1
ACETONE	ND R	10	2
BENZENE	ND U	1	.2
BROMODICHLOROMETHANE	ND	1	.2
BROMOFORM	ND	1	.5
BROMOMETHANE	ND	2	.2
CARBON DISULFIDE	ND	1	.2
CARBON TETRACHLORIDE	ND	1	.2
CHLOROBENZENE	ND	1	.2
CHLOROETHANE	ND	2	.2
CHLOROFORM	ND	1	.2
CHLOROMETHANE	ND	2	.5
CIS-1,2-DICHLOROETHENE	ND	1	.2
CIS-1,3-DICHLOROPROPENE	ND	1	.2
DIBROMOCHLOROMETHANE	ND	1	.2
ETHYLBENZENE	ND	1	.2
M/P-XYLENES	ND	2	.3
MTBE	ND	1	.2
METHYLENE CHLORIDE	ND	2	1
O-XYLENE	ND	1	.2
STYRENE	ND	1	.2
TETRACHLOROETHENE	ND	1	.2
TOLUENE	ND	1	.2
TRANS-1,2-DICHLOROETHENE	ND	1	.2
TRANS-1,3-DICHLOROPROPENE	ND	1	.2
TRICHLOROETHENE	ND	1	.2
VINYL CHLORIDE	ND	1	.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	98	63-143
4-BROMOFLUOROBENZENE	92	63-143
TOLUENE-D8	93	63-143

Initial

2012

LDC #: 12758B1

SDG #: 04J167

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 11/20/04

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/21/04
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	%RSD, $r^2 \geq 0.990$
IV.	Continuing calibration	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	SW	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	D = 1 + 2
XVII.	Field blanks	ND	TB = 9

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples

1 1	GPT-6-8-102104	11 1	MBLK1W - V067J5	21 Q		31	
2 1	GPT-6-8-102104 Dup	12 2	MBLK2W - V067J59	22 Q		32	
3 1	GPT-6-4-102104	13 3	MBLK3W - V067J60	23 Q		33	
4 3	GPT-6-4-102104DL	14		24		34	
5 2	GPT-6-5-102104	15		25		35	
6 2	GPT-6-7-102104	16		26		36	
7 2	GPT-6-2-102104	17		27		37	
8 2	GPT-6-1-102104	18		28		38	
9 2	TRIP BLANK	19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL.
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM.
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-Isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 12[redacted]B)
SDG #: 0[redacted]67

VALIDATION FINDI[redacted]S WORKSHEET
Initial Ca[redacted]tion

Page: 1 of 1
Revie[redacted]
2nd Reviewer: [redacted]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/27/04	V1067J27-1CAL	F		0.026	All + BLK	J/R/A
			M		0.034	↓	↓

LDC #: 127588J
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/27/04	RJC648-CCV	F		0.024	1→3,	J/R/A
			M		0.035	MBLK1W-V067J57Q	↓
	10/28/04	RJC669-CCV	F		0.025	5→8	J/R/A
			M		0.036	MBLK2W-V067J59Q	↓
	10/28/04	RJC690-CCV	F		0.026	4, 9,	J/R/A
			M		0.036	MBLK3W-V067J60Q	↓

LDC #: [redacted]

SDG #: [redacted]

VALIDATION FIN[redacted]GS WORKSHEET
Compound Qua[redacted]on and CRQLs

Pa[redacted] 7 of [redacted]

Revie[redacted]

2nd Reviewer: [redacted]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?

Y N N/A Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

#	Date	Sample ID	Finding	Associated Samples	Qualifications
		3	I, D, C exceeded cal range		J/A dct

Comments: See sample calculation verification worksheet for recalculations

COMQUA.1SB

LDC #: 12758B1
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD
	1	2	
G	0.55	0.43	24
EE	0.29	0.31	7
RRR	0.39	0.47	19
SSS	0.70	0.58	23

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

Compound	Concentration ( )		RPD

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

Semivolatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-10-102004
GPT-6-11-102004
GPT-6-12-102004
GPT-6-13-102004

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all semivolatile target compounds and system performance check compounds (SPCCs) were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were greater than or equal to 0.05 .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Semivolatiles - Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Semivolatiles - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-3-102004	Date Analyzed:	11/03/04 15:42
Samp ID:	J149-01	Dilution Factor:	.94
File ID:	RKK037	Matrix	: WATER
Batch ID:	SVJ024W	% Moisture	: NA
Lab. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	58	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	43	36-143
PHENOL-D5	42	36-143
TERPHENYL-D14	81	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-6-102004	Date Analyzed:	11/03/04 16:06
Lab Samp ID:	J149-02	Dilution Factor:	.94
Lab File ID:	RKK038	Matrix	: WATER
Ext Btch ID:	SVJ024W	% Moisture	: NA
Calib. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	77	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	49	36-143
NITROBENZENE-D5	57	36-143
PHENOL-D5	55	36-143
TERPHENYL-D14	85	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	11/03/04 16:30
Samp ID:	J149-03	Dilution Factor:	.94
File ID:	RKK039	Matrix	: WATER
Batch ID:	SVJ024W	% Moisture	: NA
Lab. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	67	36-143
2-FLUOROBIPHENYL	56	36-143
2-FLUOROPHENOL	47	36-143
NITROBENZENE-D5	53	36-143
PHENOL-D5	51	36-143
TERPHENYL-D14	77	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-9-102004	Date Analyzed:	11/03/04 16:54
Lab Samp ID:	J149-04	Dilution Factor:	.94
Lab File ID:	RKK040	Matrix :	WATER
Ext Btch ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	55	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	40	36-143
NITROBENZENE-D5	46	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	83	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

3010

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-10-102004	Date Analyzed:	11/03/04 17:18
Samp ID:	J149-05	Dilution Factor:	.94
File ID:	RKK041	Matrix	: WATER
Batch ID:	SVJ024W	% Moisture	: NA
Lab. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	53	36-143
2-FLUOROBIPHENYL	41	36-143
2-FLUOROPHENOL	36	36-143
NITROBENZENE-D5	41	36-143
PHENOL-D5	38	36-143
TERPHENYL-D14	82	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

3011

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-11-102004	Date Analyzed:	11/03/04 17:42
Lab Samp ID:	J149-06	Dilution Factor:	.94
Lab File ID:	RKK042	Matrix	: WATER
Ext Btch ID:	SVJ024W	% Moisture	: NA
Calib. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	48	36-143
2-FLUOROBIPHENYL	43	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	44	36-143
PHENOL-D5	41	36-143
TERPHENYL-D14	78	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-12-102004	Date Analyzed:	11/03/04 18:06
Samp ID:	J149-07	Dilution Factor:	.94
File ID:	RKK043	Matrix	: WATER
Batch ID:	SVJ024W	% Moisture	: NA
Lab. Ref.:	RJK146	Instrument ID	: T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	69	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	47	36-143
NITROBENZENE-D5	55	36-143
PHENOL-D5	50	36-143
TERPHENYL-D14	80	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

3013

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 15:00
Sample ID:	GPT-6-13-102004	Date Analyzed:	11/03/04 18:30
Lab Samp ID:	J149-08	Dilution Factor:	.94
Lab File ID:	RKK044	Matrix :	WATER
Ext Btch ID:	SVJ024W	% Moisture :	NA
Calib. Ref.:	RJK146	Instrument ID :	T-052

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	51	36-143
2-FLUOROBIPHENYL	45	36-143
2-FLUOROPHENOL	39	36-143
NITROBENZENE-D5	45	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	78	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

LDC #: 12758A2 **VALIDATION COMPLETENESS WORKSHEET** Date: 11/20/04

SDG #: 04J149 Level III/IV Page: 1 of 1

Laboratory: EMAX Laboratories, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/20/04
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD, r^2 ≥ 0.990
IV.	Continuing calibration	A	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS/P
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation. not reported
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample ~~underwent~~ water Level IV validation

1	GPT-6-3-102004**	11	MBLKIW - SVJ024W	21		31	
2	GPT-6-6-102004	12		22		32	
3	GPT-6-PZ4-102004	13		23		33	
4	GPT-6-9-102004	14		24		34	
5	GPT-6-10-102004	15		25		35	
6	GPT-6-11-102004	16		26		36	
7	GPT-6-12-102004	17		27		37	
8	GPT-6-13-102004	18		28		38	
		19		29		39	
10		20		30		40	

LDC #: 12758A2
SDG #: 024149

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: B
2nd Reviewer: C

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 30% and relative response factors (RRF) $\geq$ 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) $\leq$ 25% and relative response factors (RRF) $\geq$ 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	

LDC #: 1275BA2
SDG #: 024149

VALIDATION FINDINGS CHECKLIST

Reviewer: 19
2nd Reviewer: 6

Validation Area	Yes	No	NA	Findings/Comments
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds from the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			✓	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			✓	
Were chromatogram peaks verified and accounted for?		✓		
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			✓	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?		✓		
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 12758A2
SDG #: 641149

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer:
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

LDC #: 12758A2
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard
S = Standard deviation of the RRFs, X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	SY52527	10/27/04	Phenol (1st internal standard)	1.717	1.717	1.739	1.739	3.67	3.67
			Naphthalene (2nd internal standard)	1.041	1.041	1.053	1.053	5.11	5.11
			Fluorene (3rd internal standard)	1.281	1.281	1.266	1.266	4.00	4.00
			Pentachlorophenol (4th internal standard)	0.218	0.218	0.213	0.213	8.28	8.28
			Bis(2-ethylhexyl)phthalate (5th internal standard)	1.174	1.174	1.062	1.062	18.05	18.05
			Benzo(a)pyrene (6th internal standard)	1.296	1.296	5.67	5.67	4.4324	4.43
2			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						
3			Phenol (1st internal standard)						
			Naphthalene (2nd internal standard)						
			Fluorene (3rd internal standard)						
			Pentachlorophenol (4th internal standard)						
			Bis(2-ethylhexyl)phthalate (5th internal standard)						
			Benzo(a)pyrene (6th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12[illegible]A2
SDG #: 04149

VALIDATION FIND[illegible]S WORKSHEET
Continuing Calibration Results Verification

[illegible] 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	RKK029	11/3/04	Phenol (1st internal standard)	1.739	1.644	1.644	5	5
			Naphthalene (2nd internal standard)	1.053	1.012	1.012	4	4
			Fluorene (3rd internal standard)	1.266	1.236	1.236	2	2
			Pentachlorophenol (4th internal standard)	0.213	0.182	0.182	15	15
			Bis(2-ethylhexyl)phthalate (5th internal standard)	1.062	1.287	1.287	21	21
			Benzo(a)pyrene (6th internal standard)	1.254	1.237	1.237	1	1
2			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					
3			Phenol (1st internal standard)					
			Naphthalene (2nd internal standard)					
			Fluorene (3rd internal standard)					
			Pentachlorophenol (4th internal standard)					
			Bis(2-ethylhexyl)phthalate (5th internal standard)					
			Benzo(a)pyrene (6th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A2
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	42.62	43	43	0
2-Fluorobiphenyl	100	43.15	43	↓	
Terphenyl-d14	100	80.74	81	81	
Phenol-d5	150	63.22	42	42	
2-Fluorophenol	150	~~38.68~~ 58.02	39	39	
2,4,6-Tribromophenol	150	86.73	58	58	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4		~~41.02~~			

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 12[redacted]42
SDG #: 0[redacted]19

VALIDATION FIN[redacted]S WORKSHEET

Laboratory Control Sample/Laboratory Co[redacted]l Sample Duplicates Results Verification

[redacted]e: 1 of 1
Re[redacted]er: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: SV1024WL/C

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Phenol	80	80	48.5	54.6	61	61	68	68	12	12
2-Chlorophenol	80	80	48.1	55.6	61	60	70	70	13	13
1,4-Dichlorobenzene	80	80	38.1	48.4	48	48	50	50	6	6
N-Nitroso-di-n-propylamine	80	80	56.5	65	71	71	81	81	14	14
1,2,4-Trichlorobenzene	80	80	43.3	48.4	54	54	61	61	11	11
4-Chloro-3-methylphenol	80	80	55.4	61.4	69	69	77	71	10	10
Acenaphthene	80	80	52	58.3	65	65	73	73	12	12
4-Nitrophenol	80	80	57.8	67.6	72	72	84	84	16	16
2,4-Dinitrotoluene	80	80	54.5	63.3	68	68	79	79	15	15
Pentachlorophenol	80	80	62.7	70.2	78	78	88	88	11	11
Pyrene	80	80	58.7	69	73	73	86	86	16	16

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A2
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. _____, _____:

Conc. = (_____)(_____)(_____)(_____)(_____)(_____)
(_____)(_____)(_____)(_____)(_____)

= all ND

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

RECALC.2S

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-5-102104
GPT-6-7-102104
GPT-6-2-102104
GPT-6-1-102104

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all semivolatile target compounds and system performance check compounds (SPCCs) were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/29/04	Dibenz(a,h)anthracene Benzo(g,h,i)perylene	25.2 25.4	MBLK1W-SVJ025WB	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
11/3/04	2,4-Dinitrophenol Benzo(g,h,i)perylene	26.9 25.2	GPT-6-5-102104	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were greater than or equal to 0.05 .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No semivolatiles were detected in any of the samples.

NCBC Gulfport, MS
Semivolatiles - Data Qualification Summary - SDG 04J167

SDG	Sample	Compound	Flag	A or P	Reason
04J167	GPT-6-5-102104	2,4-Dinitrophenol Benzo(g,h,i)perylene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

NCBC Gulfport, MS
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Semivolatiles - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-8-102104	Date Analyzed:	11/02/04 17:19
Lab Samp ID:	J167-01	Dilution Factor:	.94
Data File ID:	RKH034	Matrix :	WATER
Extract Batch ID:	SVJ025W	% Moisture :	NA
Calib. Ref.:	RJH007	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	69	36-143
2-FLUOROBIPHENYL	46	36-143
2-FLUOROPHENOL	41	36-143
NITROBENZENE-D5	47	36-143
PHENOL-D5	46	36-143
TERPHENYL-D14	93	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-8-102104 DUP	Date Analyzed:	11/02/04 17:54
Lab Samp ID:	J167-02	Dilution Factor:	.94
Lab File ID:	RKH035	Matrix :	WATER
Ext Btch ID:	SVJ025W	% Moisture :	NA
Calib. Ref.:	RJH007	Instrument ID :	T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	85	36-143
2-FLUOROBIPHENYL	41	36-143
2-FLUOROPHENOL	37	36-143
NITROBENZENE-D5	38	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	150*	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Initial

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
[illegible]le ID:	GPT-6-4-102104	Date Analyzed:	11/02/04 18:28
[illegible]amp ID:	J167-03	Dilution Factor:	.94
[illegible]ile ID:	RKH036	Matrix	: WATER
[illegible]tch ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	14	9.4	4.7
2-METHYLPHENOL	ND U	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
[illegible]-CHLOROETHYL)ETHER	ND	9.4	4.7
[illegible]-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
[illegible]-ETHYLHEXYL)PHTHALATE	32	19	9.4
[illegible]LBENZYLPHTHALATE	ND U	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	6.6J J	19	5.6
PHENOL	ND U	9.4	4.7
PYRENE	ND U	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	80	36-143
2-FLUOROBIPHENYL	57	36-143
2-FLUOROPHENOL	40	36-143
NITROBENZENE-D5	47	36-143
PHENOL-D5	47	36-143
TERPHENYL-D14	100	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-5-102104	Date Analyzed:	11/03/04 16:40
Lab Samp ID:	J167-04W	Dilution Factor:	.94
Lab File ID:	RKH051	Matrix	: WATER
Ext Btch ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)		RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	U	9.4	4.7
1,2-DICHLOROBENZENE	ND		9.4	4.7
1,3-DICHLOROBENZENE	ND		9.4	4.7
1,4-DICHLOROBENZENE	ND		9.4	4.7
2,4,5-TRICHLOROPHENOL	ND		9.4	4.7
2,4,6-TRICHLOROPHENOL	ND		9.4	4.7
2,4-DICHLOROPHENOL	ND		9.4	4.7
2,4-DIMETHYLPHENOL	ND		9.4	4.7
2,4-DINITROPHENOL	ND	UJ	19	9.4
2,4-DINITROTOLUENE	ND	U	19	9.4
2,6-DINITROTOLUENE	ND		19	9.4
2-CHLORONAPHTHALENE	ND		9.4	4.7
2-CHLOROPHENOL	ND		9.4	4.7
2-METHYLNAPHTHALENE	ND		9.4	4.7
2-METHYLPHENOL	ND		9.4	4.7
2-NITROANILINE	ND		19	5.6
2-NITROPHENOL	ND		9.4	4.7
3,3'-DICHLOROBENZIDINE	ND		9.4	4.7
3-NITROANILINE	ND		9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND		19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND		19	6.6
4-CHLORO-3-METHYLPHENOL	ND		9.4	4.7
4-CHLOROANILINE	ND		9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND		9.4	4.7
4-METHYLPHENOL (1)	ND		9.4	4.7
4-NITROANILINE	ND		9.4	4.7
4-NITROPHENOL	ND		19	4.7
ACENAPHTHENE	ND		9.4	4.7
ACENAPHTHYLENE	ND		9.4	4.7
ANTHRACENE	ND		9.4	4.7
BENZO(A)ANTHRACENE	ND		9.4	4.7
BENZO(A)PYRENE	ND		9.4	4.7
BENZO(B)FLUORANTHENE	ND		9.4	4.7
BENZO(K)FLUORANTHENE	ND		9.4	4.7
BENZO(G,H,I)PERYLENE	ND	UJ	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	U	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND		9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND		9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND		19	9.4
BUTYLBENZYLPHTHALATE	ND		9.4	4.7
CHRYSENE	ND		9.4	4.7
DI-N-BUTYLPHTHALATE	ND		9.4	4.7
DI-N-OCTYLPHTHALATE	ND		9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND		9.4	4.7
DIBENZOFURAN	ND		9.4	4.7
DIETHYLPHTHALATE	ND		19	5.6
DIMETHYLPHTHALATE	ND		19	5.6
FLUORANTHENE	ND		9.4	4.7
FLUORENE	ND		9.4	4.7
HEXACHLOROBENZENE	ND		19	5.6
HEXACHLOROBUTADIENE	ND		9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND		9.4	4.7
HEXACHLOROETHANE	ND		9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND		9.4	4.7
ISOPHORONE	ND		9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND		9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND		9.4	4.7
NAPHTHALENE	ND		9.4	4.7
NITROBENZENE	ND		9.4	4.7
PENTACHLOROPHENOL	ND		19	9.4
PHENANTHRENE	ND		19	5.6
PHENOL	ND		9.4	4.7
PYRENE	ND		9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	52	36-143
2-FLUOROBIPHENYL	38	36-143
2-FLUOROPHENOL	38	36-143
NITROBENZENE-D5	40	36-143
PHENOL-D5	39	36-143
TERPHENYL-D14	92	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Mitzalok

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-7-102104	Date Analyzed:	11/02/04 19:37
Lab Samp ID:	J167-05	Dilution Factor:	1.2
Data File ID:	RKH038	Matrix	: WATER
Prep Batch ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND U	12	6
1,2-DICHLOROBENZENE	ND	12	6
1,3-DICHLOROBENZENE	ND	12	6
1,4-DICHLOROBENZENE	ND	12	6
2,4,5-TRICHLOROPHENOL	ND	12	6
2,4,6-TRICHLOROPHENOL	ND	12	6
2,4-DICHLOROPHENOL	ND	12	6
2,4-DIMETHYLPHENOL	ND	12	6
2,4-DINITROPHENOL	ND	24	12
2,4-DINITROTOLUENE	ND	24	12
2,6-DINITROTOLUENE	ND	24	12
2-CHLORONAPHTHALENE	ND	12	6
2-CHLOROPHENOL	ND	12	6
2-METHYLNAPHTHALENE	ND	12	6
2-METHYLPHENOL	ND	12	6
2-NITROANILINE	ND	24	7.2
2-NITROPHENOL	ND	12	6
3,3'-DICHLOROBENZIDINE	ND	12	6
3-NITROANILINE	ND	12	6
4,6-DINITRO-2-METHYLPHENOL	ND	24	12
4-BROMOPHENYL-PHENYL ETHER	ND	24	8.4
4-CHLORO-3-METHYLPHENOL	ND	12	6
4-CHLOROANILINE	ND	12	6
4-CHLOROPHENYL-PHENYL ETHER	ND	12	6
4-METHYLPHENOL (1)	ND	12	6
4-NITROANILINE	ND	12	6
4-NITROPHENOL	ND	24	6
ACENAPHTHENE	ND	12	6
ACENAPHTHYLENE	ND	12	6
ANTHRACENE	ND	12	6
BENZO(A)ANTHRACENE	ND	12	6
BENZO(A)PYRENE	ND	12	6
BENZO(B)FLUORANTHENE	ND	12	6
BENZO(K)FLUORANTHENE	ND	12	6
BENZO(G,H,I)PERYLENE	ND	12	6
BIS(2-CHLOROETHOXY)METHANE	ND	12	6
BIS(2-CHLOROETHYL)ETHER	ND	12	6
BIS(2-CHLOROISOPROPYL)ETHER	ND	12	6
BIS(2-ETHYLHEXYL)PHTHALATE	ND	24	12
BUTYLBENZYLPHTHALATE	ND	12	6
CHRYSENE	ND	12	6
DI-N-BUTYLPHTHALATE	ND	12	6
DI-N-OCTYLPHTHALATE	ND	12	6
DIBENZO(A,H)ANTHRACENE	ND	12	6
DIBENZOFURAN	ND	12	6
DIETHYLPHTHALATE	ND	24	7.2
DIMETHYLPHTHALATE	ND	24	7.2
FLUORANTHENE	ND	12	6
FLUORENE	ND	12	6
HEXACHLOROBENZENE	ND	24	7.2
HEXACHLOROBUTADIENE	ND	12	6
HEXACHLOROCYCLOPENTADIENE	ND	12	6
HEXACHLOROETHANE	ND	12	6
INDENO(1,2,3-CD)PYRENE	ND	12	6
ISOPHORONE	ND	12	6
N-NITROSO-DI-N-PROPYLAMINE	ND	12	6
N-NITROSODIPHENYLAMINE (2)	ND	12	6
NAPHTHALENE	ND	12	6
NITROBENZENE	ND	12	6
PENTACHLOROPHENOL	ND	24	12
PHENANTHRENE	ND	24	7.2
PHENOL	ND	12	6
PYRENE	ND	12	6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	56	36-143
2-FLUOROBIPHENYL	40	36-143
2-FLUOROPHENOL	35*	36-143
NITROBENZENE-D5	42	36-143
PHENOL-D5	37	36-143
TERPHENYL-D14	102	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID:	GPT-6-2-102104	Date Analyzed:	11/02/04 20:11
Lab Samp ID:	J167-06	Dilution Factor:	.94
Lab File ID:	RKH039	Matrix	: WATER
Ext Btch ID:	SVJ025W	% Moisture	: NA
Calib. Ref.:	RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	65	36-143
2-FLUOROBIPHENYL	51	36-143
2-FLUOROPHENOL	45	36-143
NITROBENZENE-D5	50	36-143
PHENOL-D5	50	36-143
TERPHENYL-D14	103	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

SW 3520C/8270C
SEMI VOLATILE ORGANICS BY GC/MS

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 16:00
Sample ID	: GPT-6-1-102104	Date Analyzed:	11/02/04 20:46
Lab Samp ID	: J167-07	Dilution Factor:	.94
Data File ID	: RKH040	Matrix	: WATER
Lab Btch ID	: SVJ025W	% Moisture	: NA
Calib. Ref.	: RJH007	Instrument ID	: T-041

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,2,4-TRICHLOROBENZENE	ND	9.4	4.7
1,2-DICHLOROBENZENE	ND	9.4	4.7
1,3-DICHLOROBENZENE	ND	9.4	4.7
1,4-DICHLOROBENZENE	ND	9.4	4.7
2,4,5-TRICHLOROPHENOL	ND	9.4	4.7
2,4,6-TRICHLOROPHENOL	ND	9.4	4.7
2,4-DICHLOROPHENOL	ND	9.4	4.7
2,4-DIMETHYLPHENOL	ND	9.4	4.7
2,4-DINITROPHENOL	ND	19	9.4
2,4-DINITROTOLUENE	ND	19	9.4
2,6-DINITROTOLUENE	ND	19	9.4
2-CHLORONAPHTHALENE	ND	9.4	4.7
2-CHLOROPHENOL	ND	9.4	4.7
2-METHYLNAPHTHALENE	ND	9.4	4.7
2-METHYLPHENOL	ND	9.4	4.7
2-NITROANILINE	ND	19	5.6
2-NITROPHENOL	ND	9.4	4.7
3,3'-DICHLOROBENZIDINE	ND	9.4	4.7
3-NITROANILINE	ND	9.4	4.7
4,6-DINITRO-2-METHYLPHENOL	ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER	ND	19	6.6
4-CHLORO-3-METHYLPHENOL	ND	9.4	4.7
4-CHLOROANILINE	ND	9.4	4.7
4-CHLOROPHENYL-PHENYL ETHER	ND	9.4	4.7
4-METHYLPHENOL (1)	ND	9.4	4.7
4-NITROANILINE	ND	9.4	4.7
4-NITROPHENOL	ND	19	4.7
ACENAPHTHENE	ND	9.4	4.7
ACENAPHTHYLENE	ND	9.4	4.7
ANTHRACENE	ND	9.4	4.7
BENZO(A)ANTHRACENE	ND	9.4	4.7
BENZO(A)PYRENE	ND	9.4	4.7
BENZO(B)FLUORANTHENE	ND	9.4	4.7
BENZO(K)FLUORANTHENE	ND	9.4	4.7
BENZO(G,H,I)PERYLENE	ND	9.4	4.7
BIS(2-CHLOROETHOXY)METHANE	ND	9.4	4.7
BIS(2-CHLOROETHYL)ETHER	ND	9.4	4.7
BIS(2-CHLOROISOPROPYL)ETHER	ND	9.4	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	19	9.4
BUTYLBENZYLPHTHALATE	ND	9.4	4.7
CHRYSENE	ND	9.4	4.7
DI-N-BUTYLPHTHALATE	ND	9.4	4.7
DI-N-OCTYLPHTHALATE	ND	9.4	4.7
DIBENZO(A,H)ANTHRACENE	ND	9.4	4.7
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND	19	5.6
DIMETHYLPHTHALATE	ND	19	5.6
FLUORANTHENE	ND	9.4	4.7
FLUORENE	ND	9.4	4.7
HEXACHLOROBENZENE	ND	19	5.6
HEXACHLOROBUTADIENE	ND	9.4	4.7
HEXACHLOROCYCLOPENTADIENE	ND	9.4	4.7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND	9.4	4.7
ISOPHORONE	ND	9.4	4.7
N-NITROSO-DI-N-PROPYLAMINE	ND	9.4	4.7
N-NITROSODIPHENYLAMINE (2)	ND	9.4	4.7
NAPHTHALENE	ND	9.4	4.7
NITROBENZENE	ND	9.4	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND	19	5.6
PHENOL	ND	9.4	4.7
PYRENE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	47	36-143
2-FLUOROBIPHENYL	38	36-143
2-FLUOROPHENOL	36	36-143
NITROBENZENE-D5	42	36-143
PHENOL-D5	40	36-143
TERPHENYL-D14	94	45-143

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11/29/04

3010

LDC #: 12758B2

SDG #: 04J167

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 11/20/04

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/21/04
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	%RSD, $r^2 \geq 0.990$
IV.	Continuing calibration	SW	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	ND	D = 1 + 2
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	GPT-6-8-102104	11	MBLKW_SVJ025WB	21		31	
2	GPT-6-8-102104 Dup	12		22		32	
3	GPT-6-4-102104	13		23		33	
4	GPT-6-5-102104	14		24		34	
5	GPT-6-7-102104	15		25		35	
6	GPT-6-2-102104	16		26		36	
7	GPT-6-1-102104	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FIND WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

LDC #: 1275BB2
SDG #: 041167

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours of sample analysis for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	10/29/04	RJH298	KKK	25.2		MBLKW-SYJ025WB	J/UJ/A
			LLL	25.4		↓	↓
	11/3/04	RKH049	HH	26.9		4	J/UJ/A
			LLL	25.2		↓	↓

[redacted] #: [redacted]75[redacted] [redacted] [redacted] [redacted] [redacted] [redacted]DAT[redacted] FIN[redacted]GS [redacted]RKS[redacted]T [redacted] [redacted] [redacted] [redacted] [redacted]Pag[redacted] of [redacted]

SDG #: [redacted]67

Surroga[redacted]covery

R[redacted]: F7

2nd R[redacted]: R

METHOD: G[redacted]NA (EPA SW 846 Method 8270)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?

Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?

Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		2	TPH	150 (45-143)	NO QUAL
				( )	
				( )	
		5	2FP	35 (36-143)	NO QUAL
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

* QC limits are advisory	QC Limits (Soil)	QC Limits (Water)		QC Limits (Soil)	QC Limits (Water)
S1 (NBZ) = Nitrobenzene-d5	23-120	35-114	S5 (2FP)= 2-Fluorophenol	25-121	21-100
S2 (FBP) = 2-Fluorobiphenyl	30-115	43-116	S6 (TBP) = 2,4,6-Tribromophenol	19-122	10-123
S3 (TPH) = Terphenyl-d14	18-137	33-141	S7 (2CP) = 2-Chlorophenol-d4	20-130*	33-110*
S4 (PHL) = Phenol-d5	24-113	10-94	S8 (DCB) = 1,2-Dichlorobenzene-d4	20-130*	16-110*

SUR.2S

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

Dissolved Manganese

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Dissolved Manganese

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-10-102004
GPT-6-11-102004
GPT-6-12-102004
GPT-6-13-102004

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Dissolved Manganese.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) analyses specified for the samples in this SDG, and therefore matrix spike analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Dissolved Manganese - Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Dissolved Manganese - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Dissolved Manganese - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : T-107

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	IPJ054WB	ND	1	NA	10	1	11/01/0421:19	10/27/0408:15	I07K001024	I07K001020	IPJ054W	NA	10/27/04
LCS1W	IPJ054WL	975	1	NA	10	1	11/01/0421:23	10/27/0408:15	I07K001025	I07K001020	IPJ054W	NA	10/27/04
LCD1W	IPJ054WC	969	1	NA	10	1	11/01/0421:28	10/27/0408:15	I07K001026	I07K001020	IPJ054W	NA	10/27/04
GPT-6-3-102004AS	J149-01A	1000	1	NA	10	1	11/01/0421:32	10/27/0408:15	I07K001027	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-3-102004	J149-01	16.9	1	NA	10	1	11/01/0421:37	10/27/0408:15	I07K001028	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-3-102004DL	J149-01T	9.85J	5	NA	50	5	11/01/0421:41	10/27/0408:15	I07K001029	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	8.63J	1	NA	10	1	11/01/0421:45	10/27/0408:15	I07K001030	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	1.46J	1	NA	10	1	11/01/0421:49	10/27/0408:15	I07K001031	I07K001020	IPJ054W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	74.6	1	NA	10	1	11/01/0422:02	10/27/0408:15	I07K001034	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	158	1	NA	10	1	11/01/0422:06	10/27/0408:15	I07K001035	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	38.9	1	NA	10	1	11/01/0422:10	10/27/0408:15	I07K001036	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	66.4	1	NA	10	1	11/01/0422:14	10/27/0408:15	I07K001037	I07K001032	IPJ054W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	65.9	1	NA	10	1	11/01/0422:18	10/27/0408:15	I07K001038	I07K001032	IPJ054W	10/20/04	10/21/04

RL: Reporting Limit

7003

LDC #: 12758A4

VALIDATION COMPLETENESS WORKSHEET

Date: 11-15-04

SDG #: 04J149

Level III/IV

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: MG

2nd Reviewer: KM

METHOD: Dissolved Manganese (EPA SW 846 Method 6010B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-20-04
II.	Calibration	A	
III.	Blanks	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	N	Client specified
VI.	Duplicate Sample Analysis	N	" "
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	" "
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	A	Not reviewed for Level III validation.
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	N	
XIV.	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all water

1	GPT-6-3-102004**	11		21		31	
2	GPT-6-6-102004	12		22		32	
3	GPT-6-PZ4-102004	13		23		33	
4	GPT-6-9-102004	14		24		34	
5	GPT-6-10-102004	15		25		35	
6	GPT-6-11-102004	16		26		36	
7	GPT-6-12-102004	17		27		37	
8	GPT-6-13-102004	18		28		38	
9	PBW	19		29		39	
10		20		30		40	

Notes:

LDC #: 12758A4
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: Hn

Method: Metals (EPA SW 826 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury and 85-115% for cyanide) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Was a midrange cyanide standard distilled?			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
IV. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			
VI. Furnace Atomic Absorption QC				
If MSA was performed, was the correlation coefficients ≥ 0.995?			✓	
Do all applicable analysies have duplicate injections?			✓	

LDC #: 12758A4
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: JM

Validation Area	Yes	No	NA	Findings/Comments
For sample concentrations > RL, are applicable duplicate injection RSD values < 20%?			✓	
Were analytical spike recoveries within the 85-115% QC limits?			✓	
VII. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL?	✓			
Were all percent differences (%Ds) ≤ 10%? mA.	✓	✓		
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
VIII. Internal Standards (EPA SW 846 Method 6020)				
Were all the percent recoveries (%R) within the 30-120% of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 12758A4
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: MY

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
1952 ICV	ICP (Initial calibration)	Mn	947.9	1000	95	95	Y
	GFAA (Initial calibration)						
	CVAA (Initial calibration)						
2102 CCV2	ICP (Continuing calibration)	Mn	982.7	1000	98	98	
	GFAA (Continuing calibration)						
	CVAA (Continuing calibration)						
	Cyanide (Initial calibration)						
	Cyanide (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A4
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: MM

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
2006 ICSAB	ICP interference check	Mn	457.9 (µg/L)	500 (µg/L)	92	92	Y
2123 LCS	Laboratory control sample	Mn	975.3 (µg/L)	1000 (µg/L)	98	98	↓
—	Matrix spike	—	(SSR-SR) —	—	—	—	—
—	Duplicate	—	—	—	—	—	—
2137/2141 I	ICP serial dilution	Mn	16.9 (µg/L)	10.0 (µg/L)	41	NA	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 12758A4
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: LM

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
(Y) N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
(Y) N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Mn were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)(\%S)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor
%S = Decimal percent solids

Recalculation:

$$\frac{(0.0169\ mg/L)(0.050\ L)(1)(1000\ \mu g/mg)}{0.050\ L} = 16.9\ \mu g/L$$

Sample ID	Analyte	Reported Concentration (µg/L)	Calculated Concentration (µg/L)	Acceptable (Y/N)
1	Mn	16.9	16.9	Y

RECALC.4S2

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Dissolved Manganese

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-5-102104
GPT-6-7-102104
GPT-6-2-102104
GPT-6-1-102104

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Dissolved Manganese.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

No field blanks were identified in this SDG.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) analyses specified for the samples in this SDG, and therefore matrix spike analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No dissolved manganese was detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
Dissolved Manganese	5.98	5.97	0

NCBC Gulfport, MS
Dissolved Manganese - Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Dissolved Manganese - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Dissolved Manganese - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

METHOD 3010A/6010B
DISSOLVED MANGANESE BY ICP

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : T-I07

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DLF	MOIST	RL (ug/L)	MDL (ug/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	IPJ056WB	ND	1	NA	10	1	11/01/0420:19	10/27/0408:45	I07K001010	I07K001008	IPJ056W	NA	10/27/04
LCS1W	IPJ056WL	1010	1	NA	10	1	11/01/0420:23	10/27/0408:45	I07K001011	I07K001008	IPJ056W	NA	10/27/04
LCD1W	IPJ056WC	1020	1	NA	10	1	11/01/0420:27	10/27/0408:45	I07K001012	I07K001008	IPJ056W	NA	10/27/04
GPT-6-8-102104AS	J167-01A	984	1	NA	10	1	11/01/0420:31	10/27/0408:45	I07K001013	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104	J167-01	5.98J J	1	NA	10	1	11/01/0420:37	10/27/0408:45	I07K001014	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104DL	J167-01T	ND U	5	NA	50	5	11/01/0420:41	10/27/0408:45	I07K001015	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	5.97J J	1	NA	10	1	11/01/0420:45	10/27/0408:45	I07K001016	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	95.2	1	NA	10	1	11/01/0420:49	10/27/0408:45	I07K001017	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	68.9	1	NA	10	1	11/01/0420:53	10/27/0408:45	I07K001018	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	52.6	1	NA	10	1	11/01/0420:57	10/27/0408:45	I07K001019	I07K001008	IPJ056W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	2.2J J	1	NA	10	1	11/01/0421:10	10/27/0408:45	I07K001022	I07K001020	IPJ056W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	15.9	1	NA	10	1	11/01/0421:14	10/27/0408:45	I07K001023	I07K001020	IPJ056W	10/21/04	10/22/04

RL: Reporting Limit

11/29/04

7003

LDC #: 12758B4

VALIDATION COMPLETENESS WORKSHEET

Date: 11-15-04

SDG #: 04J167

Level III

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: Dissolved Manganese (EPA SW 846 Method 6010B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-21-04
II.	Calibration	A	
III.	Blanks	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Matrix Spike Analysis	N	Client specified
VI.	Duplicate Sample Analysis	N	" "
VII.	Laboratory Control Samples (LCS)	A	LCS/LCSD
VIII.	Internal Standard (ICP-MS)	N	Not utilized
IX.	Furnace Atomic Absorption QC	N	" "
X.	ICP Serial Dilution	A	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	
XIII.	Field Duplicates	SW	D = 1+2
XIV.	Field Blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all water

1	GPT-6-8-102104	11		21		31	
2	GPT-6-8-102104 Dup	12		22		32	
3	GPT-6-4-102104	13		23		33	
4	GPT-6-5-102104	14		24		34	
5	GPT-6-7-102104	15		25		35	
6	GPT-6-2-102104	16		26		36	
7	GPT-6-1-102104	17		27		37	
8	PBW	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 12758B4
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd reviewer: MM

METHOD: Trace Metals (EPA SW 846 Method 6010/7000)

(Y) N N/A Were field duplicate pairs identified in this SDG?
(Y) N N/A Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (µg/L) 1	2	RPD (Limits)	Difference (Limits)	Qualifications
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese	5.98	5.97	0	~~0.01 µg/L (≤10)~~	
Mercury					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Thallium					
Vanadium					
Zinc					
Cyanide					
Boron					
Molybdenum					
Strontium					
Silicon					

Notes:

FLDUP.4S2

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

Wet Chemistry

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Wet Chemistry

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-10-102004
GPT-6-11-102004
GPT-6-12-102004
GPT-6-13-102004
GPT-6-3-102004DUP
GPT-6-6-102004MS
GPT-6-6-102004DUP
GPT-6-PZ4-102004DUP

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 376.1 for Sulfide, EPA SW 846 Method 9056 for Nitrate as Nitrogen and Sulfate, and Standard Method 3500 for Ferrous Iron.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG 04J149	Nitrate as N Sulfate	A blank was not used to establish the calibration curve.	A blank must be used to establish the calibration curve.	None None	P

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

All sample result verifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Wet Chemistry - Data Qualification Summary - SDG 04J149

SDG	Sample	Analyte	Flag	A or P	Reason
04J149	GPT-6-3-102004**	Nitrate as N	None	P	Initial calibration
	GPT-6-6-102004	Sulfate	None		
	GPT-6-PZ4-102004				
	GPT-6-9-102004				
	GPT-6-10-102004				
	GPT-6-11-102004				
	GPT-6-12-102004				
	GPT-6-13-102004				

NCBC Gulfport, MS
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Wet Chemistry - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

METHOD 310.1
TOTAL ALKALINITY

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : 153

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALJ009WB	ND	1	NA	5	1	10/25/0410:00	NA	ALJ009W-01	NA	ALJ009W	NA	NA
LCS1W	ALJ009WL	37.9	1	NA	5	1	10/25/0410:05	NA	ALJ009W-02	NA	ALJ009W	NA	NA
LCD1W	ALJ009WC	37.9	1	NA	5	1	10/25/0410:10	NA	ALJ009W-03	NA	ALJ009W	NA	NA
GPT-6-3-102004	J149-01	ND u	1	NA	5	1	10/25/0410:15	NA	ALJ009W-04	NA	ALJ009W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	7.57	1	NA	5	1	10/25/0410:20	NA	ALJ009W-05	NA	ALJ009W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	111	1	NA	5	1	10/25/0410:25	NA	ALJ009W-06	NA	ALJ009W	10/20/04	10/21/04
GPT-6-PZ4-102004DUP	J149-03D	111	1	NA	5	1	10/25/0410:30	NA	ALJ009W-07	NA	ALJ009W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	5.55	1	NA	5	1	10/25/0410:35	NA	ALJ009W-08	NA	ALJ009W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	55.5	1	NA	5	1	10/25/0410:40	NA	ALJ009W-09	NA	ALJ009W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	48.0	1	NA	5	1	10/25/0410:45	NA	ALJ009W-10	NA	ALJ009W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	9.09	1	NA	5	1	10/25/0410:50	NA	ALJ009W-11	NA	ALJ009W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	5.55	1	NA	5	1	10/25/0410:55	NA	ALJ009W-12	NA	ALJ009W	10/20/04	10/21/04

8002

ME[illegible]D 9056
NITRATE-N

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ018WB	ND	1	NA	.1	.05	10/21/0422:17	NA	AJ21037	AJ21035	ICJ018W	NA	NA
LCS1W	ICJ018WL	3.82	1	NA	.1	.05	10/21/0422:30	NA	AJ21038	AJ21035	ICJ018W	NA	NA
LCD1W	ICJ018WC	3.81	1	NA	.1	.05	10/21/0422:43	NA	AJ21039	AJ21035	ICJ018W	NA	NA
GPT-6-3-102004	J149-01	ND	1	NA	.1	.05	10/21/0422:56	NA	AJ21040	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	ND	1	NA	.1	.05	10/21/0423:09	NA	AJ21041	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	.177	1	NA	.1	.05	10/21/0423:22	NA	AJ21042	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	1	NA	.1	.05	10/21/0423:35	NA	AJ21043	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	1	NA	.1	.05	10/21/0423:48	NA	AJ21044	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	.081J	1	NA	.1	.05	10/22/0400:01	NA	AJ21045	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	1	NA	.1	.05	10/22/0400:14	NA	AJ21046	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	1	NA	.1	.05	10/22/0400:53	NA	AJ21049	AJ21047	ICJ018W	10/20/04	10/21/04
GPT-6-3-102004DUP	J149-01D	ND	1	NA	.1	.05	10/22/0401:06	NA	AJ21050	AJ21047	ICJ018W	10/20/04	10/21/04

8008

11/29/04

METHOD 9056
SULFATE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ018WB	ND	1	NA	.5	.2	10/21/0422:17	NA	AJ21037	AJ21035	ICJ018W	NA	NA
LCS1W	ICJ018WL	14.6	1	NA	.5	.2	10/21/0422:30	NA	AJ21038	AJ21035	ICJ018W	NA	NA
LCD1W	ICJ018WC	14.4	1	NA	.5	.2	10/21/0422:43	NA	AJ21039	AJ21035	ICJ018W	NA	NA
GPT-6-3-102004	J149-01	12.8	1	NA	.5	.2	10/21/0422:56	NA	AJ21040	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	9.34	1	NA	.5	.2	10/21/0423:09	NA	AJ21041	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	15.5	1	NA	.5	.2	10/21/0423:22	NA	AJ21042	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	9.88	1	NA	.5	.2	10/21/0423:35	NA	AJ21043	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	11.3	1	NA	.5	.2	10/21/0423:48	NA	AJ21044	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	11.2	1	NA	.5	.2	10/22/0400:01	NA	AJ21045	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	20.7	1	NA	.5	.2	10/22/0400:14	NA	AJ21046	AJ21035	ICJ018W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	15.4	1	NA	.5	.2	10/22/0400:53	NA	AJ21049	AJ21047	ICJ018W	10/20/04	10/21/04
GPT-6-3-102004DUP	J149-01D	12.7	1	NA	.5	.2	10/22/0401:06	NA	AJ21050	AJ21047	ICJ018W	10/20/04	10/21/04

6008

11/29/04

M3500
FERROUS IRON

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : I70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	FEJ001WB	ND	1	NA	5	2.5	10/21/0416:53	NA	FEJ001W-09	FEJ001W-07	FEJ001W	NA	NA
LCS1W	FEJ001WL	21.2	1	NA	5	2.5	10/21/0416:54	NA	FEJ001W-10	FEJ001W-07	FEJ001W	NA	NA
GPT-6-3-102004	J149-01	24.1	1	NA	5	2.5	10/21/0416:55	NA	FEJ001W-11	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	28.9	1	NA	5	2.5	10/21/0416:55	NA	FEJ001W-12	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004DUP	J149-02D	30.8	1	NA	5	2.5	10/21/0416:57	NA	FEJ001W-13	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-6-102004MS	J149-02MR	48.1	2	NA	10	5	10/21/0416:59	NA	FEJ001W-15	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND U	1	NA	5	2.5	10/21/0417:00	NA	FEJ001W-16	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-9-102004	J149-04R	385	10	NA	50	25	10/21/0417:02	NA	FEJ001W-18	FEJ001W-07	FEJ001W	10/20/04	10/21/04
GPT-6-10-102004	J149-05R	173	10	NA	50	25	10/21/0417:06	NA	FEJ001W-22	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	19.3	1	NA	5	2.5	10/21/0417:07	NA	FEJ001W-23	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-12-102004	J149-07R	298	10	NA	50	25	10/21/0417:09	NA	FEJ001W-25	FEJ001W-19	FEJ001W	10/20/04	10/21/04
GPT-6-13-102004	J149-08R	50.1	2	NA	10	5	10/21/0417:11	NA	FEJ001W-27	FEJ001W-19	FEJ001W	10/20/04	10/21/04

RL : Reporting Limit

11/29/04

8048

METHOD 376.1
TOTAL SULFIDE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	SDJ001WB	ND	1	NA	1	.11	10/21/0411:30	NA	SDJ001W-01	NA	SDJ001W	NA	NA
LCS1W	SDJ001WL	5.59	1	NA	1	.11	10/21/0411:35	NA	SDJ001W-02	NA	SDJ001W	NA	NA
GPT-6-3-102004	J149-01	ND U	1	NA	1	.11	10/21/0411:40	NA	SDJ001W-03	NA	SDJ001W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	1.35	1	NA	1	.11	10/21/0411:45	NA	SDJ001W-04	NA	SDJ001W	10/20/04	10/21/04
GPT-6-6-102004DUP	J149-02D	1.44	1	NA	1	.11	10/21/0411:50	NA	SDJ001W-05	NA	SDJ001W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND U	1	NA	1	.11	10/21/0411:55	NA	SDJ001W-06	NA	SDJ001W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	1	NA	1	.11	10/21/0412:00	NA	SDJ001W-07	NA	SDJ001W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	1	NA	1	.11	10/21/0412:05	NA	SDJ001W-08	NA	SDJ001W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	ND	1	NA	1	.11	10/21/0412:10	NA	SDJ001W-09	NA	SDJ001W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	1	NA	1	.11	10/21/0412:15	NA	SDJ001W-10	NA	SDJ001W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	1	NA	1	.11	10/21/0412:20	NA	SDJ001W-11	NA	SDJ001W	10/20/04	10/21/04

11/29/04

8055

LDC #: 12758A6

SDG #: 04J149

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 11-15-04

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (EPA Method 310.1), Ferrous Iron (SM3500), Nitrate-N, Sulfate (EPA SW846 Method 9056), Sulfide (EPA Method 376.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-20-04
IIa.	Initial calibration	SW	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS
V	Duplicates	A	DUP
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all water

1	GPT-6-3-102004**	11	GPT-6-6-102004DUP	21		31	
2	GPT-6-6-102004	12	GPT-6-PZ4-102004DUP	22		32	
3	GPT-6-PZ4-102004	13	PBW	23		33	
4	GPT-6-9-102004	14		24		34	
5	GPT-6-10-102004	15		25		35	
6	GPT-6-11-102004	16		26		36	
7	GPT-6-12-102004	17		27		37	
8	GPT-6-13-102004	18		28		38	
9	GPT-6-3-102004DUP	19		29		39	
10	GPT-6-6-102004MS	20		30		40	

Notes:

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?		✓		
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required?	✓			
Were balance checks performed as required?			✓	
~~Were all initial and continuing calibration verification %Rs within the 90-110% QC~~ limits?				
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: HN

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: M

All circled methods are applicable to each sample.

Sample ID	Parameter
1→8	pH TDS Cl F (NO$_3$) NO$_2$ (SO$_4$) PO$_4$ (ALK) CN$^-$ NH$_3$ TKN TOC CR^{6+} (Ferrous Iron) (S) ____ ____
QC 9	pH TDS Cl F (NO$_3$) NO$_2$ (SO$_4$) PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
10	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} (Ferrous Iron) ____ ____ ____
11	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} (Ferrous Iron) (S) ____ ____
12	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ (ALK) CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+} ____ ____ ____ ____

Comments:

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Calibration

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all instruments calibrated daily, each set-up time, and were the proper number of standards used?
(Y) N N/A Were all initial and continuing calibration verification percent recoveries (%R) within the control limits of 90-110% ?
(Y) N N/A Are all correlation coefficients ≥0.995 ?

LEVEL IV/D ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Initial and Continuing Calibration Recaluculation Worksheet for recalulations.
Y N (N/A) Was a balance check conducted prior to the TDS analysis.?
(Y) N N/A Was the titrant normality checked?

#	Date	Calibration ID	Analyte	%R	Associated Samples	Qualifications
1		ICAL	NO_3-N, SO_4	No blank in ICAL	all	None / P

Comments:

CAL.6

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: km

METHOD: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of NO_3-N was recalculated. Calibration date: 10-21-04

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte		Conc (units)	Area (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	NO_3-N	Blank	–	–	$r^2=0.999219$	$r^2=0.999219$	Y
Calibration verification		Standard 1	0.1 (mg/L)	78981			
		Standard 2	0.2 ( )	152144			
		Standard 3	0.5 ( )	345740			
		Standard 4	4. ( )	2825048			
		Standard 5	8. (↓)	5982094			
		Standard 6	–	–			
		Standard 7	–	–			
Calibration verification	SO_4	CCV2	14.518 (mg/L)	15 (mg/L)	96.8	96.8	
Calibration verification	Fe^{III}	ICV	20.2 (mg/L)	20.0 (mg/L)	101	not reported	
Calibration verification	NO_3-N	CCV2	3.766 (mg/L)	4 (mg/L)	94.2	94.1	↓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CALCLC.6

LDC #: 12758A6
SDG #: 045149

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	S	5.59 (mg/L)	5.71 (mg/L)	98	98	Y
10	Matrix spike sample	Ferrous Fe	(SSR-SR) 38.4 (mg/L)	40.00 (mg/L)	96	96	↓
12	Duplicate sample	tot. Alk.	111 (mg/L)	111 (mg/L)	0	0	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 12758A6
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

METHOD: Inorganics, Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, SO_4 reported with a positive detect were recalculated and verified using the following equation:

Concentration = $Y = mx + b$

Recalculation:

$SO_4 = 4.74349e-006 (2668157) + 0.166288$

where X = Area
m = 4.74349e-06
b = 0.166288
dil = 1x

$SO_4 = 12.823$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	SO_4 ~~Alk.~~	12.8	12.8	Y
		Ferrous Fe	24.1	24.1	↓

Note:

RECALC.6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Wet Chemistry

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-5-102104
GPT-6-7-102104
GPT-6-2-102104
GPT-6-1-102104
GPT-6-4-102104DUP
GPT-6-2-102104MS
GPT-6-2-102104DUP
GPT-6-1-102104MS
GPT-6-1-102104MSD
GPT-6-1-102104DUP

Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 376.1 for Sulfide, EPA SW 846 Method 9056 for Nitrate as Nitrogen and Sulfate, and Standard Method 3500 for Ferrous Iron.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG 04J167	Nitrate as N Sulfate	A blank was not used to establish the calibration curve.	A blank must be used to establish the calibration curve.	None None	P

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

No field blanks were identified in this SDG.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

IX. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
Total alkalinity	8.50	7.55	12
Sulfate	18.6	19.3	4
Ferrous Iron	83.6	79.4	5
Sulfide	1.08	1.26	15

NCBC Gulfport, MS
Wet Chemistry - Data Qualification Summary - SDG 04J167

SDG	Sample	Analyte	Flag	A or P	Reason
04J167	GPT-6-8-102104 GPT-6-8-102104 Dup GPT-6-4-102104 GPT-6-5-102104 GPT-6-7-102104 GPT-6-2-102104 GPT-6-1-102104	Nitrate as N Sulfate	None None	P	Initial calibration

NCBC Gulfport, MS
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Wet Chemistry - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

METHOD 376.1
TOTAL SULFIDE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	SDJ002WB	ND	1	NA	1	.11	10/25/0413:30	NA	SDJ002W-01	NA	SDJ002W	NA	NA
LCS1W	SDJ002WL	5.50	1	NA	1	.11	10/25/0413:35	NA	SDJ002W-02	NA	SDJ002W	NA	NA
GPT-6-8-102104	J167-01	1.08	1	NA	1	.11	10/25/0413:40	NA	SDJ002W-03	NA	SDJ002W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	1.26	1	NA	1	.11	10/25/0413:45	NA	SDJ002W-04	NA	SDJ002W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	3.79	1	NA	1	.11	10/25/0413:50	NA	SDJ002W-05	NA	SDJ002W	10/21/04	10/22/04
GPT-6-4-102104DUP	J167-03D	3.88	1	NA	1	.11	10/25/0413:55	NA	SDJ002W-06	NA	SDJ002W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND	1	NA	1	.11	10/25/0414:00	NA	SDJ002W-07	NA	SDJ002W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	ND	1	NA	1	.11	10/25/0414:05	NA	SDJ002W-08	NA	SDJ002W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	ND	1	NA	1	.11	10/25/0414:10	NA	SDJ002W-09	NA	SDJ002W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND	1	NA	1	.11	10/25/0414:15	NA	SDJ002W-10	NA	SDJ002W	10/21/04	10/22/04

SM
FERROUS IRON

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : I70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	FEJ002WB	ND	1	NA	5	2.5	10/22/0411:38	NA	FEJ002W-09	FEJ002W-07	FEJ002W	NA	NA
LCS1W	FEJ002WL	21.9	1	NA	5	2.5	10/22/0411:39	NA	FEJ002W-10	FEJ002W-07	FEJ002W	NA	NA
GPT-6-8-102104	J167-01R	83.6	2	NA	10	5	10/22/0411:41	NA	FEJ002W-12	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02R	79.4	2	NA	10	5	10/22/0411:43	NA	FEJ002W-14	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	33.4	1	NA	5	2.5	10/22/0411:44	NA	FEJ002W-15	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-5-102104	J167-04R	387	10	NA	50	25	10/22/0411:46	NA	FEJ002W-17	FEJ002W-07	FEJ002W	10/21/04	10/22/04
GPT-6-7-102104	J167-05R	439	10	NA	50	25	10/22/0411:50	NA	FEJ002W-21	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	20.9	1	NA	5	2.5	10/22/0411:51	NA	FEJ002W-22	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104DUP	J167-06D	21.9	1	NA	5	2.5	10/22/0411:52	NA	FEJ002W-23	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-2-102104MS	J167-06M	44.9	1	NA	5	2.5	10/22/0411:53	NA	FEJ002W-24	FEJ002W-09	FEJ002W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND U	1	NA	5	2.5	10/22/0411:54	NA	FEJ002W-25	FEJ002W-09	FEJ002W	10/21/04	10/22/04

RL : Reporting Limit

8028

METHOD 9056
NITRATE-N

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ020WB	ND	1	NA	.1	.05	10/22/0412:14	NA	AJ22003	AJ22001	ICJ020W	NA	NA
LCS1W	ICJ020WL	3.98	1	NA	.1	.05	10/22/0412:27	NA	AJ22004	AJ22001	ICJ020W	NA	NA
LCD1W	ICJ020WC	3.85	1	NA	.1	.05	10/22/0412:40	NA	AJ22005	AJ22001	ICJ020W	NA	NA
GPT-6-8-102104 DUP	J167-02	ND U	1	NA	.1	.05	10/22/0415:10	NA	AJ22016	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	ND	1	NA	.1	.05	10/22/0415:23	NA	AJ22017	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND	1	NA	.1	.05	10/22/0415:36	NA	AJ22018	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	ND	1	NA	.1	.05	10/22/0415:49	NA	AJ22019	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	.189	1	NA	.1	.05	10/22/0416:02	NA	AJ22020	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	ND U	1	NA	.1	.05	10/22/0416:15	NA	AJ22021	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104DUP	J167-07D	ND	1	NA	.1	.05	10/22/0416:28	NA	AJ22022	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MS	J167-07M	3.82	1	NA	.1	.05	10/22/0416:41	NA	AJ22023	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MSD	J167-07S	3.88	1	NA	.1	.05	10/22/0416:54	NA	AJ22024	AJ22013	ICJ020W	10/21/04	10/22/04
MBLK2W	ICJ021WB	ND	1	NA	.1	.05	10/22/0417:33	NA	AJ22027	AJ22025	ICJ021W	NA	NA
LCS2W	ICJ021WL	3.79	1	NA	.1	.05	10/22/0417:46	NA	AJ22028	AJ22025	ICJ021W	NA	NA
LCD2W	ICJ021WC	3.8	1	NA	.1	.05	10/22/0417:59	NA	AJ22029	AJ22025	ICJ021W	NA	NA
GPT-6-8-102104	J167-01	ND U	1	NA	.1	.05	10/22/0418:12	NA	AJ22030	AJ22025	ICJ021W	10/21/04	10/22/04

8007

METHOD
SULFATE

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : TI022

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ICJ020WB	ND	1	NA	.5	.2	10/22/0412:14	NA	AJ22003	AJ22001	ICJ020W	NA	NA
LCS1W	ICJ020WL	15.4	1	NA	.5	.2	10/22/0412:27	NA	AJ22004	AJ22001	ICJ020W	NA	NA
LCD1W	ICJ020WC	14.7	1	NA	.5	.2	10/22/0412:40	NA	AJ22005	AJ22001	ICJ020W	NA	NA
GPT-6-8-102104 DUP	J167-02	19.3	1	NA	.5	.2	10/22/0415:10	NA	AJ22016	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	.751	1	NA	.5	.2	10/22/0415:23	NA	AJ22017	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	15.8	1	NA	.5	.2	10/22/0415:36	NA	AJ22018	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	9.09	1	NA	.5	.2	10/22/0415:49	NA	AJ22019	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	13.4	1	NA	.5	.2	10/22/0416:02	NA	AJ22020	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	14.8	1	NA	.5	.2	10/22/0416:15	NA	AJ22021	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104DUP	J167-07D	14.7	1	NA	.5	.2	10/22/0416:28	NA	AJ22022	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MS	J167-07M	30.2	1	NA	.5	.2	10/22/0416:41	NA	AJ22023	AJ22013	ICJ020W	10/21/04	10/22/04
GPT-6-1-102104MSD	J167-07S	30.7	1	NA	.5	.2	10/22/0416:54	NA	AJ22024	AJ22013	ICJ020W	10/21/04	10/22/04
MBLK2W	ICJ021WB	ND	1	NA	.5	.2	10/22/0417:33	NA	AJ22027	AJ22025	ICJ021W	NA	NA
LCS2W	ICJ021WL	14.7	1	NA	.5	.2	10/22/0417:46	NA	AJ22028	AJ22025	ICJ021W	NA	NA
LCD2W	ICJ021WC	14.5	1	NA	.5	.2	10/22/0417:59	NA	AJ22029	AJ22025	ICJ021W	NA	NA
GPT-6-8-102104	J167-01	18.6	1	NA	.5	.2	10/22/0418:12	NA	AJ22030	AJ22025	ICJ021W	10/21/04	10/22/04

8008

METHOD 310.1
TOTAL ALKALINITY

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	ALJ010WB	ND	1	NA	5	1	10/27/0410:00	NA	ALJ010W-01	NA	ALJ010W	NA	NA
LCS1W	ALJ010WL	35.2	1	NA	5	1	10/27/0410:05	NA	ALJ010W-02	NA	ALJ010W	NA	NA
LCD1W	ALJ010WC	35.2	1	NA	5	1	10/27/0410:10	NA	ALJ010W-03	NA	ALJ010W	NA	NA
GPT-6-8-102104	J167-01	8.50	1	NA	5	1	10/27/0410:15	NA	ALJ010W-04	NA	ALJ010W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	7.55	1	NA	5	1	10/27/0410:20	NA	ALJ010W-05	NA	ALJ010W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	347	1	NA	5	1	10/27/0410:25	NA	ALJ010W-06	NA	ALJ010W	10/21/04	10/22/04
GPT-6-4-102104DUP	J167-03D	350	1	NA	5	1	10/27/0410:30	NA	ALJ010W-07	NA	ALJ010W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	15.1	1	NA	5	1	10/27/0410:35	NA	ALJ010W-08	NA	ALJ010W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	11.1	1	NA	5	1	10/27/0410:40	NA	ALJ010W-09	NA	ALJ010W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	5.03	1	NA	5	1	10/27/0410:45	NA	ALJ010W-10	NA	ALJ010W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	5.03	1	NA	5	1	10/27/0410:50	NA	ALJ010W-11	NA	ALJ010W	10/21/04	10/22/04

LDC #: 12758B6

SDG #: 04J167

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 11-15-04

Page: 1 of 1

Reviewer: MG

2nd Reviewer: MM

METHOD: (Analyte) Alkalinity (EPA Method 310.1), Ferrous Iron (SM3500), Nitrate-N, Sulfate (EPA SW846 Method 9056), Sulfide (EPA Method 376.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10-21-04
IIa.	Initial calibration	SW	
IIb.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
V	Duplicates	A	Dup
VI.	Laboratory control samples	A	LCS/LCSD
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D= 1+2
X	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: all water

1	GPT-6-8-102104	11	GPT-6-1-102104MS	21		31	
2	GPT-6-8-102104 Dup	12	GPT-6-1-102104MSD	22		32	
3	GPT-6-4-102104	13	GPT-6-1-102104DUP	23		33	
4	GPT-6-5-102104	14	PBW	24		34	
5	GPT-6-7-102104	15		25		35	
6	GPT-6-2-102104	16		26		36	
7	GPT-6-1-102104	17		27		37	
8	GPT-6-4-102104DUP	18		28		38	
9	GPT-6-2-102104MS	19		29		39	
10	GPT-6-2-102104DUP	20		30		40	

Notes:

LDC #: 1275886
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: MY

All circled methods are applicable to each sample.

Sample ID	Parameter				
1 → 7	pH TDS Cl F (NO$_3$) NO$_2$ (SO$_4$) PO$_4$ (ALK) CN$^-$ NH$_3$ TKN TOC CR^{6+}	(Ferrous Iron)	(S)		
QC 8	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ (ALK) CN$^-$ NH$_3$ TKN TOC CR^{6+}		(S)		
9,10	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}	(Ferrous Iron)			
11,12,13	pH TDS Cl F (NO$_3$) NO$_2$ (SO$_4$) PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				
	pH TDS Cl F NO$_3$ NO$_2$ SO$_4$ PO$_4$ ALK CN$^-$ NH$_3$ TKN TOC CR^{6+}				

Comments:

LDC #: 12758B6
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Calibration

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all instruments calibrated daily, each set-up time, and were the proper number of standards used?
(Y) N N/A Were all initial and continuing calibration verification percent recoveries (%R) within the control limits of 90-110% ?
(Y) N N/A Are all correlation coefficients ≥0.995 ?

LEVEL IV/D ONLY:

omb (Y) N N/A Were recalculated results acceptable? See Level IV Initial and Continuing Calibration Recaluculation Worksheet for recalulations.
Y N (N/A) Was a balance check conducted prior to the TDS analysis.?
Y N (N/A) Was the titrant normality checked?

#	Date	Calibration ID	Analyte	%R	Associated Samples	Qualifications
1		ICAL	NO_3-N, SO_4	No blank in ICAL	all	None / P

Comments:

CAL.6

LDC #: 127588B6
SDG #: 045167

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: MG
2nd reviewer: MH

METHOD: Inorganics, Method see cover

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target analytes detected in the field duplicate pairs?

mg

Analyte	Concentration (mg/L) 1	2	RPD (Limit)	Difference (Limit)	Qualifier
tot. Alk.	8.50	7.55	12	~~0.95 (mg/L) (≤ 5)~~	
SO4	18.6	19.3	4 ~~(≤ 20)~~		
Ferrous Fe	83.6	79.4	5 (↓)		
S	1.08	1.26	15	~~0.18 (mg/L) (≤ 1)~~	

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

Analyte	Concentration ( )		RPD (Limit)	Difference (Limit)	Qualifier

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

TPH as Extractables

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-10-102004
GPT-6-11-102004
GPT-6-12-102004
GPT-6-13-102004

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent EPA Level IV review. EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by EPA Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by EPA Level III criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by EPA Level III criteria.

VII. System Performance

The system performance was within validation criteria for samples on which EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by EPA Level III criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J149

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSJ022WB	ND	86	100	1	NA	.5	.1	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	NA	10/25/04
LCS1W	DSJ022WL	5.21	94	104	1	NA	.5	.1	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	NA	10/25/04
LCD1W	DSJ022WC	5.22	96	117	1	NA	.5	.1	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	NA	10/25/04
GPT-6-3-102004	J149-01	ND U	84	113	.94	NA	.47	.094	10/29/0419:01	10/25/0415:00	TJ29008A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-6-102004	J149-02	.45J J	74	105	.94	NA	.47	.094	10/29/0419:44	10/25/0415:00	TJ29009A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-PZ4-102004	J149-03	ND U	88	117	.94	NA	.47	.094	10/29/0420:26	10/25/0415:00	TJ29010A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-9-102004	J149-04	ND	86	122	.94	NA	.47	.094	10/29/0421:09	10/25/0415:00	TJ29011A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-10-102004	J149-05	ND	84	104	.94	NA	.47	.094	10/29/0421:51	10/25/0415:00	TJ29012A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-11-102004	J149-06	ND	73	107	.94	NA	.47	.094	10/29/0422:33	10/25/0415:00	TJ29013A	TJ29003A	DSJ022W	10/20/04	10/21/04
GPT-6-12-102004	J149-07	ND	73	116	.94	NA	.47	.094	11/01/0410:52	10/25/0415:00	TK01003A	TK01002A	DSJ022W	10/20/04	10/21/04
GPT-6-13-102004	J149-08	ND	76	91	.94	NA	.47	.094	10/30/0400:40	10/25/0415:00	TJ29016A	TJ29014A	DSJ022W	10/20/04	10/21/04

RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

5004

LDC #: 12758A8

SDG #: 04J149

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 11/20/04

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/20/04
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	A	Not reviewed for Level III validation.
VI.	Compound Quantitation and CRQLs	A	Not reviewed for Level III validation.
VII.	System Performance	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate
N = Not provided/applicable R = Rinsate TB = Trip blank
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation Water

1	GPT-6-3-102004**	11	DSJ022WB	21		31	
2	GPT-6-6-102004	12		22		32	
3	GPT-6-PZ4-102004	13		23		33	
4	GPT-6-9-102004	14		24		34	
5	GPT-6-10-102004	15		25		35	
6	GPT-6-11-102004	16		26		36	
7	GPT-6-12-102004	17		27		37	
8	GPT-6-13-102004	18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 12758AB
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Page: 1 of 8
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓	✓	
Did the initial calibration meet the curve fit acceptance criteria?				
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 12758A8
SDG #: 04J149

VALIDATION FINDINGS CHECKLIST

Reviewer: B
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?			✓	
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds idetected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 12758A8
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: A
2nd Reviewer: A

METHOD: GC ✓ HPLC ____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (500 std)	Recalculated CF (500 std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	Diesel C10-C24 ICAL	8/20/04	Diesel	28370	28370	28657.2	28657.2	10.9	10.9
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12756A8
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	TJ29003A	10/29/04	Diesel C10-C24	~~28657.2~~ 500	532.80	532.8	7	7
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 6275BAB
SDG #: 04J149

METHOD: ✓ GC ___ HPLC

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: [illegible]
2nd reviewer: [illegible]

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Bromobenzene	DB-5	100	83.7	84	84	0
Hexacosane	↓	25	28.4	113	113	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

LDC #: 12[illegible]8
SDG #: 04J149

VALIDATION FIND[illegible]S WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

[illegible]e: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

_____METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration; SA = Spike added; LCS = Laboratory Control Sample; SC = Sample concentration; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: DSJ022WL/WC

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	---	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)	5	5	ND	5.21	5.22	104	104	104	104	0	0
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A8
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: 9T

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID._____ Compound Name _____

Concentration = _____

all ND

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCAL.ovw.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-5-102104
GPT-6-7-102104
GPT-6-2-102104
GPT-6-1-102104

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
TPH as diesel	0.22	0.24	9

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE MEMORIAL INSTITUTE
Project : NCBC GULFPORT
Batch No. : 04J167

Matrix : WATER
Instrument ID : GCT050

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	SUR1 (%)	SUR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1W	DSJ022WB	ND	86	100	1	NA	.5	.1	10/29/0416:55	10/25/0415:00	TJ29005A	TJ29003A	DSJ022W	NA	10/25/04
LCS1W	DSJ022WL	5.21	94	104	1	NA	.5	.1	10/29/0417:37	10/25/0415:00	TJ29006A	TJ29003A	DSJ022W	NA	10/25/04
LCD1W	DSJ022WC	5.22	96	117	1	NA	.5	.1	10/29/0418:19	10/25/0415:00	TJ29007A	TJ29003A	DSJ022W	NA	10/25/04
GPT-6-8-102104	J167-01	.22J J	67	105	.94	NA	.47	.094	10/30/0401:22	10/25/0415:00	TJ29017A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-8-102104 DUP	J167-02	.24J J	74	99	.94	NA	.47	.094	10/30/0402:04	10/25/0415:00	TJ29018A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-4-102104	J167-03	3	46	94	.94	NA	.47	.094	10/30/0402:46	10/25/0415:00	TJ29019A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-5-102104	J167-04	ND U	79	107	.94	NA	.47	.094	10/30/0403:28	10/25/0415:00	TJ29020A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-7-102104	J167-05	.15J J	54	89	1	NA	.5	.1	10/30/0404:10	10/25/0415:00	TJ29021A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-2-102104	J167-06	ND U	70	116	.94	NA	.47	.094	10/30/0404:53	10/25/0415:00	TJ29022A	TJ29014A	DSJ022W	10/21/04	10/22/04
GPT-6-1-102104	J167-07	.29J J	85	105	.94	NA	.47	.094	10/30/0405:35	10/25/0415:00	TJ29023A	TJ29014A	DSJ022W	10/21/04	10/22/04

RL : Reporting Limit
SURR1 : Bromobenzene
SURR2 : Hexacosane

11/29/04

5004

LDC #: 12758B8

SDG #: 04J167

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 11/20/04

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/21/04
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS ID
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D: 1 + 2
X.	Field blanks	N	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; N = Not provided/applicable; R = Rinsate; TB = Trip blank; SW = See worksheet; FB = Field blank; EB = Equipment blank

Validated Samples: water

1	GPT-6-8-102104	11	DSJ022WB-MB	21		31	
2	GPT-6-8-102104 Dup	12		22		32	
3	GPT-6-4-102104	13		23		33	
4	GPT-6-5-102104	14		24		34	
5	GPT-6-7-102104	15		25		35	
6	GPT-6-2-102104	16		26		36	
7	GPT-6-1-102104	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1275888
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (mg/L)		%RPD Limit_____	Qualification Parent only / All Samples
	1	2		
Diesel	0.22	0.24	9	

Compound	Concentration ( )		%RPD Limit _____	Qualification Parent only / All Samples

NCBC Gulfport, MS
Data Validation Reports
LDC# 12758

Methane-Ethane-Ethene

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 20, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Methane, Ethane, & Ethene

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J149

Sample Identification

GPT-6-3-102004**
GPT-6-6-102004
GPT-6-6-102004DL
GPT-6-PZ4-102004
GPT-6-9-102004
GPT-6-9-102004DL
GPT-6-10-102004
GPT-6-10-102004DL
GPT-6-11-102004
GPT-6-12-102004
GPT-6-12-102004DL
GPT-6-13-102004

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Methane, Ethane, and Ethene.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No methane, ethane, or ethene contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
GPT-6-6-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-12-102004	Methane	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level III criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Data Qualification Summary - SDG 04J149

SDG	Sample	Compound	Flag	A or P	Reason
04J149	GPT-6-6-102004 GPT-6-9-102004 GPT-6-10-102004 GPT-6-12-102004	Methane	J (all detects)	A	Compound quantitation and CRQLs

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Laboratory Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Field Blank Data Qualification Summary - SDG 04J149

No Sample Data Qualified in this SDG

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-3-102004	Date Analyzed:	10/25/04 13:07
Lab Samp ID:	J149-01	Dilution Factor:	1
Lab File ID:	FJ25006A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	25	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-6-102004	Date Analyzed:	10/25/04 13:21
Lab Samp ID:	J149-02	Dilution Factor:	1
Lab File ID:	FJ25007A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND U	1.5	.7
METHANE	120E J	1.2	.6

RL: Reporting Limit

11/29/04

4007

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-6-102004DL	Date Analyzed:	10/25/04 15:35
Lab Samp ID:	J149-02T	Dilution Factor:	25
Lab File ID:	FJ25015A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	37	15
ETHENE	ND ↓	37	18
METHANE	640	30	15

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-PZ4-102004	Date Analyzed:	10/25/04 13:36
Lab Samp ID:	J149-03	Dilution Factor:	1
Lab File ID:	FJ25008A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	.84J J	1.2	.6

RL: Reporting Limit

Initial

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-9-102004	Date Analyzed:	10/25/04 13:56
Lab Samp ID:	J149-04	Dilution Factor:	1
Lab File ID:	FJ25009A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	1.5	.6
ETHENE	ND	1.5	.7
METHANE	36E J	1.2	.6

RL: Reporting Limit

4010

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/25/04 10:30
Site ID:	GPT-6-9-102004DL	Date Analyzed:	10/25/04 15:50
Lab Samp ID:	J149-04T	Dilution Factor:	2
Lab File ID:	FJ25016A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	3	1.2
ETHENE	ND	3	1.4
METHANE	36	2.4	1.2

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-10-102004	Date Analyzed:	10/25/04 14:09
Lab Samp ID:	J149-05	Dilution Factor:	1
Lab File ID:	FJ25010A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND J	1.5	.7
METHANE	37E J	1.2	.6

RL: Reporting Limit

11/29/04

4012

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Project No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID	: GPT-6-10-102004DL	Date Analyzed:	10/25/04 16:05
Lab Samp ID	: J149-05T	Dilution Factor:	2
Lab File ID	: FJ25017A	Matrix	: WATER
Ext Btch ID	: DG10J05	% Moisture	: NA
Calib. Ref.	: FJ25013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	3	1.2
ETHENE	ND ↓	3	1.4
METHANE	35	2.4	1.2

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-11-102004	Date Analyzed:	10/25/04 14:29
Lab Samp ID:	J149-06	Dilution Factor:	1
Lab File ID:	FJ25011A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	3.7	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID	: GPT-6-12-102004	Date Analyzed:	10/25/04 14:48
Lab Samp ID	: J149-07	Dilution Factor:	1
Lab File ID	: FJ25012A	Matrix	: WATER
Ext Btch ID	: DG10J05	% Moisture	: NA
Calib. Ref.	: FJ25002A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	68E J	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Batch No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID:	GPT-6-12-102004DL	Date Analyzed:	10/25/04 16:26
Lab Samp ID:	J149-07T	Dilution Factor:	10
Lab File ID:	FJ25018A	Matrix :	WATER
Ext Btch ID:	DG10J05	% Moisture :	NA
Calib. Ref.:	FJ25013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	15	6
ETHENE	ND	15	7
METHANE	110	12	6

RL: Reporting Limit

11/29/04

4016

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/20/04
Project	: NCBC GULFPORT	Date Received:	10/21/04
Job No.	: 04J149	Date Extracted:	10/25/04 10:30
Sample ID	: GPT-6-13-102004	Date Analyzed:	10/25/04 15:18
Lab Samp ID	: J149-08	Dilution Factor:	1
Lab File ID	: FJ25014A	Matrix	: WATER
Ext Btch ID	: DG10J05	% Moisture	: NA
Calib. Ref.	: FJ25013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	9.3	1.2	.6

RL: Reporting Limit

11/29/04

LDC #: 12758A51

SDG #: 04J149

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 11/20/04

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Methane, Ethane & Ethene (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/20/04
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not Required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	A	Not reviewed for Level III validation.
VI.	Compound Quantitation and CRQLs	SW	Not reviewed for Level III validation.
VII.	System Performance	A	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Water

1	GPT-6-3-102004**	11	GPT-6-12-102004DL	21		31	
2	GPT-6-6-102004	12	GPT-6-13-102004	22		32	
3	GPT-6-6-102004DL	13	D6105058	23		33	
4	GPT-6-PZ4-102004	14		24		34	
5	GPT-6-9-102004	15		25		35	
6	GPT-6-9-102004DL	16		26		36	
7	GPT-6-10-102004	17		27		37	
8	GPT-6-10-102004DL	18		28		38	
9	GPT-6-11-102004	19		29		39	
10	GPT-6-12-102004	20		30		40	

Notes:

LDC #: 12758A51
SDG #: 041149

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: A

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or %R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 15%.0 or percent recoveries 85-115%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 12758A51
SDG #: 041149

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds idetected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #: 12 [redacted]
SDG #: O L[redacted]9

VALIDATION FIND[redacted]S WORKSHEET
Compound Quantitati[redacted]d Reported CRQLs

Page: 1 of 1
Re[redacted]r:
2nd Reviewer:

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Compound Name	Finding	Associated Samples	Qualifications
	Methane	exceeded cal range	2, 5, 7, 10	J/A det

Comments: See sample calculation verification worksheet for recalculations

COMQUANew.wpd

LDC #: 12758A51
SDG #: 041149

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: B
2nd Reviewer: B

METHOD: GC_____ HPLC_____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (13.6 std)	Recalculated CF (13.6 std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	RSK-175 ICAL	6/15/04	Methane	33743.6	33743.6	35570.9	35570.9	13.7	13.7
2									
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12750A51
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: B
2nd Reviewer: B

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = Initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	F125002A	10/25/04	Methane	13.6	12.86	12.86	5	5
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 12758A51
SDG #: 04J149

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

____METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample
SC = Sample concentration
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: DG10J05L/C

Compound	Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	---	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)	13.4	13.4		14.1	13.7	105	105	103	103	3	3
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 127[illegible]51
SDG #: 041149

VALIDATION FINDI[illegible] WORKSHEET
Sample Calculation Verification

Pa[illegible] 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Methane

Concentration = 874179 / 35570.9

= 24.58 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCALew.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NCBC Gulfport, MS

Collection Date: October 21, 2004

LDC Report Date: November 22, 2004

Matrix: Water

Parameters: Methane, Ethane, & Ethene

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04J167

Sample Identification

GPT-6-8-102104
GPT-6-8-102104 Dup
GPT-6-4-102104
GPT-6-4-102104DL
GPT-6-5-102104
GPT-6-5-102104DL
GPT-6-7-102104
GPT-6-7-102104DL
GPT-6-2-102104
GPT-6-1-102104
GPT-6-1-102104DL

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Methane, Ethane, and Ethene.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No methane, ethane, or ethene contaminants were found in the method blanks.

No field blanks were identified in this SDG.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
GPT-6-4-102104 GPT-6-5-102104 GPT-6-7-102104 GPT-6-1-102104	Methane	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects)	A

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples GPT-6-8-102104 and GPT-6-8-102104 Dup were identified as field duplicates. No methane, ethane, or ethene were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	GPT-6-8-102104	GPT-6-8-102104 Dup	
Methane	19	17	11

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Data Qualification Summary - SDG 04J167

SDG	Sample	Compound	Flag	A or P	Reason
04J167	GPT-6-4-102104 GPT-6-5-102104 GPT-6-7-102104 GPT-6-1-102104	Methane	J (all detects)	A	Compound quantitation and CRQLs

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Laboratory Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

NCBC Gulfport, MS
Methane, Ethane, & Ethene - Field Blank Data Qualification Summary - SDG 04J167

No Sample Data Qualified in this SDG

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-8-102104	Date Analyzed:	10/26/04 11:44
Lab Samp ID:	J167-01	Dilution Factor:	1
Lab File ID:	FJ26006A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND U	1.5	.7
METHANE	19	1.2	.6

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Project No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-8-102104 DUP	Date Analyzed:	10/26/04 11:56
Lab Samp ID	: J167-02	Dilution Factor:	1
Lab File ID	: FJ26007A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26002A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	17	1.2	.6

RL: Reporting Limit

Fitzgalot

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-4-102104	Date Analyzed:	10/26/04 12:10
Lab Samp ID:	J167-03	Dilution Factor:	1
Lab File ID:	FJ26008A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	.66J J	1.5	.6
ETHENE	3.8	1.5	.7
METHANE	290E J	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-4-102104DL	Date Analyzed:	10/26/04 14:36
Lab Samp ID	: J167-03T	Dilution Factor:	200
Lab File ID	: FJ26017A	Matrix :	WATER
Ext Btch ID	: DG10J06	% Moisture :	NA
Calib. Ref.	: FJ26013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	300	120
ETHENE	ND U	300	140
METHANE	4600	240	120

RL: Reporting Limit

Pitzgl 6/4

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-5-102104	Date Analyzed:	10/26/04 12:25
Lab Samp ID:	J167-04	Dilution Factor:	1
Lab File ID:	FJ26009A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND U	1.5	.7
METHANE	58E J	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-5-102104DL	Date Analyzed:	10/26/04 13:48
Lab Samp ID:	J167-04T	Dilution Factor:	5
Lab File ID:	FJ26014A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	7.5	3
ETHENE	ND U	7.5	3.5
METHANE	85	6	3

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-7-102104	Date Analyzed:	10/26/04 12:44
Lab Samp ID:	J167-05	Dilution Factor:	1
Lab File ID:	FJ26010A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND U	1.5	.7
METHANE	100E J	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-7-102104DL	Date Analyzed:	10/26/04 14:18
Lab Samp ID	: J167-05T	Dilution Factor:	25
Lab File ID	: FJ26016A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26013A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	37	15
ETHENE	ND ↓	37	18
METHANE	360	30	15

RL: Reporting Limit

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID	: GPT-6-2-102104	Date Analyzed:	10/26/04 13:01
Lab Samp ID	: J167-06	Dilution Factor:	1
Lab File ID	: FJ26011A	Matrix	: WATER
Ext Btch ID	: DG10J06	% Moisture	: NA
Calib. Ref.	: FJ26002A	Instrument ID	: GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	6.2	1.2	.6

RL: Reporting Limit

11/29/04

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Job No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-1-102104	Date Analyzed:	10/26/04 13:20
Lab Samp ID:	J167-07	Dilution Factor:	1
Lab File ID:	FJ26012A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26002A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND U	1.5	.6
ETHENE	ND ↓	1.5	.7
METHANE	42E J	1.2	.6

RL: Reporting Limit

11/29/04

4013

RSK-175
DISSOLVED GASES

Client	: BATTELLE MEMORIAL INSTITUTE	Date Collected:	10/21/04
Project	: NCBC GULFPORT	Date Received:	10/22/04
Batch No.	: 04J167	Date Extracted:	10/26/04 10:00
Sample ID:	GPT-6-1-102104DL	Date Analyzed:	10/26/04 14:01
Lab Samp ID:	J167-07T	Dilution Factor:	2
Lab File ID:	FJ26015A	Matrix :	WATER
Ext Btch ID:	DG10J06	% Moisture :	NA
Calib. Ref.:	FJ26013A	Instrument ID :	GCT010

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANE	ND	3	1.2
ETHENE	ND	3	1.4
METHANE	45	2.4	1.2

RL: Reporting Limit

11/29/04

LDC #: 12758B51

SDG #: 04J167

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level III

Date: 11/20/04

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Methane, Ethane & Ethene (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 10/21/04
IIa.	Initial calibration	A	% RSD ≤ 20
IIb.	Calibration verification	A	% D ≤ 15
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not Required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS/D
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	SW	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	SW	D = 1 of 2
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	GPT-6-8-102104	11	GPT-6-1-102104DL	21		31	
2	GPT-6-8-102104 Dup	12	DG101068-MB	22		32	
3	GPT-6-4-102104	13		23		33	
4	GPT-6-4-102104DL	14		24		34	
5	GPT-6-5-102104	15		25		35	
6	GPT-6-5-102104DL	16		26		36	
7	GPT-6-7-102104	17		27		37	
8	GPT-6-7-102104DL	18		28		38	
9	GPT-6-2-102104	19		29		39	
10	GPT-6-1-102104	20		30		40	

Notes:

LDC #: 127583 1
SDG #: 04J167

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Compound Name	Finding	Associated Samples	Qualifications
	Methane	Exceeded cal range	3, 5, 7, 10	J/A det

Comments: See sample calculation verification worksheet for recalculations

LDC #: 12[illegible]51
SDG #: 04[illegible]

VALIDATION FIND[illegible] WORKSHEET
Field Du[illegible]cates

[illegible] 1 of 1
Rev[illegible]r: [illegible]
2nd reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (ug/L)		%RPD Limit_____	Qualification Parent only / All Samples
	1	2		
methane	19	17	11	

Compound	Concentration ( )		%RPD Limit _____	Qualification Parent only / All Samples

FLDUPNew.wpd

Table 3-4. Chemical Data for Groundwater, February 2005

Type of Monitoring Well							Background	Plume Characterization							Perimeter						
Parameter	Method	Unit	MDL	RL	Federal MCL	UST[a]	GPT-6-2	GPT-6-1	GPT-6-3	GPT-6-4	GPT-6-5[b]	GPT-6-6	GPT-6-6 DUP	GPT-6-7[b]	GPT-6-8	GPT-6-9[b]	GPT-6-10[b]	GPT-6-11	GPT-6-12[b]	GPT-6-13	GPT-6-PZ4
Benzene	SW8260B	µg/L	0.2	1	5	18,000 [c]	ND	ND	ND	ND	ND	0.49 J	0.54 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	SW8260B	µg/L	5	15	NA	NA	ND	22.8	ND	ND	ND	ND	ND	ND	57.3	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	2.15	ND	ND	ND	ND	ND	ND
Chloroethane	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	0.74 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	SW8260B	µg/L	0.2	1	70	NA	ND	ND	ND	ND	ND	2.4	2.62	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	SW8260B	µg/L	0.2	1	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21 J	ND	ND	ND	ND
1,1-Dichloroethene	SW8260B	µg/L	0.2	1	7	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53 J	ND	ND	ND	ND
Ethylbenzene	SW8260B	µg/L	0.3	1	700	NA	ND	ND	ND	ND	ND	1.33	1.41	ND	1.7	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	2.4	2.41	ND	2.53	ND	ND	ND	ND	ND	ND
Isopropylbenzene	SW8260B	µg/L	0.2	1	NA	NA	ND	ND	ND	ND	ND	2.19	ND	ND	2.16	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	SW8260B	µg/L	5	15	NA	NA	ND	5.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	SW8260B	µg/L	5	15	NA	730	ND	2 J	ND	1.8 J	ND	22.6	24.2	1.2 J	54.5	ND	ND	ND	ND	ND	ND
n-Propylbenzene	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	0.62 J	0.63 J	ND	0.53 J	ND	ND	ND	ND	ND	ND
Toluene	SW8260B	µg/L	0.6	2	1,000	NA	ND	ND	ND	ND	ND	1.1 J	1.3 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	SW8260B	µg/L	1.5	5	NA	NA	ND	ND	ND	1.9 J	ND	3.6 J	3.9 J	ND	8.88	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	SW8260B	µg/L	1.5	5	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	4.8 J	ND	ND	ND	ND	ND	ND
Trichloroethene	SW8260B	µg/L	0.6	2	5	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	SW8260B	µg/L	0.1	1	2	NA	ND	ND	ND	0.51 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	SW8260B	µg/L	0.3	1	10,000	NA	ND	2.36	ND	ND	ND	3.33	3.47	ND	8.77	ND	ND	ND	ND	ND	ND
m,p-Xylene	SW8260B	µg/L	0.6	2	10,000	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SW8270C	µg/L	1	4	NA	NA	ND	1.2 J	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SW8270C	µg/L	2	4	NA	NA	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SW8270C	µg/L	1	4	NA	NA	ND	1.6 J	ND	6.2	ND	10.6	12.4	1 J	34.6	ND	ND	ND	ND	ND	ND
2-Methylphenol	SW8270C	µg/L	1	4	NA	NA	ND	3.6 J	ND	ND	ND	ND	ND	ND	1.6 J	ND	ND	ND	ND	ND	ND
4-Methylphenol	SW8270C	µg/L	1	4	NA	NA	ND	78.4	ND	ND	ND	3 J	4.6	1.2 J	27.2	ND	ND	ND	ND	ND	ND
Acenaphthene	SW8270C	µg/L	1	4	NA	2,200	ND	ND	ND	ND	ND	ND	1 J	ND	3.2 J	ND	ND	ND	ND	ND	ND
Fluorene	SW8270C	µg/L	1	4	NA	1,500	ND	ND	ND	1 J	ND	1 J	1.2 J	ND	3.2 J	ND	ND	ND	ND	ND	ND
Phenanthrene	SW8270C	µg/L	1	4	NA	1,100	ND	ND	ND	1.4 J	ND	ND	1 J	ND	3 J	ND	ND	ND	ND	ND	ND
Phenol	SW8270C	µg/L	2	4	NA	NA	ND	2.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH-GRO	M8015V	µg/L	60	200	NA	NA	ND	85 J	ND	63 J	ND	140 J	150 J	ND	350	ND	ND	ND	ND	ND	ND
TPH-DRO	M8015D	µg/L	600	1,000	NA	NA	UJ	7,220	ND	ND	UJ	1,140	1,330	ND	11,600	UJ	ND	ND	ND	ND	ND

(a) Underground Storage Tank Typical Cleanup Levels, Mississippi Department of Environmental Quality. August 12, 2005.
(b) Well screened at deep interval
(c) Value is for total BTEX
ND = not detected.
UJ= Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
Bold font indicates that concentration exceeds the federal MCL or UST cleanup level.

Table 3-5. Chemical Data for Groundwater, August 2005

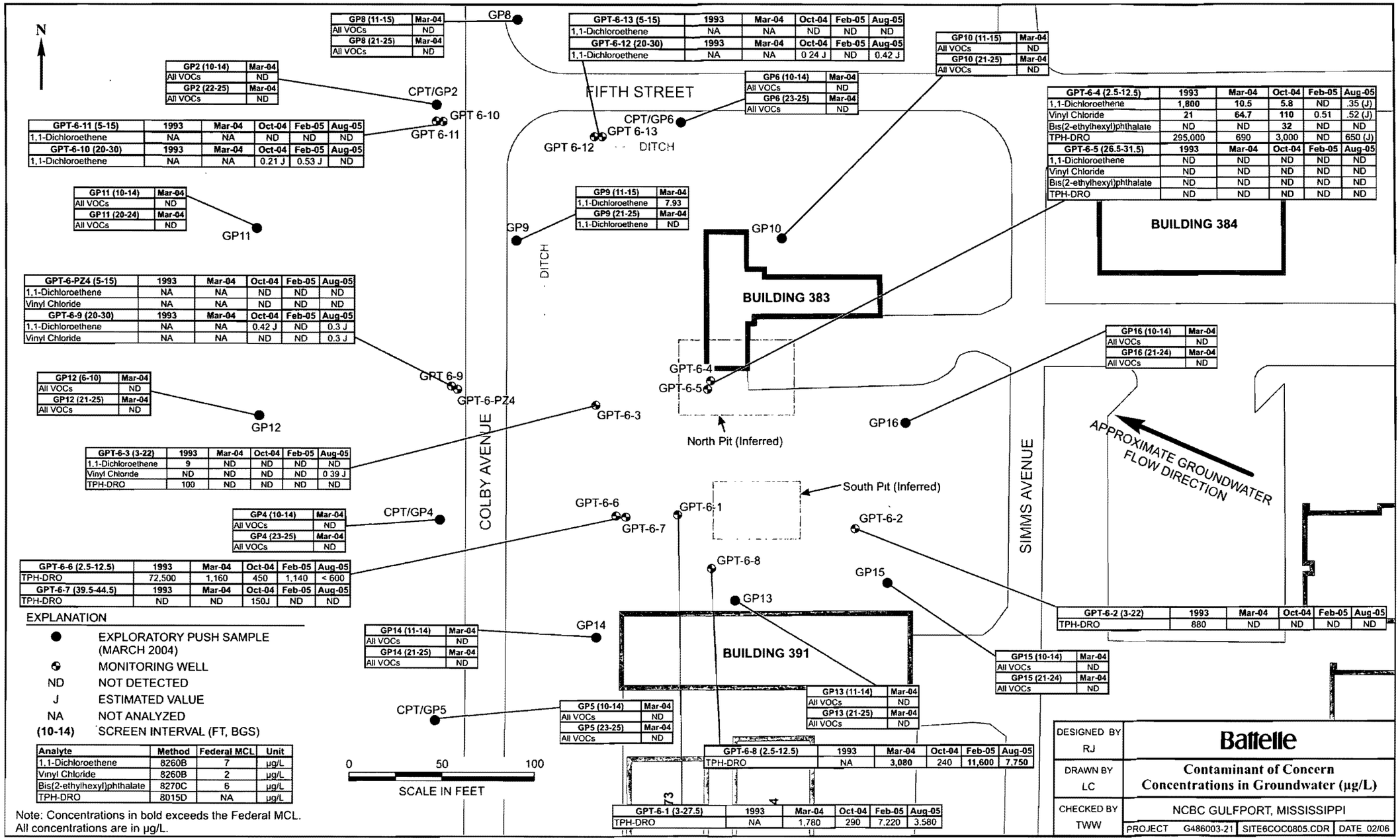
Type of Monitoring Well							Background	Plume Characterization								Perimeter					
Parameter	Method	Unit	MDL	RL	Federal MCL	UST[a]	GPT-6-2	GPT-6-1	GPT-6-3	GPT-6-4	GPT-6-4 DUP	GPT-6-5[1]	GPT-6-6	GPT-6-7[1]	GPT-6-8	GPT-6-9[1]	GPT-6-10[1]	GPT-6-11	GPT-6-12[b]	GPT-6-13	GPT-6-PZ4
Benzene	SW8260B	µg/L	0.2	1	5	18,000 [c]	ND	ND	ND	ND	ND	ND	0.65 J	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	SW8260B	µg/L	5	15	NA	NA	ND	12 J	ND	ND	ND	ND	ND	ND	26.9	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	SW8260B	µg/L	0.2	1	70	NA	ND	ND	0.43 J	ND	ND	ND	4.15	ND	1.56	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	SW8260B	µg/L	0.2	1	NA	NA	ND	ND	0.32 J	0.23 J	0.21 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	SW8260B	µg/L	0.2	1	7	NA	ND	ND	ND	0.35 J	0.37 J	ND	ND	ND	ND	0.3 J	ND	ND	0.47 J	ND	ND
Ethylbenzene	SW8260B	µg/L	0.3	1	700	NA	ND	0.73 J	ND	0.51 J	0.54 J	ND	1.66	ND	3.37	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	SW8260B	µg/L	0.3	1	NA	NA	ND	0.35 J	ND	0.33 J	0.34 J	ND	0.59 J	ND	0.7 J	ND	ND	ND	ND	ND	ND
Isopropylbenzene	SW8260B	µg/L	0.2	1	NA	NA	ND	ND	ND	ND	ND	ND	0.27 J	ND	0.21 J	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	SW8260B	µg/L	5	15	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	SW8260B	µg/L	5	15	NA	730	ND	8.2 J	ND	ND	2.8 J	ND	22.7	ND	36.4	ND	ND	ND	ND	ND	ND
n-Propylbenzene	SW8260B	µg/L	0.3	1	NA	NA	ND	ND	ND	ND	ND	ND	0.44 J	ND	0.36 J	ND	ND	ND	ND	ND	ND
Toluene	SW8260B	µg/L	0.6	2	1,000	NA	ND	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	SW8260B	µg/L	1.5	5	NA	NA	ND	2.9 J	ND	2.1 J	2.1 J	ND	5.04	ND	8.74	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	SW8260B	µg/L	1.5	5	NA	NA	ND	2.1 J	ND	ND	ND	ND	1.5 J	ND	6.08	ND	ND	ND	ND	ND	ND
Trichloroethene	SW8260B	µg/L	0.6	2	5	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.61 J	ND	ND	ND	ND	ND	ND
Vinyl Chloride	SW8260B	µg/L	0.1	1	2	NA	ND	ND	0.39 J	0.52 J	0.52 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	SW8260B	µg/L	0.3	1	10,000	NA	ND	2.9	ND	ND	ND	ND	2.63	0.41 J	12.6	ND	ND	ND	ND	ND	ND
m,p-Xylene	SW8260B	µg/L	0.6	2	10,000	NA	ND	0.66 J	ND	0.71 J	0.7 J	ND	4.14	ND	8.87	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	SW8270C	µg/L	1	4	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	SW8270C	µg/L	2	4	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	SW8270C	µg/L	1	4	NA	NA	ND	ND	ND	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	SW8270C	µg/L	1	4	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	SW8270C	µg/L	1	4	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	SW8270C	µg/L	1	4	NA	2,200	ND	ND	ND	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	SW8270C	µg/L	1	4	NA	1,500	ND	ND	ND	ND	1.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	SW8270C	µg/L	1	4	NA	1,100	ND	ND	ND	ND	2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	SW8270C	µg/L	2	4	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH-DRO	M8015D	mg/L	600	1,000	NA	NA	ND	3,580	ND	650 J	690 J	ND	ND	ND	7,750	ND	ND	ND	ND	ND	ND

(a) Underground Storage Tank Typical Cleanup Levels, Mississippi Department of Environmental Quality. August 12, 2005.
(b) Well screened at deep interval
(c) Value is for total BTEX
ND = not detected.
UJ= Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
Bold font indicates that concentration exceeds the federal MCL or UST cleanup level

Table 3-6. Analytical Results for LNAPL Samples Collected at Site 6[a]

Method	Analyte	Result 1	Result 2	MDL	Units
ASTM D445	Kinematic Viscosity at 40°C	19.6	27.5	0.1	cSt
M2710F	Density	0.756	0.701	0	SI
ASTM D 971	Interfacial Tension	16.85[b]	15.79	0	dynes/cm
SW8260B	1,2,4-Trimethylbenzene	1,540	32,200	100	µg/Kg
SW8260B	1,3,5-Trimethylbenzene	5,100	15,900	100	µg/Kg
SW8260B	Benzene	ND	774	100	µg/Kg
SW8260B	Ethylbenzene	340 (J)	5,430	100	µg/Kg
SW8260B	Isopropylbenzene	ND	1,690	100	µg/Kg
SW8260B	m,p-Xylene	1120	17,800	100	µg/Kg
SW8260B	n-Butylbenzene	3120	4,370	100	µg/Kg
SW8260B	n-Propylbenzene	220 (J)	5,330	100	µg/Kg
SW8260B	Naphthalene	2,300	16,400	500	µg/Kg
SW8260B	o-Xylene	1540	9,550	100	µg/Kg
SW8260B	p-Isopropyltoluene	2270	3,340	100	µg/Kg
SW8260B	sec-Butylbenzene	220 (J)	2,440	100	µg/Kg
SW8260B	tert-Butylbenzene	1,020	1,250	100	µg/Kg
SW8260B	Tetrachloroethene	740	ND	100	µg/Kg
SW8260B	Toluene	574	8,490	200	µg/Kg
SW8260B	Trichloroethene	ND	1,240	100	µg/Kg
SW8270C	2-Methylnaphthalene	ND	220 (J)	20	mg/Kg
SW8270C	Acenaphthene	ND	47 (J)	40	mg/Kg
SW8270C	Bis(2-ethylhexyl)phthalate	ND	53 (J)	50	mg/Kg
SW8270C	N-Nitrosodiphenylamine	ND	80 (J)	50	mg/Kg
SW8270C	Phenanthrene	ND	110 (J)	30	mg/Kg
SW8270C	Pyrene	27 (J)	20 (J)	20	mg/Kg
TX1005	T/R Hydrocarbons: C6-C12	45,700	39,300	6,400	mg/Kg
TX1005	T/R Hydrocarbons: >C12-C28	675,000	543,000	6,400	mg/Kg
TX1005	T/R Hydrocarbons: >C28-C35	72,400	86,700	6,400	mg/Kg
TX1005	T/R Hydrocarbons: C6-C35	793,000	669,000	6,400	mg/Kg
TX1006	C6-C8 Aliphatics	ND	ND	450	mg/Kg
TX1006	>C8-C10 Aliphatics	ND	1,730	450	mg/Kg
TX1006	>C8-C10 Aromatics	ND	ND	450	mg/Kg
TX1006	>C10-C12 Aliphatics	11,700	14,700	450	mg/Kg
TX1006	>C10-C12 Aromatics	ND	ND	450	mg/Kg
TX1006	>C12-C16 Aliphatics	124,000	77,700	450	mg/Kg
TX1006	>C12-C16 Aromatics	21,800	16,300	450	mg/Kg
TX1006	>C16-C21 Aliphatics	154,000	122,000	450	mg/Kg
TX1006	>C16-C21 Aromatics	43,800	53,000	450	mg/Kg
TX1006	>C21-C35 Aliphatics	167,000	192,000	450	mg/Kg
TX1006	>C21-C35 Aromatics	21,600	21,700	450	mg/Kg
TX1006	>C8-C35 Aromatics	87,200	91,000	910	mg/Kg
TX1006	C6-C35 Aliphatics	457,000	408,000	910	mg/Kg

(a) One sample was collected at extraction well EW-12. The second sample was collected at EW-19
(b) Sample collected at extraction well EW-23 due to insufficient volume in EW-12.



GP8 (11-15)	Mar-04
All VOCs	ND
GP8 (21-25)	Mar-04
All VOCs	ND

GPT-6-13 (5-15)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	ND	ND	ND
GPT-6-12 (20-30)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	0 24 J	ND	0.42 J

GP10 (11-15)	Mar-04
All VOCs	ND
GP10 (21-25)	Mar-04
All VOCs	ND

GP2 (10-14)	Mar-04
All VOCs	ND
GP2 (22-25)	Mar-04
All VOCs	ND

GP6 (10-14)	Mar-04
All VOCs	ND
GP6 (23-25)	Mar-04
All VOCs	ND

GPT-6-4 (2.5-12.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	**1,800**	**10.5**	**5.8**	ND	.35 (J)
Vinyl Chloride	**21**	**64.7**	**110**	0.51	.52 (J)
Bis(2-ethylhexyl)phthalate	ND	ND	**32**	ND	ND
TPH-DRO	295,000	690	3,000	ND	650 (J)
GPT-6-5 (26.5-31.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
TPH-DRO	ND	ND	ND	ND	ND

GPT-6-11 (5-15)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	ND	ND	ND
GPT-6-10 (20-30)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	0.21 J	0.53 J	ND

GP11 (10-14)	Mar-04
All VOCs	ND
GP11 (20-24)	Mar-04
All VOCs	ND

GP9 (11-15)	Mar-04
1,1-Dichloroethene	7.93
GP9 (21-25)	Mar-04
1,1-Dichloroethene	ND

GPT-6-PZ4 (5-15)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	ND	ND	ND
Vinyl Chloride	NA	NA	ND	ND	ND
GPT-6-9 (20-30)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	NA	NA	0.42 J	ND	0.3 J
Vinyl Chloride	NA	NA	ND	ND	0.3 J

GP16 (10-14)	Mar-04
All VOCs	ND
GP16 (21-24)	Mar-04
All VOCs	ND

GP12 (6-10)	Mar-04
All VOCs	ND
GP12 (21-25)	Mar-04
All VOCs	ND

GPT-6-3 (3-22)	1993	Mar-04	Oct-04	Feb-05	Aug-05
1,1-Dichloroethene	9	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	0 39 J
TPH-DRO	100	ND	ND	ND	ND

GP4 (10-14)	Mar-04
All VOCs	ND
GP4 (23-25)	Mar-04
All VOCs	ND

GPT-6-6 (2.5-12.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
TPH-DRO	72,500	1,160	450	1,140	< 600
GPT-6-7 (39.5-44.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
TPH-DRO	ND	ND	150J	ND	ND

GPT-6-2 (3-22)	1993	Mar-04	Oct-04	Feb-05	Aug-05
TPH-DRO	880	ND	ND	ND	ND

GP14 (11-14)	Mar-04
All VOCs	ND
GP14 (21-25)	Mar-04
All VOCs	ND

GP15 (10-14)	Mar-04
All VOCs	ND
GP15 (21-24)	Mar-04
All VOCs	ND

GP13 (11-14)	Mar-04
All VOCs	ND
GP13 (21-25)	Mar-04
All VOCs	ND

GP5 (10-14)	Mar-04
All VOCs	ND
GP5 (23-25)	Mar-04
All VOCs	ND

GPT-6-8 (2.5-12.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
TPH-DRO	NA	3,080	240	11,600	7,750

GPT-6-1 (3-27.5)	1993	Mar-04	Oct-04	Feb-05	Aug-05
TPH-DRO	NA	1,780	290	7,220	3,580

Analyte	Method	Federal MCL	Unit
1,1-Dichloroethene	8260B	7	µg/L
Vinyl Chloride	8260B	2	µg/L
Bis(2-ethylhexyl)phthalate	8270C	6	µg/L
TPH-DRO	8015D	NA	µg/L

Note: Concentrations in bold exceeds the Federal MCL.
All concentrations are in µg/L.

Figure 3-3. Historical and Recent Groundwater Sampling Results (µg/L)

bis(2-ethylehexyl)phthalate; and vinyl chloride. Figure 3-3 presents a comparison of results of the 1993 investigation (ABB Environmental Services, 1994) to the recent sampling results for these contaminants, as well as TPH-DRO. Graphs illustrating changes in contaminant concentrations over time for contaminants that have exceeded the Federal MCL at least once during past monitoring events are included in Attachment 2. Figure 3-3 and the graphs in Attachment 2 show that contaminant concentrations have decreased greatly since the initial site investigation conducted in 1993. Recent monitoring data indicates that the groundwater plume is limited in size and that concentrations along the plume axis are decreasing. Thus, there is no evidence for ongoing plume expansion/migration, which would have been evidenced by increasing concentrations. The low chemical concentrations indicate that the LNAPL largely has been depleted, and is no longer acting as a significant source of contamination to the groundwater.

3.4 Natural Attenuation Assessment

Indicators of biodegradation were evaluated to determine the progress of natural attenuation at the site. Natural attenuation refers to physical, chemical, or biological processes that act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants. Natural attenuation leaves several chemical indicators in the groundwater that may be analyzed to demonstrate the presence of these processes. In general, the concentrations of the chemical indicators will be higher or lower in the groundwater plume as biodegradation byproducts accumulate and substrates are depleted. Dissolved fuel compounds also can act as an electron donor supply to support microbial respiration of chlorinated compounds. Therefore, the mixture of petroleum and chlorinated contamination may facilitate biodegradation of chlorinated compounds in the groundwater.

A comparison of natural attenuation data collected from wells located within the area of contamination to perimeter and background wells was made to evaluate whether monitored natural attenuation (MNA) is viable at the site. Water quality parameters measured during purging are presented in Tables 3-7 and 3-8. Natural attenuation parameter results, including alkalinity, ethene, ethane, ferrous iron, manganese, methane, nitrate-N, sulfate, and sulfide, are summarized in Tables 3-9 and 3-10. Laboratory analytical reports for February and August 2005 events are included in Appendices A and B, respectively.

Site maps showing MNA parameters for February 2005 and August 2005 have been included in Attachments 3 and 4. XY scatter plots illustrating the correlation between concentrations of TPH against the natural attenuation indicators for the two most recent sampling events have been included in Attachment 5. The site maps and graphs show that the data supports that natural attenuation is occurring. One line of evidence is that DO levels are depleted within the plume. DO in August 2005 was measured at 0.0 to 0.23 mg/L for wells within the groundwater plume area and 0.23-3.95 mg/L in wells outside the plume. Biodegradation of petroleum compounds consumes DO. Thus, depleted DO within the plume indicates active biodegradation of dissolved petroleum compounds.

The site maps and XY scatter plots also show that iron and manganese levels are elevated in the wells with a relatively high concentration of TPH-DRO, which suggests that iron and manganese reduction are occurring. Although methane concentrations were elevated (>1,000 μg/L) in GPT-6-4 and GPT-6-6 compared to other site wells, which suggests methanogenesis, there was not a strong trend in TPH-DRO concentrations to methane concentrations. Sulfate levels tended to be low (<3 mg/L) in wells with relatively high concentrations of TPH (e.g., GPT-6-8) compared to sulfate levels (>3 mg/L) in wells with no TPH. Sulfide concentrations also are greatest (>1.5 mg/L) in wells having TPH in the groundwater, whereas wells with no TPH had sulfide concentrations 0.2 mg/L or less. This suggests biodegradation by sulfate reduction to sulfide. Both the site maps and XY scatter plots show a strong trend of ORP decreasing (negative values) in TPH-impacted wells and wells located immediately downgradient of the plume, and a greater ORP in the background well and perimeter wells located further downgradient of the

Table 3-7. Field Parameter Measurements During Groundwater Sampling, February 2005

Monitoring Well ID	Volume Purged (gal)	pH	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Temperature (°C)
GPT-6-1	3	5.65	0.161	-4.6	1.23	-133	21.2
GPT-6-2	3	5.06	0.057	-6.4	5.20	246	19.8
GPT-6-3	3.5	4.95	0.082	-10	1.15	-36	21.7
GPT-6-4	3	6.79	0.624	-10	0.44	-235	19.4
GPT-6-5	3.5	5.47	0.086	-10	4.96	136	20.2
GPT6-7	2.5	5.34	0.090	-10	0.58	-97	21.3
GPT-6-8	3	5.92	0.172	-10	1.70	-272	17.4
GPT-6-9	3	4.80	0.072	18.3	0.57	91	22.9
GPT-6-10	4	5.85	0.158	161.0	3.75	1	22.7
GPT-6-11	3	6.01	0.155	17.1	3.39	103	19.4
GPT-6-12	6	4.82	0.087	31.8	3.91	106	22.4
GPT-6-13	3	4.71	0.104	11.8	8.15	93	21.4
GPT-6-PZ4	2.5	6.49	0.289	-7.1	2.64	121	19.7

Table 3-8. Field Parameter Measurements During Groundwater Sampling, August 2005

Monitoring Well ID	Volume Purged (gal)	pH	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Temperature (°C)
GPT 6-1	6	5.93	0.139	39.5	0.15	-553	24.1
GPT 6-2	7	4.81	0.036	61.2	0.20	393	25.2
GPT 6-3	4	4.63	0.064	24.4	0.20	-504	23.9
GPT 6-4	3	7.2	0.659	61.2	0.45	-1427	25.9
GPT 6-5	4.5	5.26	0.083	28.6	0.25	240	23.4
GPT 6-6	3	4.78	0.042	33.0	0.13	-1159	25.9
GPT 6-7	3	4.98	0.076	104.0	0.16	-1159	23.1
GPT 6-8	4	6.11	0.193	65.4	0.15	-1022	26.7
GPT 6-9	6	4.46	0.069	8.5	0.25	20	24.1
GPT 6-10	5	5.98	0.120	40.5	0.22	159	23.8
GPT 6-11	5	5.83	0.100	14.5	0.34	322	26.2
GPT 6-12	5	4.83	0.071	61.0	0.20	-191	23.7
GPT 6-13	5	4.61	0.070	42.9	0.18	241	25.7
GPT 6-PZ4	3.5	6.19	0.240	3.0	1.85	214	28.0

Table 3-9. Natural Attenuation Parameters Detected in Samples from Groundwater Monitoring Wells, February 2005

Parameter	Alkalinity (mg/L)	Ethane (µg/L)	Ethene (µg/L)	Ferrous Iron (mg/L)	Manganese (µg/L)	Methane (µg/L)	Nitrate-N (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)
Background									
GPT-6-2	10.5	ND	ND	ND	ND	0.91 J	0.635	10	UJ
Plume Characterization									
GPT-6-1	50.9	ND	ND	11.2 J	46	96.4	ND	1.5 J	2.31 J
GPT-6-3	ND	ND	ND	1.54 J	20.2	52	ND	14.1	0.211 J
GPT-6-4	334	ND	ND	0.265 J	55.1	2,940	ND	2.1 J	1.56 J
GPT-6-5	13.4	ND	ND	UJ	32.3	2.8	ND	14.6	0.019 J
GPT-6-6	34.8	ND	ND	5.6 J	8.3 J	1,480	ND	6.38	1.1 J
GPT-6-6 DUP	36.1	ND	ND	5.62 J	8.7 J	1,600	ND	5.23	1.16 J
GPT-6-7	17	ND	ND	3.83 J	52.1	153	ND	9.82	0.168 J
GPT-6-8	61.8	ND	ND	7.38 J	24.3	47.4	ND	2.2 J	3.5 J
Perimeter									
GPT-6-9	ND	ND	ND	0.67 J	30.4	20.7	ND	11.4	0.0191
GPT-6-10	45.5	ND	ND	0.338 J	69	22.4	ND	17.5	ND
GPT-6-11	58.3	ND	ND	0.093 J	9.9 J	7.09	ND	9.62	ND
GPT-6-12	ND	ND	ND	0.85 J	27.8	55.5	ND	17.5	0.0221
GPT-6-13	ND	ND	ND	0.96 J	28.4	88.1	ND	19	0.0811
GPT-6-PZ4	138	ND	ND	UJ	ND	ND	0.16 J	6.05	ND
U.S. EPA Method	310.1	RSK175	RSK175	3500	6010B	RSK-175	9056	9056	376.1
MDL	1	0.6	0.7	2.5	1	0.6	0.05	0.2	0.11
RL	5	1.5	1.5	5	10	1.2	0.1	0.5	1

J = Estimated value
MDL = method detection limit
ND = not detected.
RL = reporting limit.
UJ = not detected. MDL is an estimated value.

Table 3-10. Natural Attenuation Parameters Detected in Samples from Groundwater Monitoring Wells, August 2005

Parameter	Alkalinity (mg/L)	Ethane (µg/L)	Ethene (µg/L)	Ferrous Iron (mg/L)	Manganese (µg/L)	Methane (µg/L)	Nitrate-N (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)
Background									
GPT-6-2	ND	ND	ND	ND	ND	ND	ND	6.54	ND
Plume Characterization									
GPT-6-1	46.9	ND	ND	7.46 J	78.4	186	ND	11	1.6
GPT-6-3	ND	ND	ND	1.57 J	22.8 U	92.6	ND	12.5	0.168
GPT-6-4	371	ND	ND	0.45 J	107 J	9,790	ND	ND	1.97
GPT-6-4 DUP	ND	ND	ND	0.434	127 J	12,000	ND	ND	0.369
GPT-6-5	19.8	ND	ND	3.46 J	60.5	22.3	ND	14.4	0.0608
GPT-6-6	13.3	ND	ND	0.394	3.5 U	2,900	ND	ND	1.69
GPT-6-7	22.5	ND	ND	4.69	48.9	367	ND	4.48	1.67
GPT-6-8	83.7	ND	ND	11.7 J	90.2	789	ND	ND	2.37
Perimeter									
GPT-6-9	ND	ND	ND	2.27	29.1	5.17	ND	9.15 J	0.0169
GPT-6-10	63	ND	ND	1.06	21.3 U	191	ND	6.31	ND
GPT-6-11	48.8	ND	ND	ND	3.4 U	364	ND	4.06	ND
GPT-6-12	ND	ND	ND	1.25	16.8	36	ND	18.3	0.0254 J
GPT-6-13	ND	ND	ND	0.63	9.2 U	37.6	ND	18.7	0.0631 J
GPT-6-PZ4	126	ND	ND	ND	5.1 J	ND	ND	4.22 J	ND
U.S. EPA Method	310.1	RSK175	RSK175	3500	6010B	RSK-175	9056	9056	376.1
MDL	1	0.6	0.7	2.5	1	0.6	0.05	0.2	0.11
RL	5	1.5	1.5	5	10	1.2	0.1	0.5	1

J = Estimated value
MDL = method detection limit
ND = not detected.
RL = reporting limit.
U = not detected above the revised sample quantitation limit for the sample.
UJ = not detected. MDL is an estimated value.

plume. This trend is expected where iron reduction, methanogenesis, and/or sulfate reduction processes are occurring, substantiating natural attenuation of the TPH.

3.5 Data Validation

Data validation was conducted on the laboratory analytical results for VOCs, SVOCs, TPH, dissolved manganese, ferrous iron, wet chemistry, methane, ethane, and ethene by Laboratory Data Consultants, Inc., of Carlsbad, CA. Data were validated at 90% U.S. EPA Level III and 10% U.S. EPA Level IV. Data validation was performed in accordance with the following documents, as applicable to each of the analytical methods performed:

- U.S. EPA SW-846, Third Edition, Test Methods for Evaluating Solid Waste update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998;

- U.S. EPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999; and

- U.S. EPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994.

Data qualifiers were assigned to the analytical results during the data validation process and were noted in analytical results submitted by the laboratory, which are attached to each data validation report. All data were considered usable for the intended purposes, taking into account the following qualifiers:

- "J" (an estimated value)
- "U" (nondetected)
- "UJ" (nondetected. But the sample detection limit is an estimated value)
- "R" (data is not usable)
- "E" (sample result exceeded calibration range).

Data validation reports were reviewed by Battelle. The data validation reports for February and August 2005 monitoring events are included in Appendices C and D, respectively. If an individual chemical analysis did not meet the established limits for the analytical method for surrogate percent recovery (%R), laboratory control sample percent recovery (%R), continuing calibration percent differences (%D), or matrix spike or matrix spike duplicate (MS/MSD) percent recovery (%R), the analyte was flagged with a "J" or "UJ". 3,3′ Dichlorobenzidine was flagged with a "R" because the MS/MSD percent recoveries were zero; however, the affected samples were all nondetects. All other data was considered usable for the intended purposes. These qualifiers have been included in the summary tables.

Several chemicals, including isopropylbenzene, acenaphthene, phenanthrene and sulfide, did not meet the relative percent difference (RPD) of 25% for the field duplicate sample. These sample results are below the reporting limit for the method. As a conservative measure, the higher detected concentration was used in the tables and figures.

4.0: CONCLUSIONS AND RECOMMENDATIONS

Source removal is being conducted at Site 6 under a CERCLA non-time critical removal action as part of the Navy's Installation Restoration program. The goal of the source removal action is to reduce LNAPL, which serves as a source of contamination to the groundwater, to the maximum extent practicable. Due to a reduction in LNAPL recovery by the MPE system, an exponential increase in the cost to recover a gallon of LNAPL and the diminished thickness of LNAPL in the site wells are strong indicators that this goal has been achieved.

It is understood that any LNAPL remaining at the site will serve as a limited but continued source of contamination to the groundwater. However, results of the March 2004 direct push dissolved-phase plume investigation and subsequent groundwater monitoring events (October 2004, February 2005, and August 2005) show that the majority of contaminant concentrations remain below ARARs and are decreasing. Therefore, the Navy proposes to implement appropriate institutional controls (i.e., land use restriction and agreed order with MDEQ) to address the remaining contamination. No further remedial action is warranted for the following reasons:

1) LNAPL thickness monitoring data indicate that the LNAPL plume will not migrate off-site. Water table fluctuations are smearing a few inches of LNAPL over 5 feet, thus allowing slight amounts of LNAPL to appear and disappear. Under these conditions, horizontal movement of LNAPL will not occur, and recovery of LNAPL will be negligible.

2) The LNAPL has been present at the site for over 40 years. Sufficient time has elapsed to allow the LNAPL and groundwater to reach a pseudo steady-state condition. It is not expected that the groundwater plume would expand in the future. The groundwater monitoring data collected thus far substantiate that the dissolved-phase plume exhibits no significant migration.

3) Groundwater contaminant concentrations are below regulatory standards (i.e., Federal MCLS and the MDEQ cleanup goals for UST sites). MNA, which has been demonstrated to be occurring at the site, appears to have limited contaminant migration.

The Navy also proposes to develop a long-term monitoring plan for postremediation monitoring. Groundwater monitoring should be continued on a semiannual basis for VOC and SVOC analyses until two consecutive monitoring events show that contaminant concentrations continue to be less than the ARARs. Once groundwater monitoring is complete, the site wells will be abandoned in accordance with local regulations.

5.0: REFERENCES

ABB Environmental Services. 1994. *Free-Phase Product Assessment Report, Site 6, Fire Fighting Training Area, Naval Construction Battalion Center Gulfport, Gulfport, Mississippi*. July.

Battelle. 2004a. *Dissolved-Phase Plume Delineation Investigation for Site 6 at Naval Construction Battalion Center Gulfport, Mississippi*. Prepared for Southern Division Naval Facilities Engineering Command. June 24.

Battelle. 2004b. *Groundwater Monitoring Report (October 2004) for Site 6 at Naval Construction Battalion Center Gulfport, Mississippi*. Prepared for Southern Division Naval Facilities Engineering Command. December 30.

Conrad. 2005. Personal communication by phone from Art Conrad, NAVFAC Southeast, to Stephen Rosansky. October 24.

MDEQ, see Mississippi Department of Environmental Quality.

Mississippi Department of Environmental Quality. 1989. *Underground Storage Tank Regulations. Part 280—Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (USTs)*.

Mississippi Department of Environmental Quality. 2002. *Underground Storage Tank Typical Cleanup Levels*. August.

Newell, C.J., R.K. McLeod, J.R. Gonzales, and J.T. Wilson. 2002. *BIOSCREEN Natural Attenuation Decision Support System User's Manual*. Version 1.4. Prepared by National Risk Management Research Laboratory, Office of Research and Development, U.S. EPA, Cincinnati, OH.

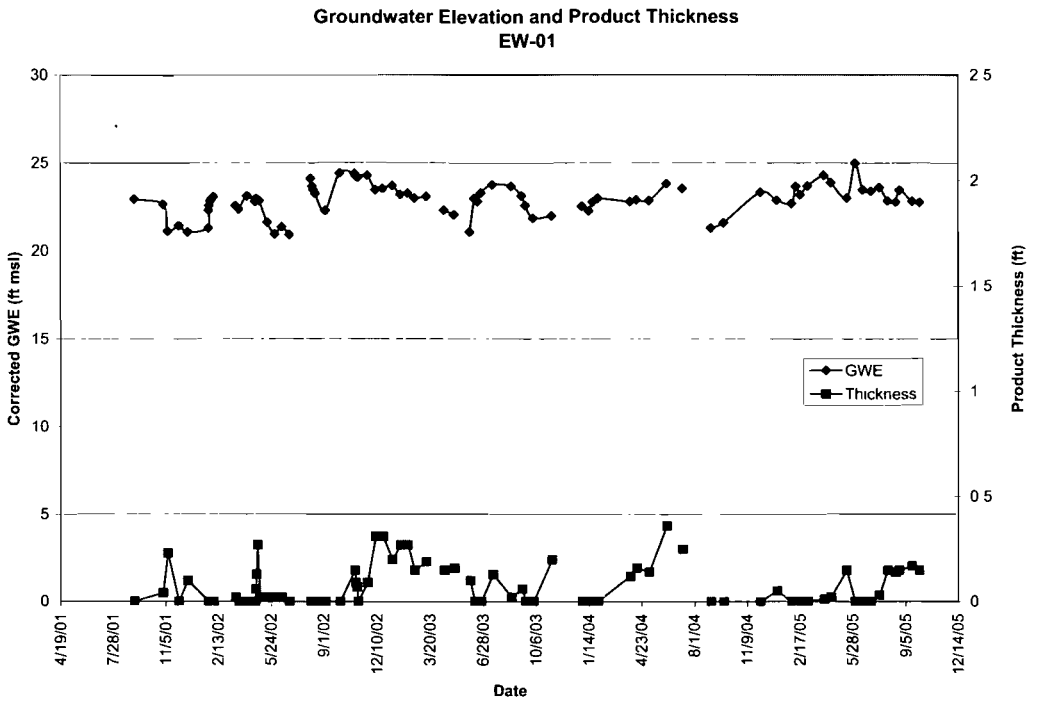
TetraTech NUS, Inc. 2000. Draft Letter Report of Findings NCBC Gulfport – Site 6. Prepared for Southern Division Naval Facilities Engineering Command under CLEAN contract No. N62467-94-D0888, Contract Task Order No. 012.

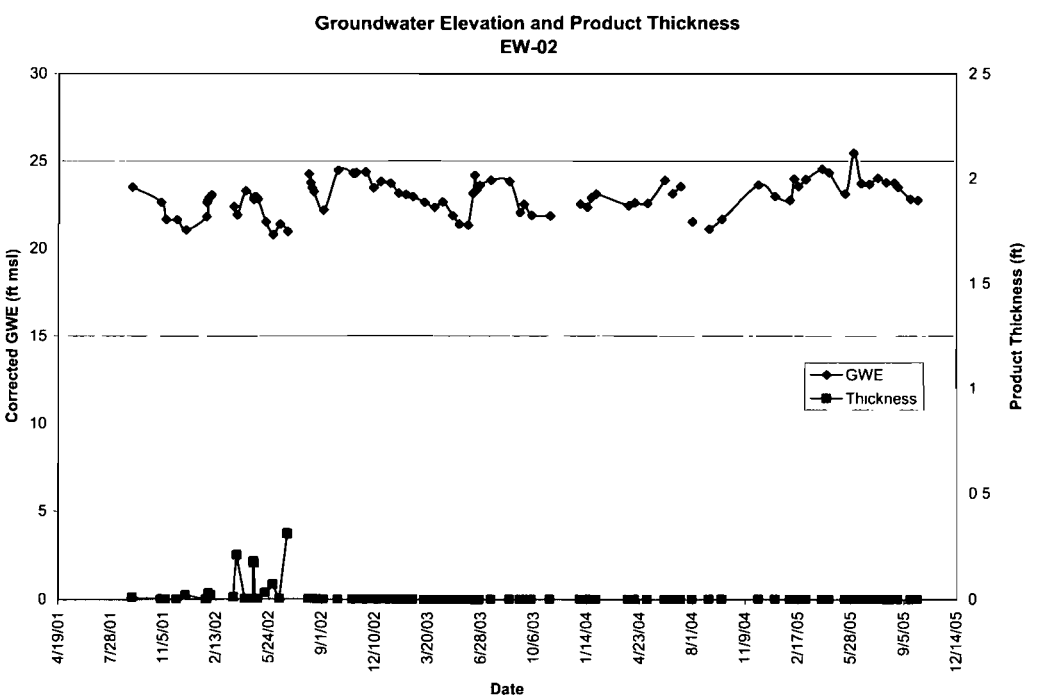
United States Environmental Protection Agency. 2002. *Current Drinking Water Standards*. EPA/816/F-02/013. Available at: http://www.epa.gov/safewater/mcl.html.

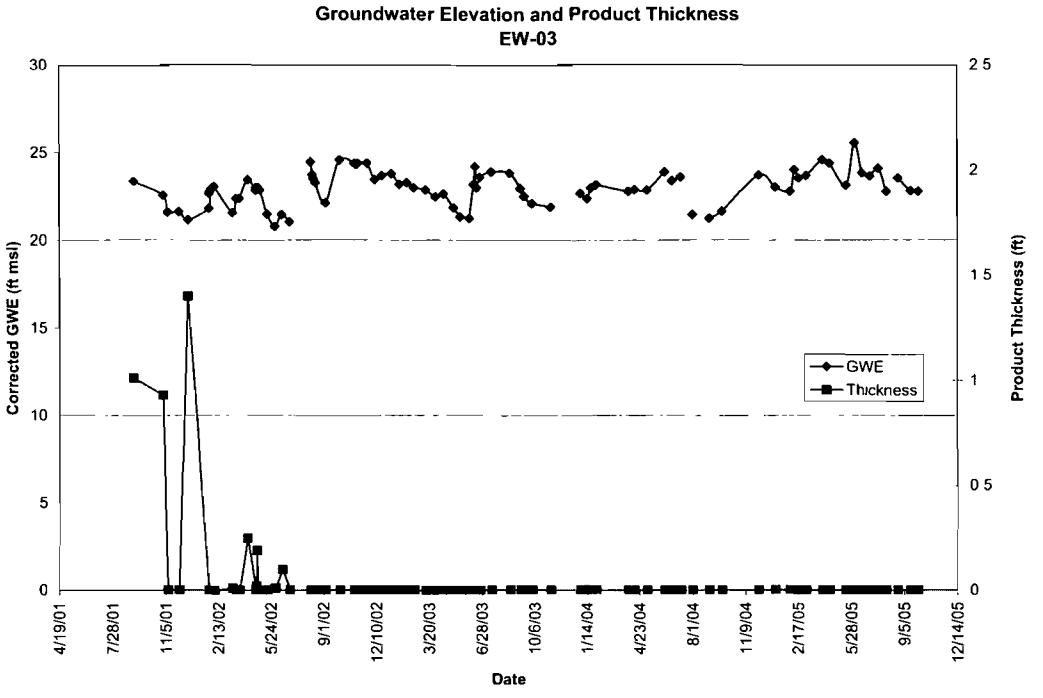
U.S. EPA, see United States Environmental Protection Agency.

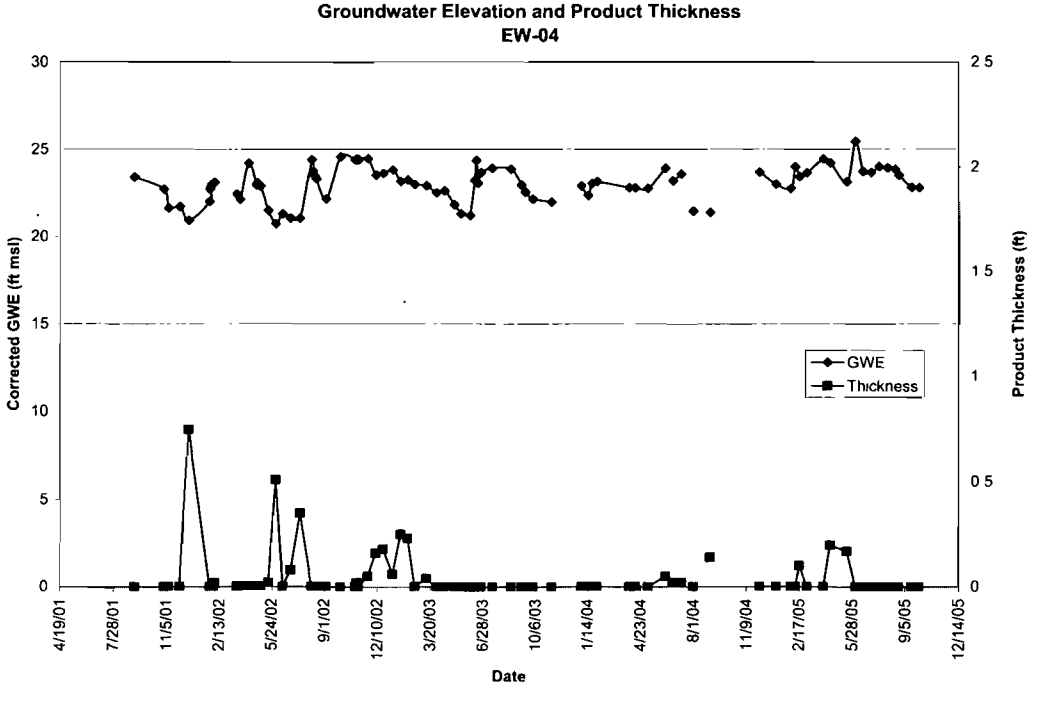
ATTACHMENT 1:

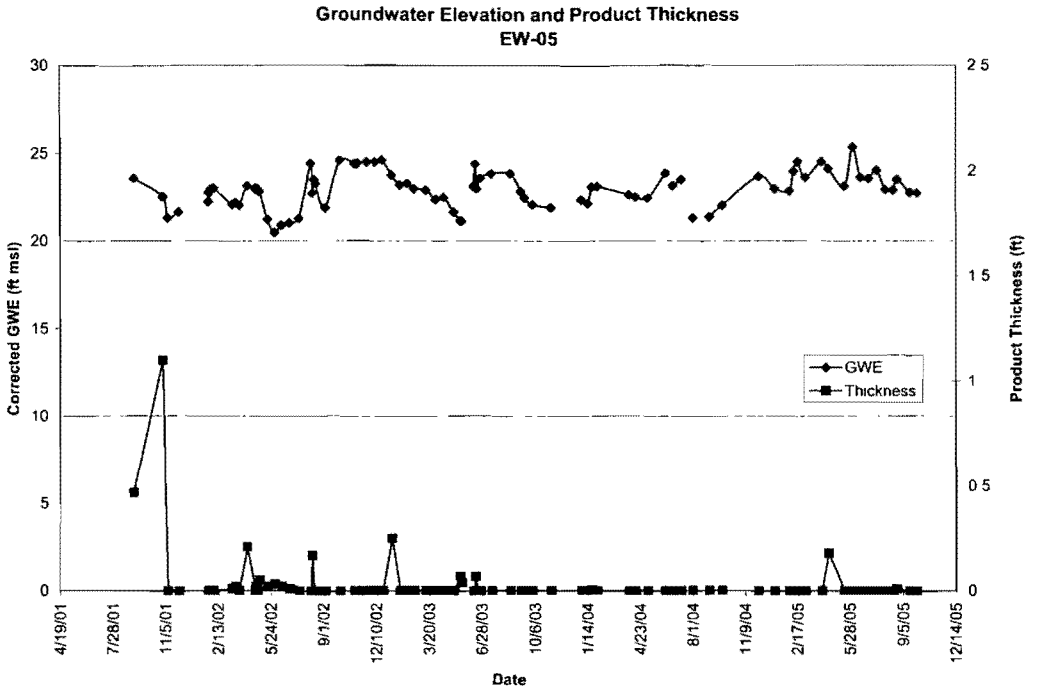
Graphs Showing LNAPL Thickness and Groundwater Elevation Measured in Extraction Wells EW-1 Through EW-23 and Monitoring Wells GPT-6-1 Through GPT-6-8 Over Time

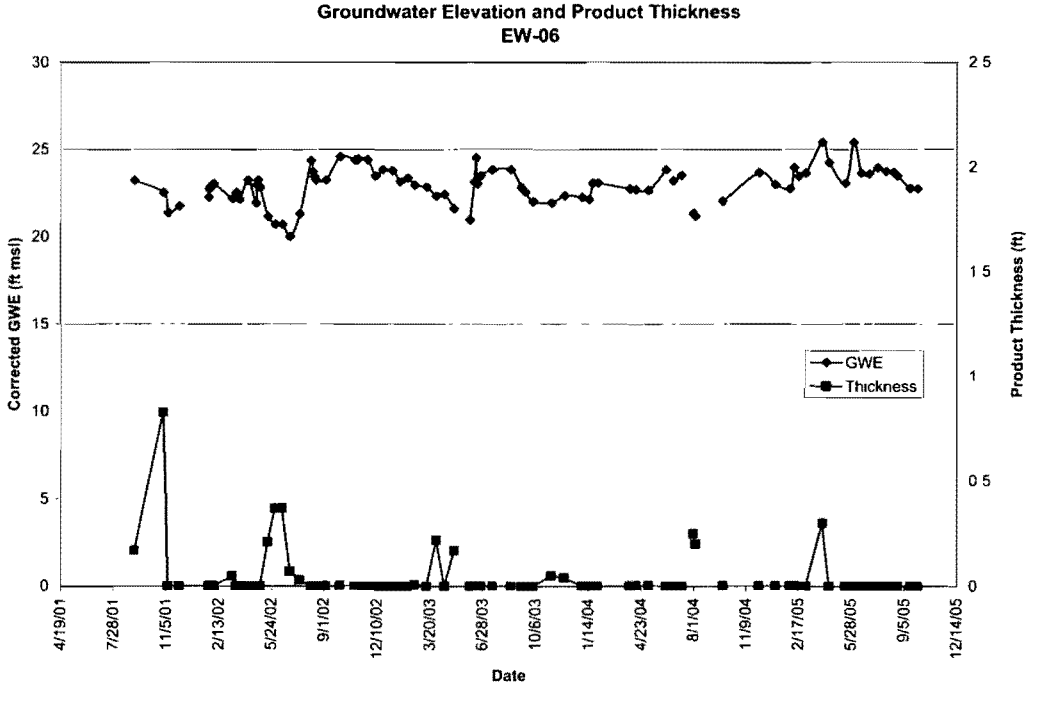

Groundwater Elevation and Product Thickness
EW-01
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

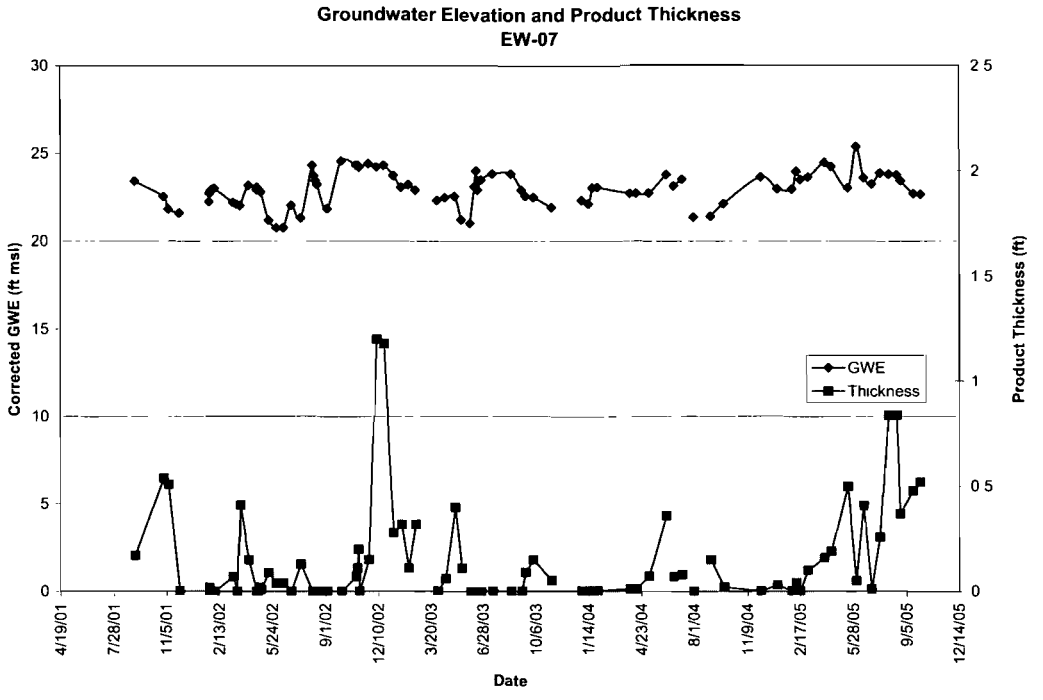

Groundwater Elevation and Product Thickness
EW-02
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

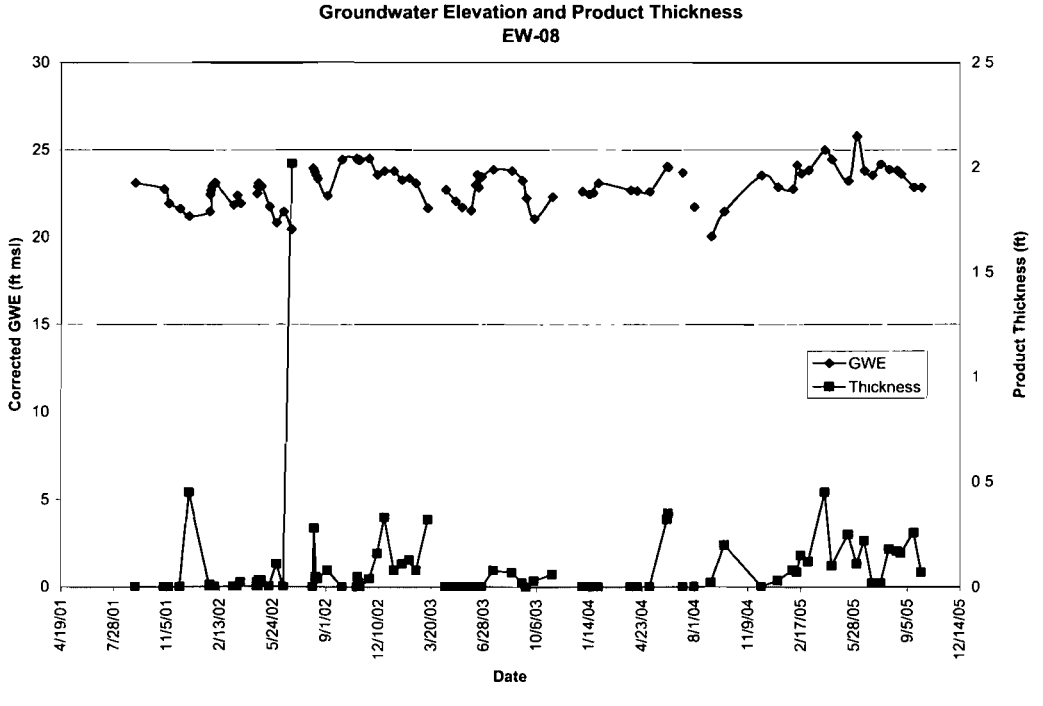

Groundwater Elevation and Product Thickness
EW-03
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

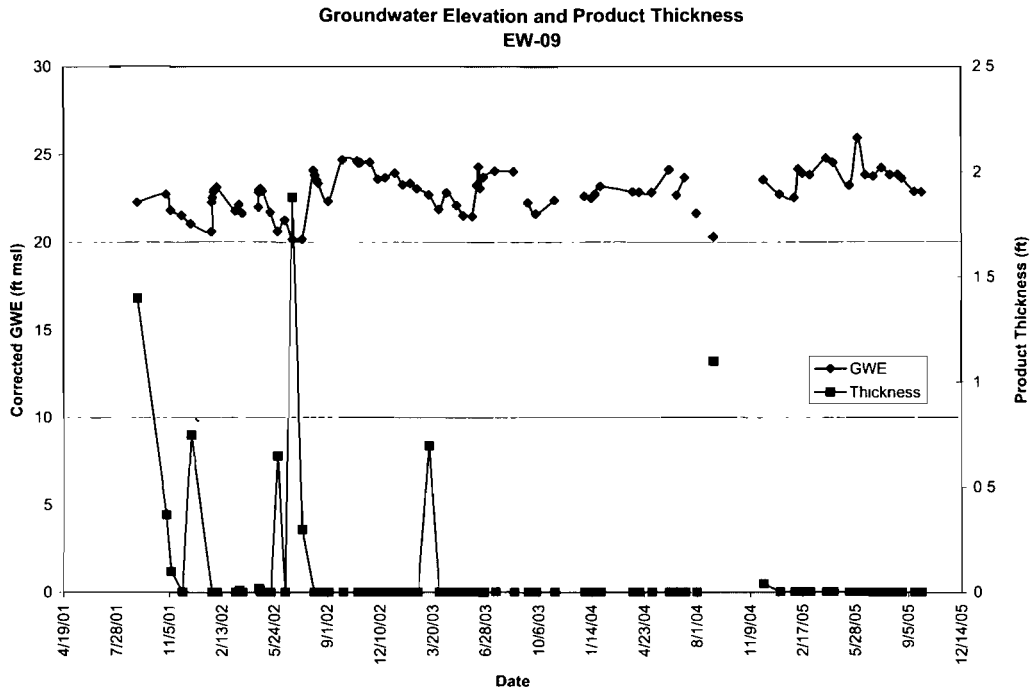

Groundwater Elevation and Product Thickness
EW-04
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

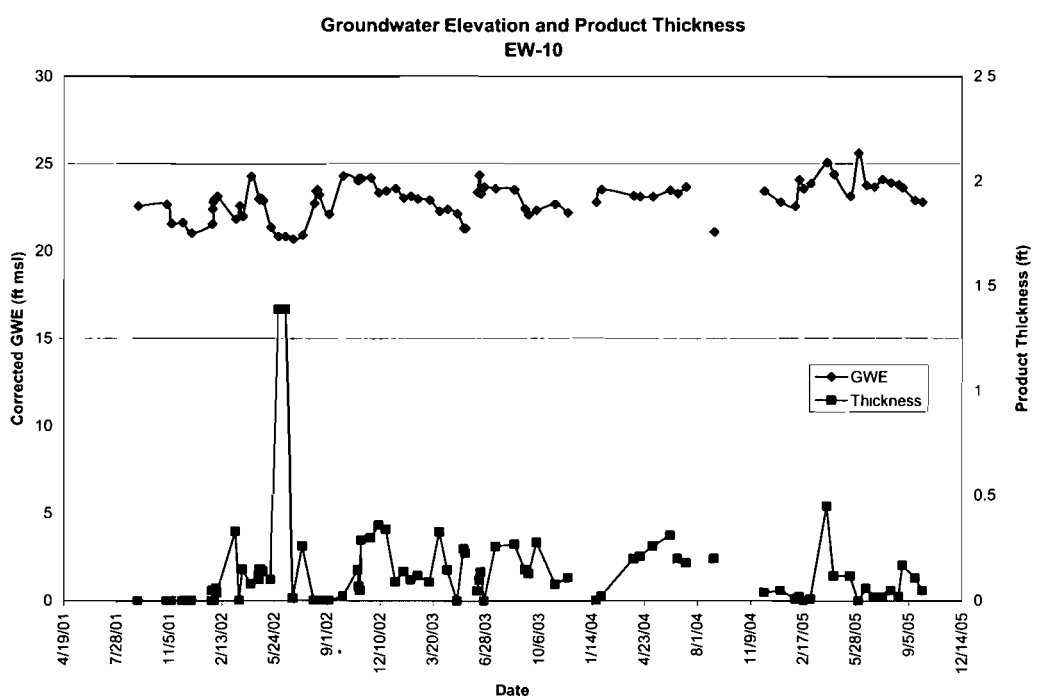

Groundwater Elevation and Product Thickness
EW-05
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

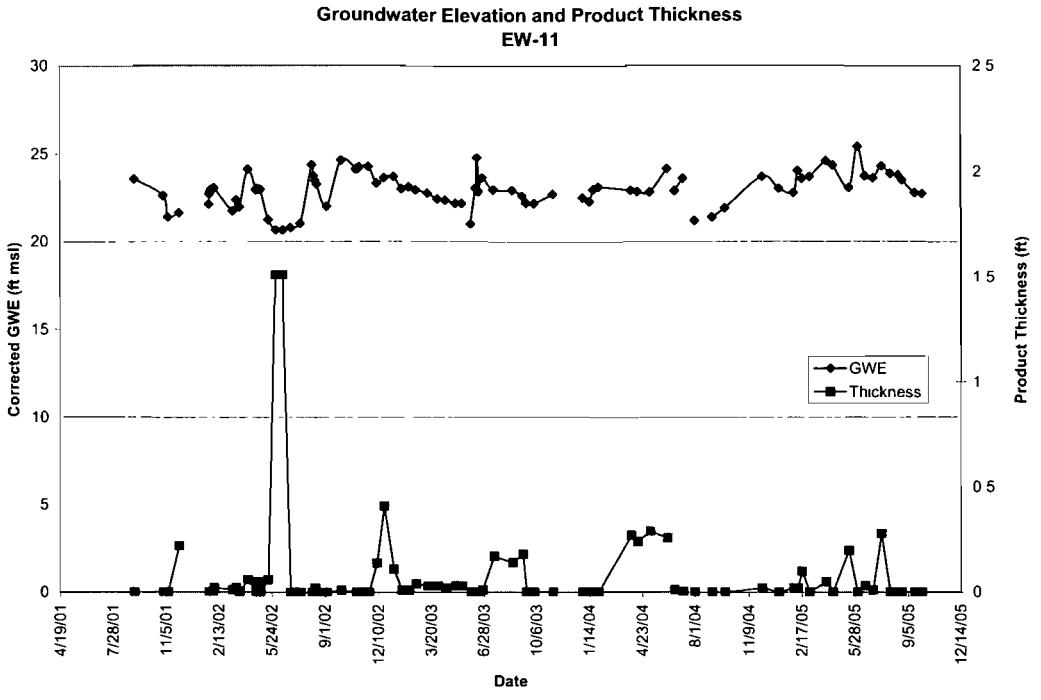

Groundwater Elevation and Product Thickness
EW-06
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

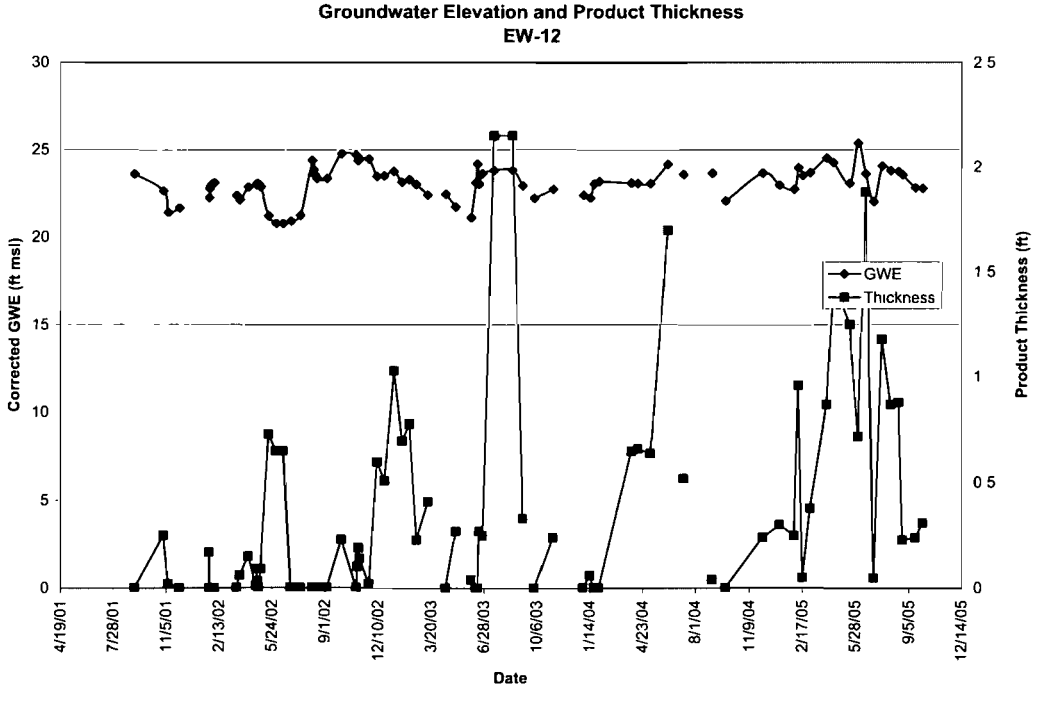

Groundwater Elevation and Product Thickness
EW-07
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

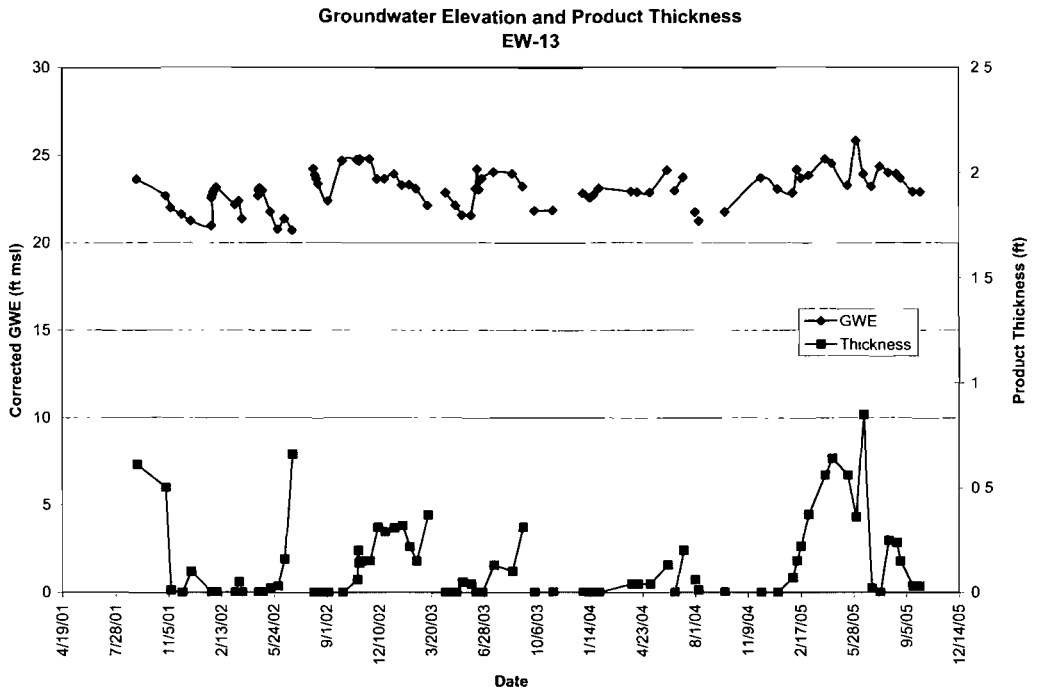

Groundwater Elevation and Product Thickness
EW-08
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

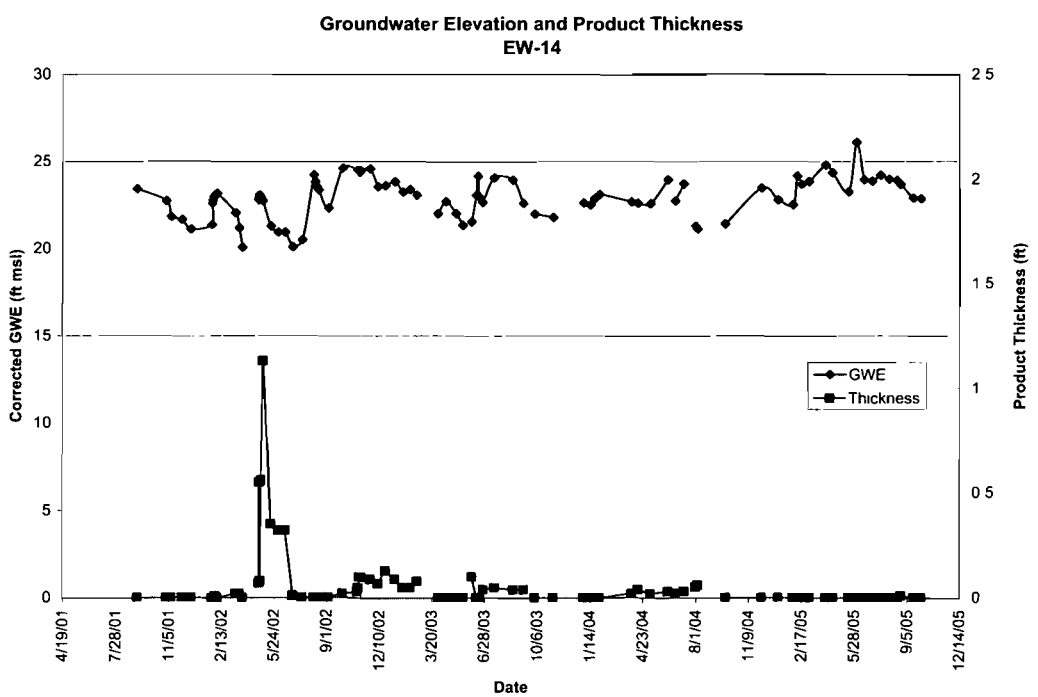

Groundwater Elevation and Product Thickness
EW-09
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

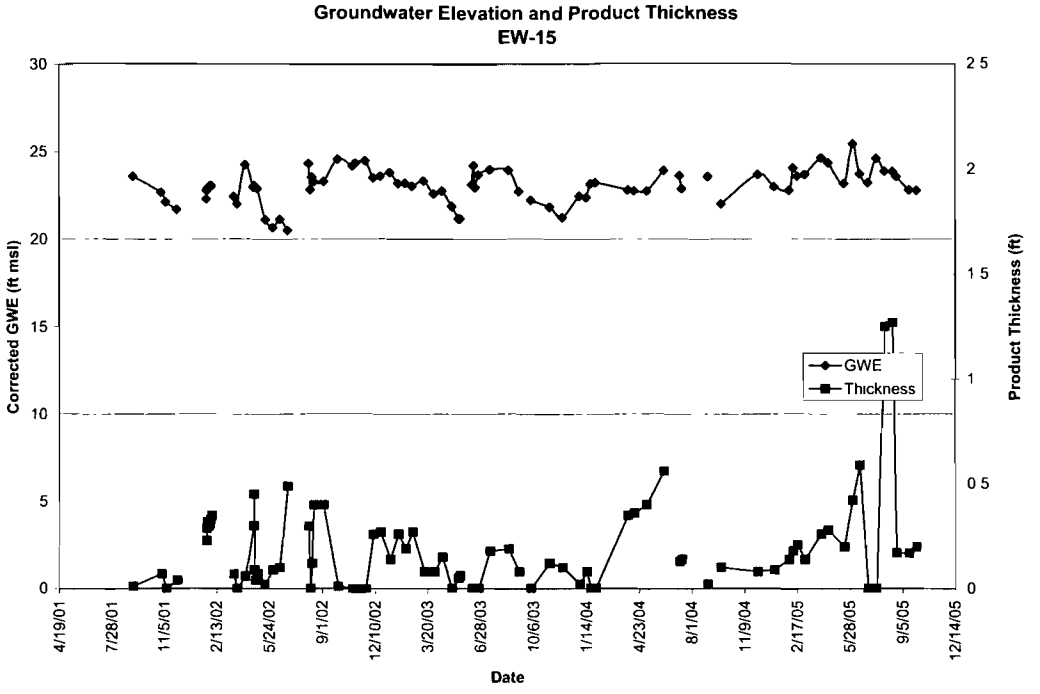

Groundwater Elevation and Product Thickness
EW-10
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0.5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

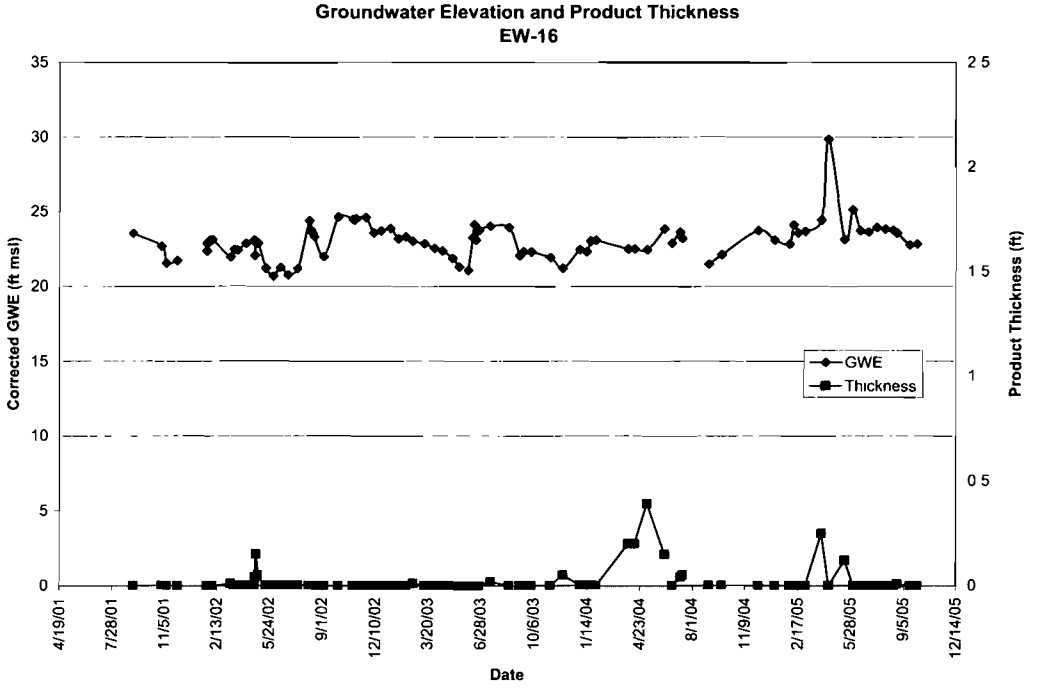

Groundwater Elevation and Product Thickness
EW-11
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

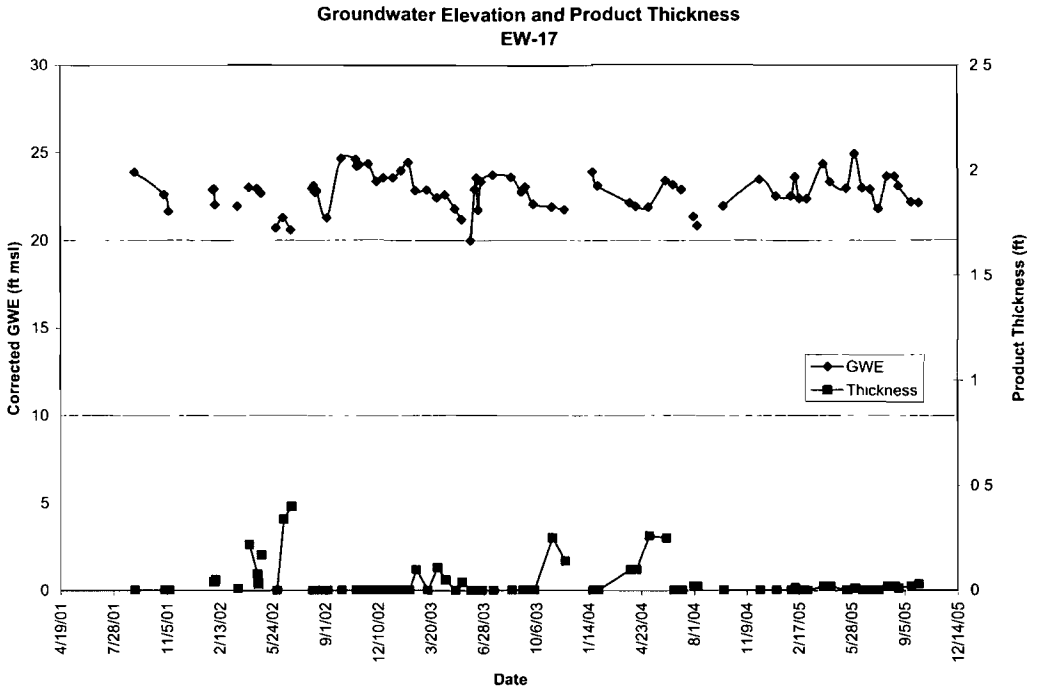

Groundwater Elevation and Product Thickness
EW-12
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

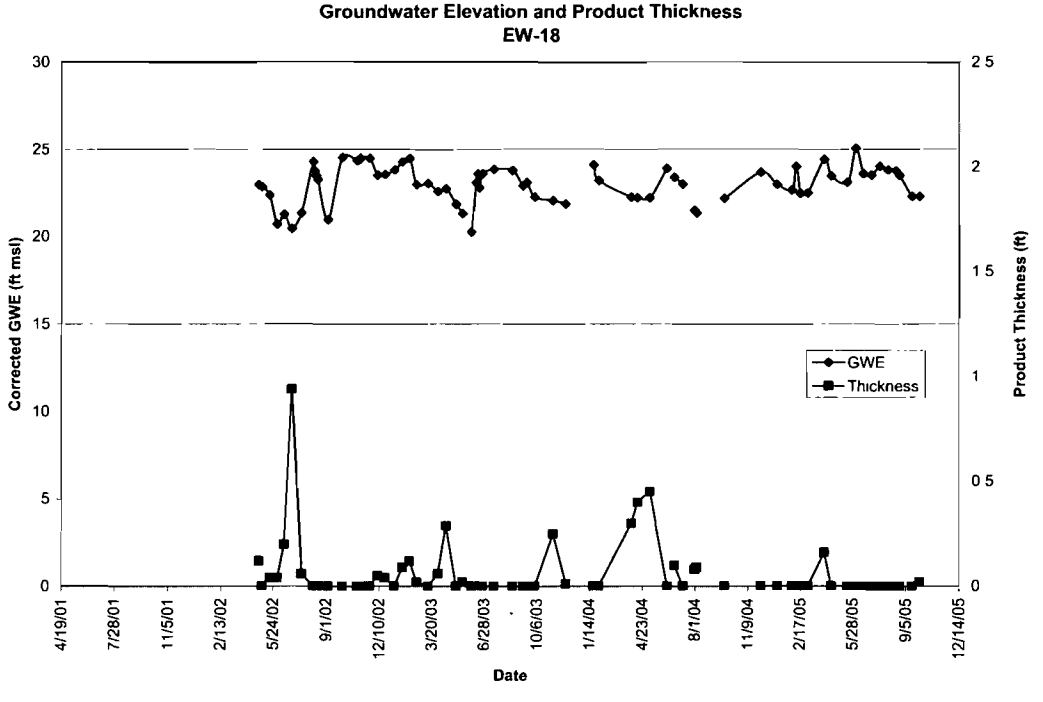

Groundwater Elevation and Product Thickness
EW-13
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

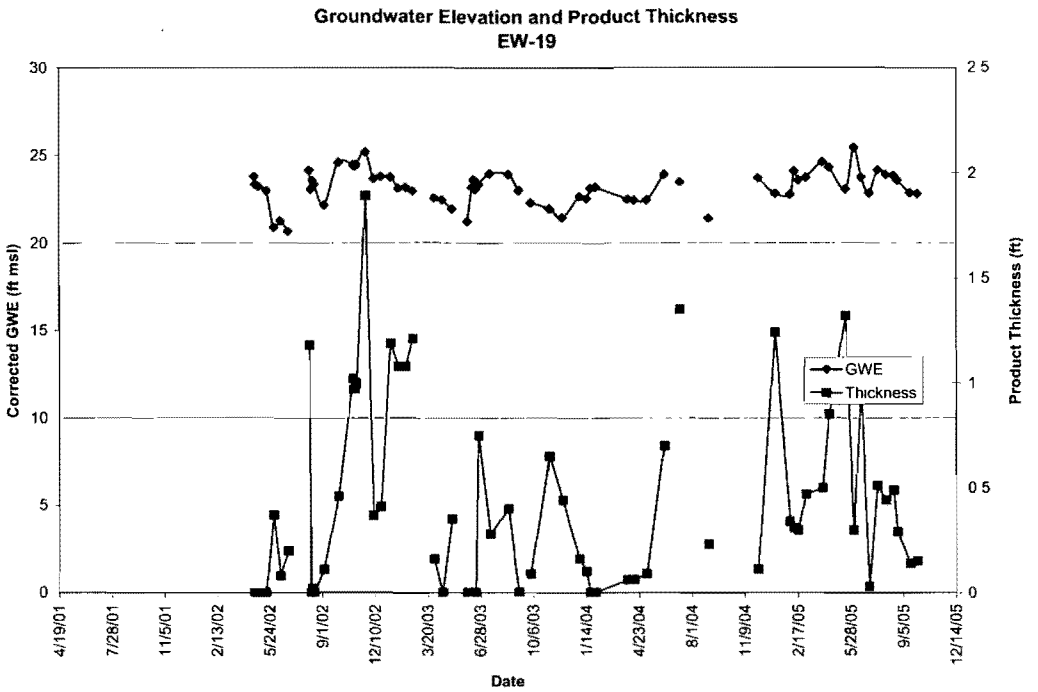

Groundwater Elevation and Product Thickness
EW-14
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

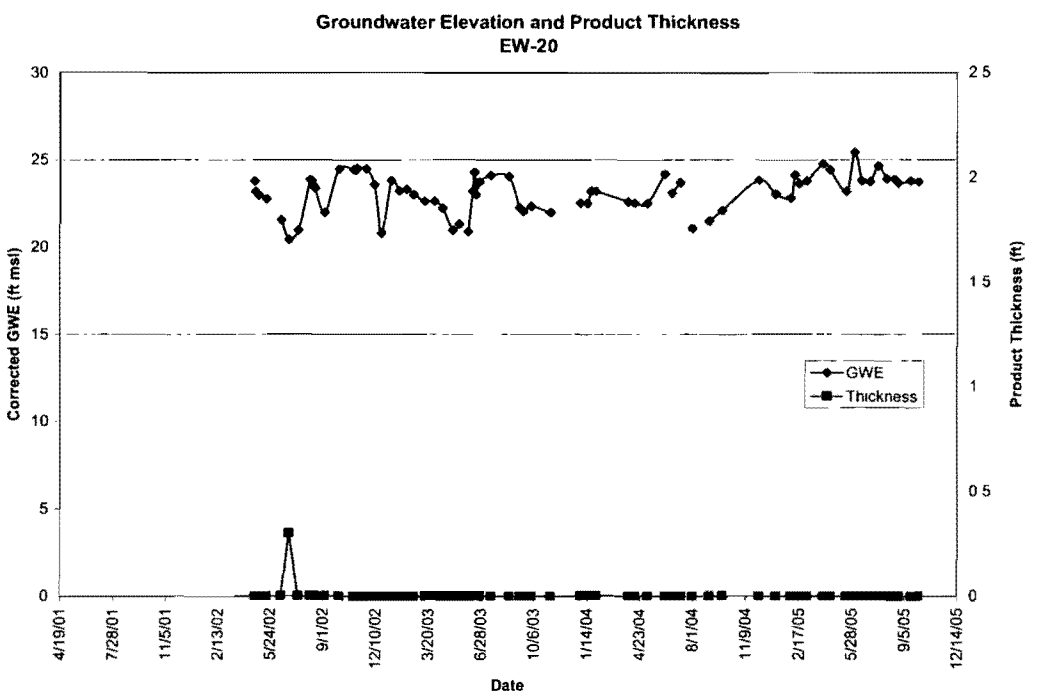

Groundwater Elevation and Product Thickness
EW-15
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

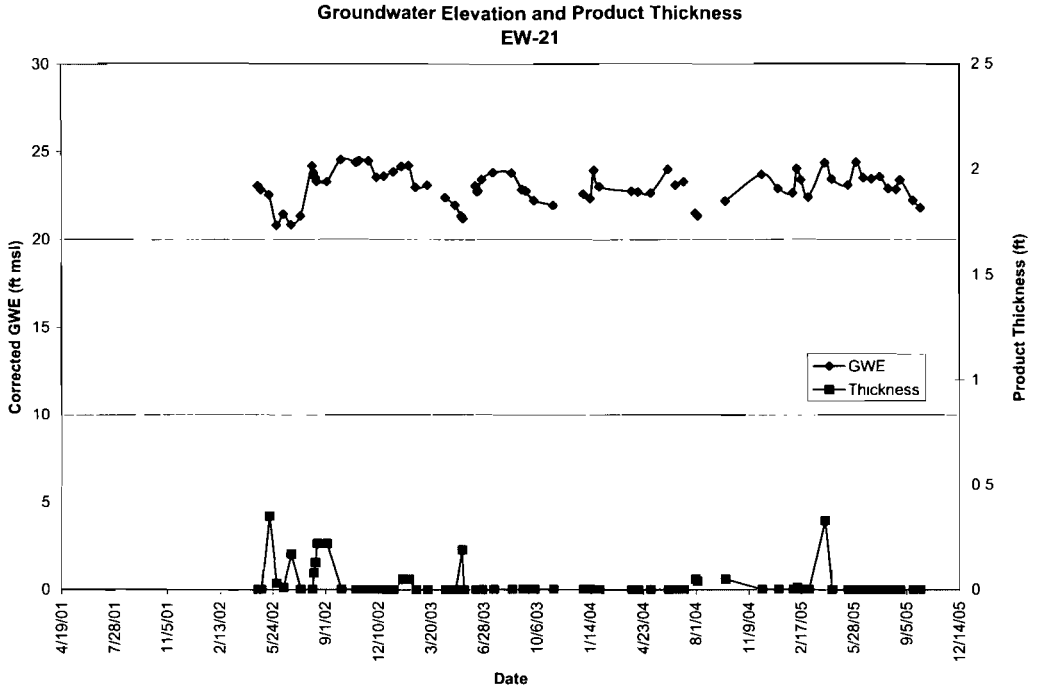

Groundwater Elevation and Product Thickness
EW-16
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
35
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

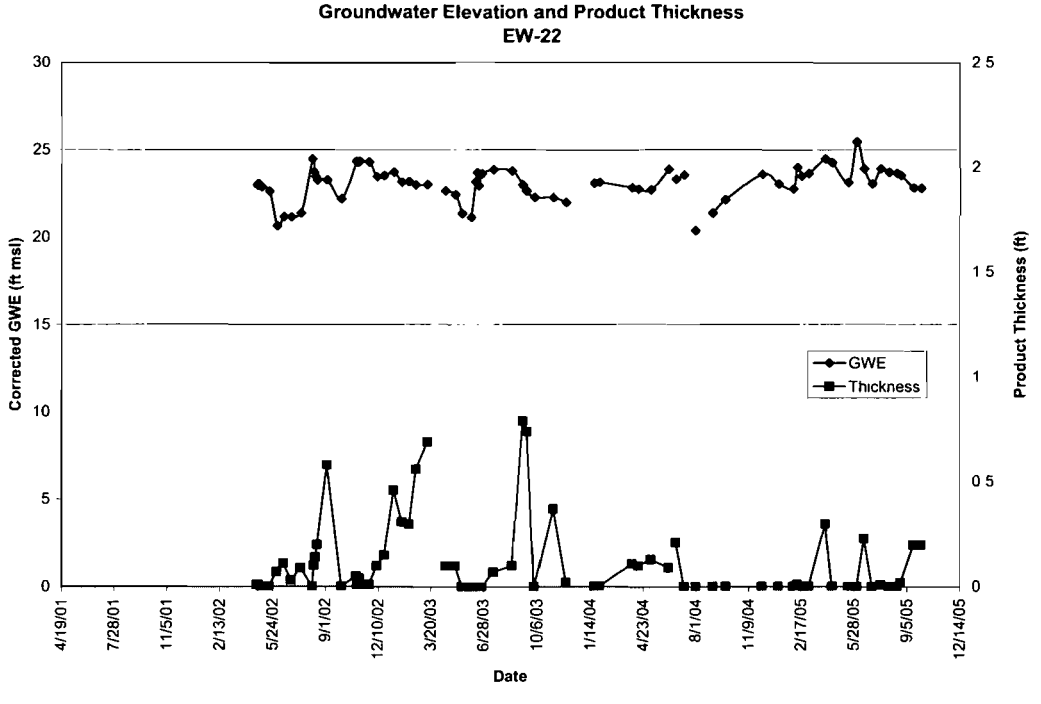

Groundwater Elevation and Product Thickness
EW-17
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

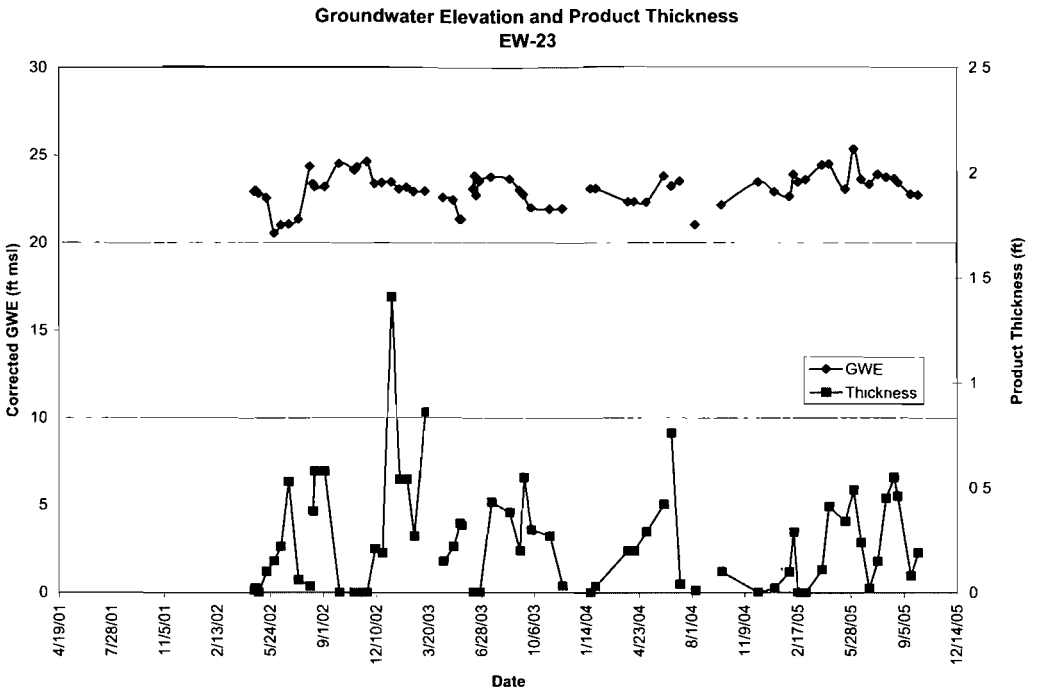

Groundwater Elevation and Product Thickness
EW-18
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

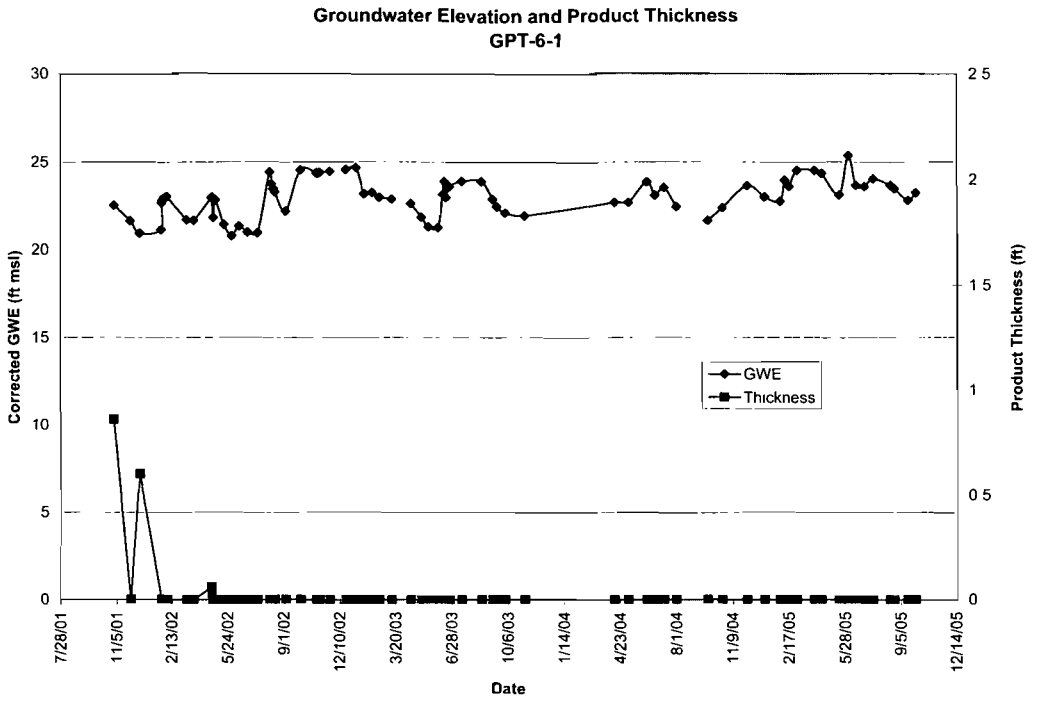

Groundwater Elevation and Product Thickness
EW-19
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

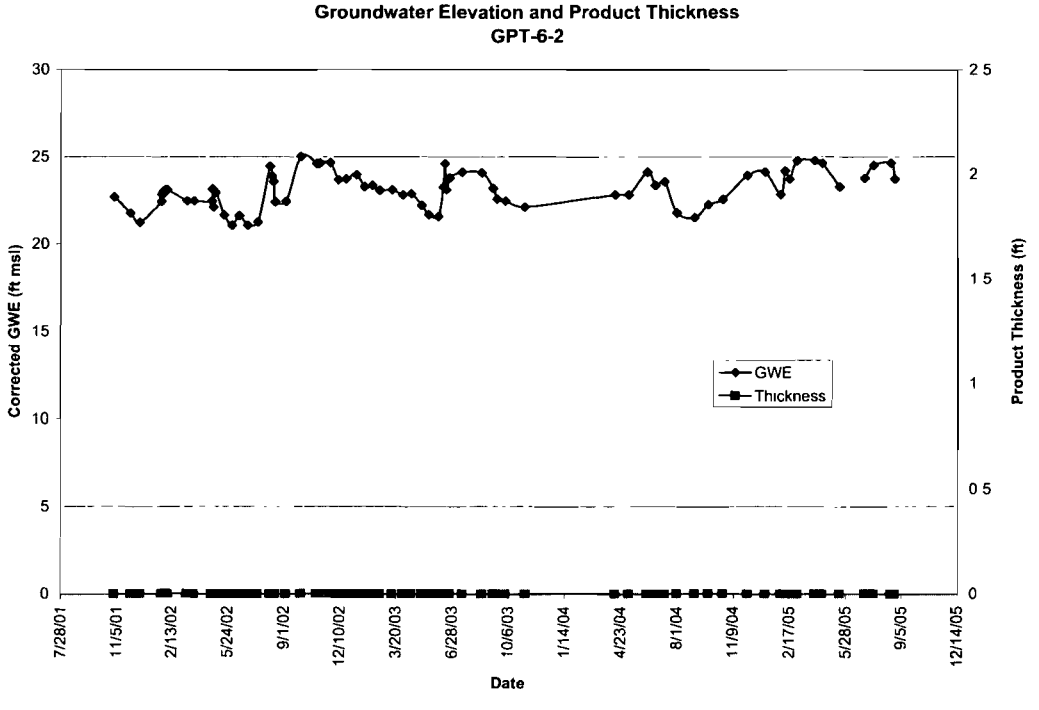

Groundwater Elevation and Product Thickness
EW-20
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

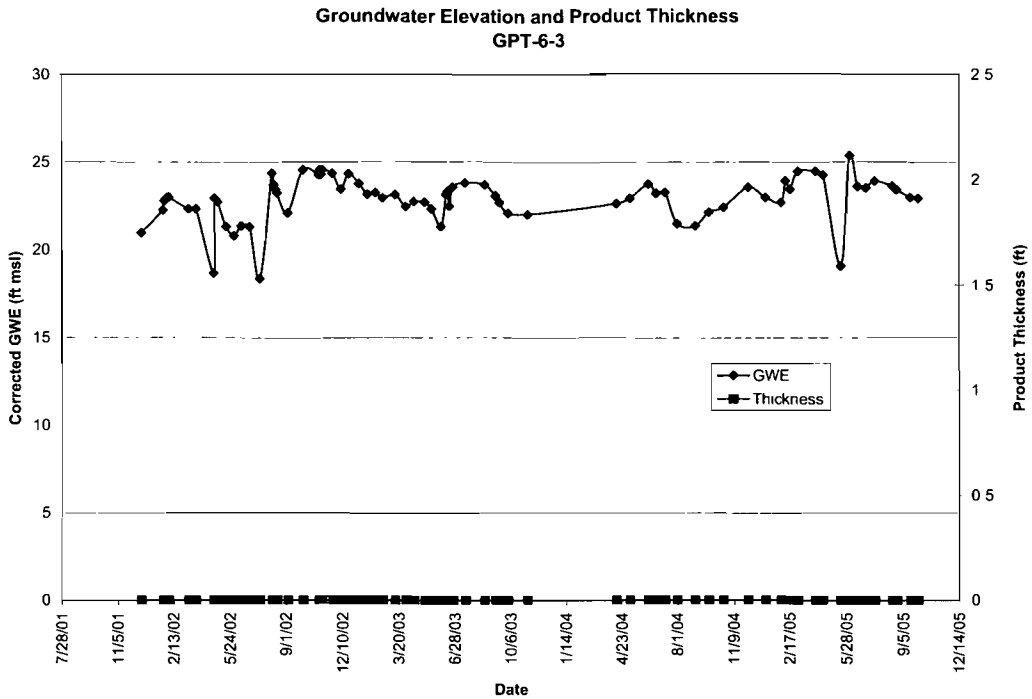

Groundwater Elevation and Product Thickness
EW-21
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

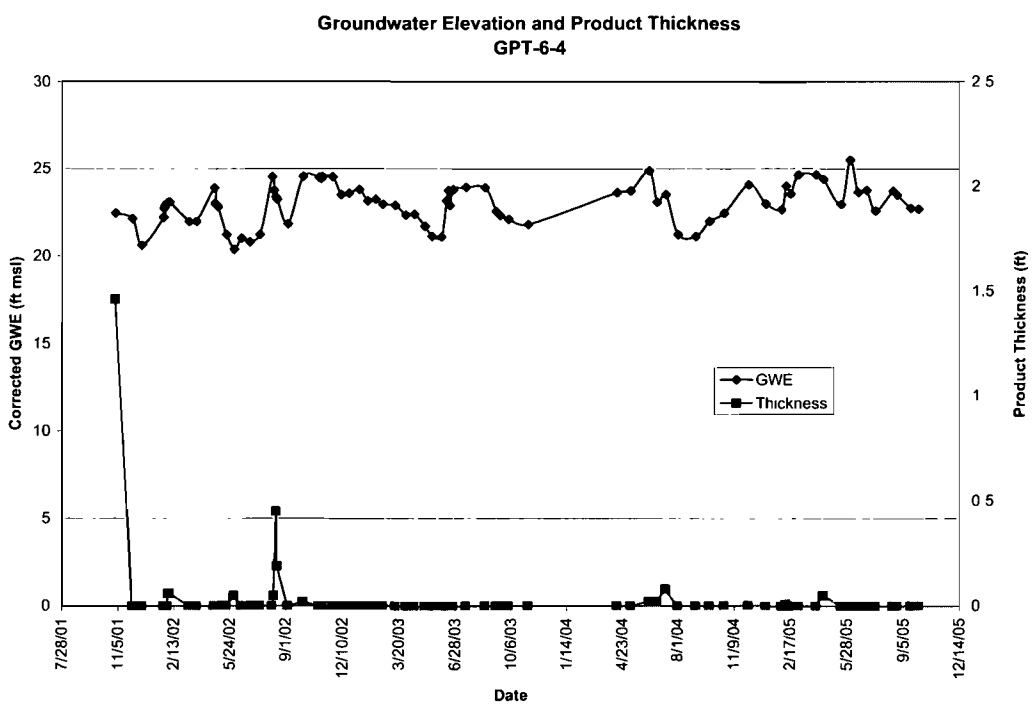

Groundwater Elevation and Product Thickness
EW-22
Corrected GWE (ft msl)
Product Thickness (ft)
GWE
Thickness
Date
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

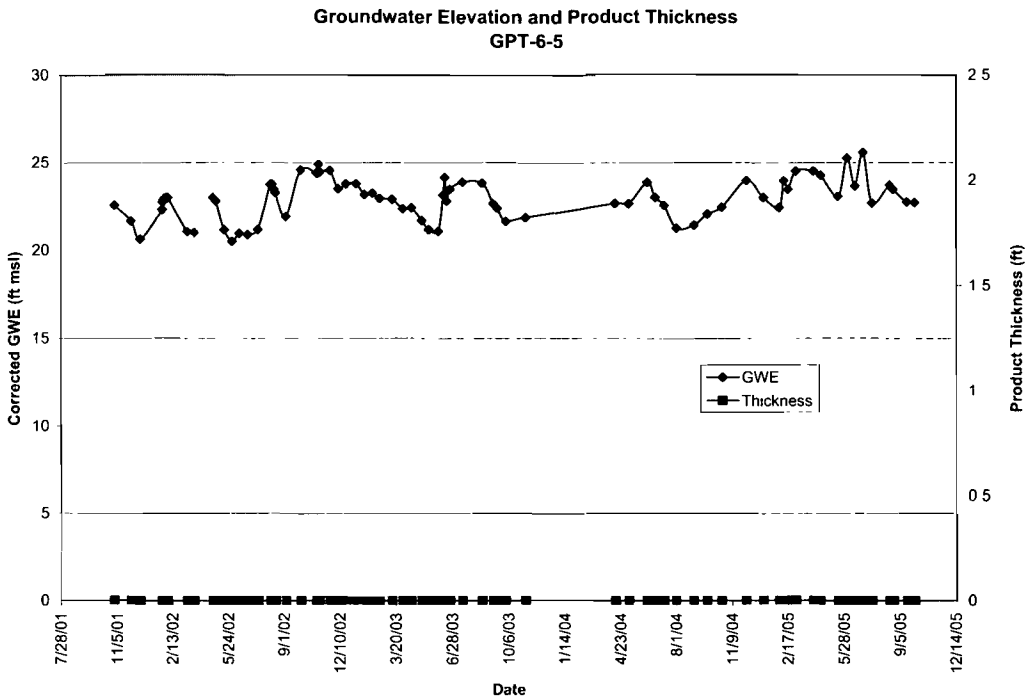

Groundwater Elevation and Product Thickness
EW-23
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
4/19/01
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

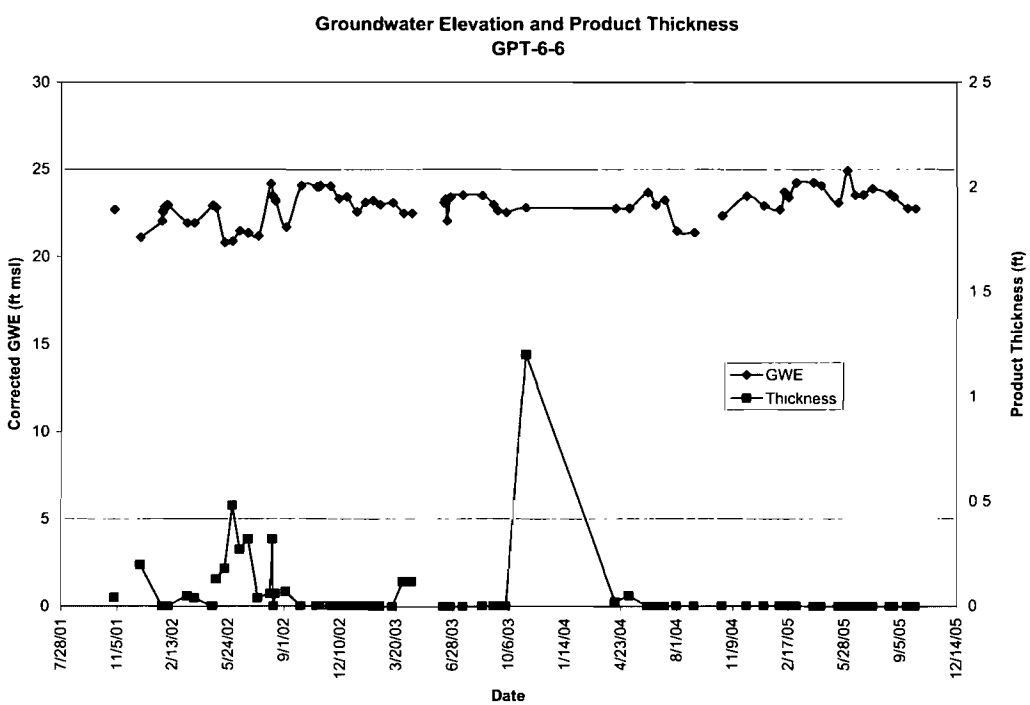

Groundwater Elevation and Product Thickness
GPT-6-1
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

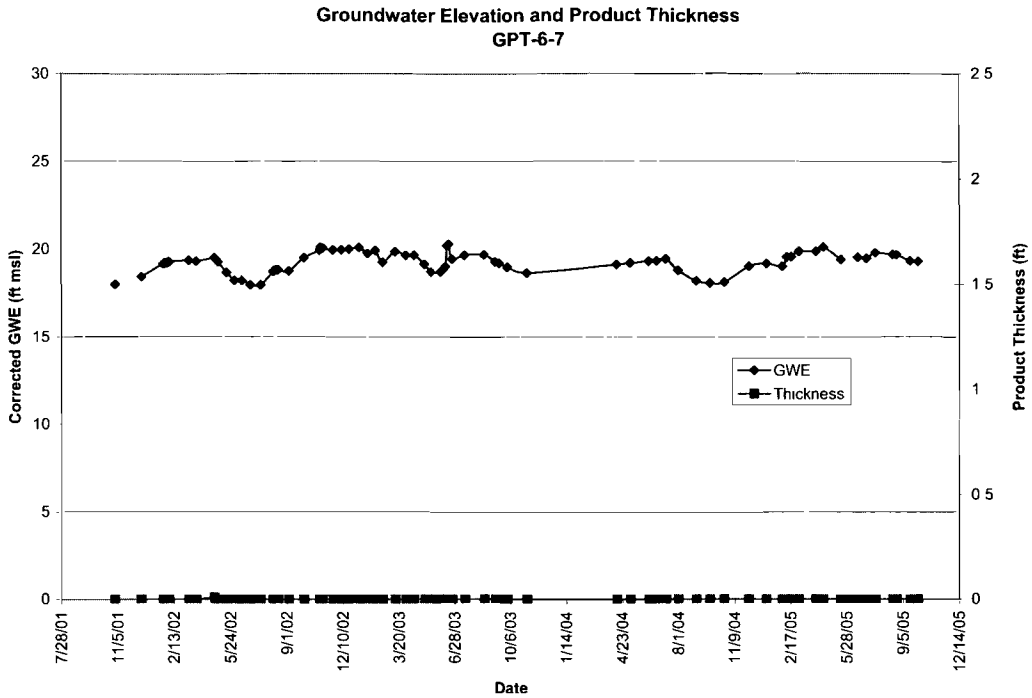

Groundwater Elevation and Product Thickness
GPT-6-2
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05

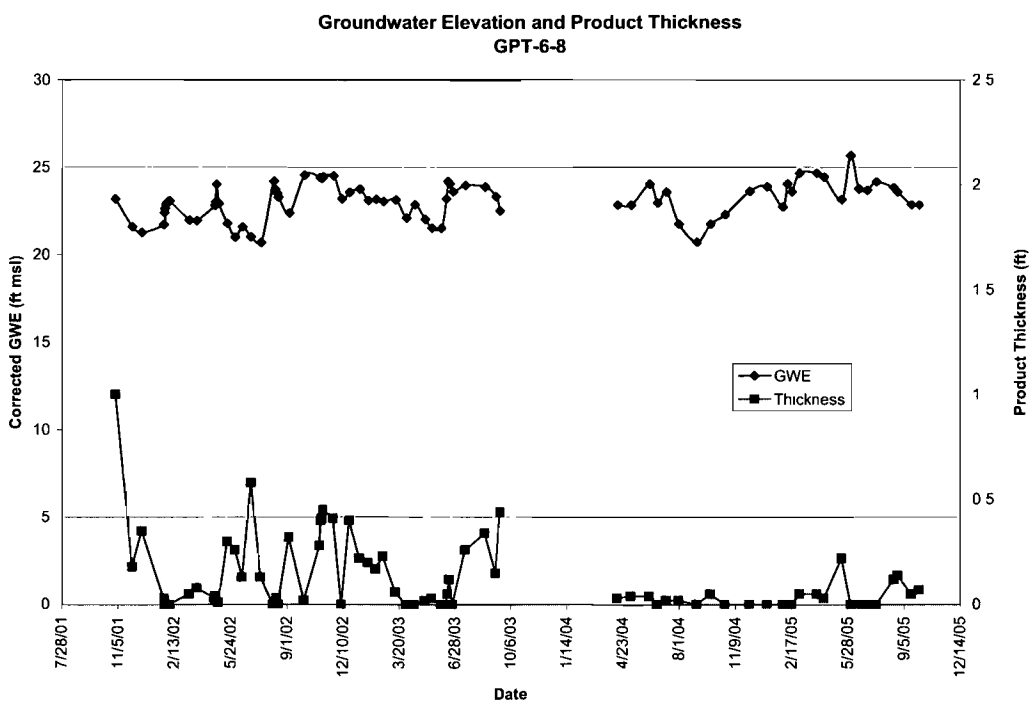

Groundwater Elevation and Product Thickness
GPT-6-3
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05


Groundwater Elevation and Product Thickness
GPT-6-4
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1.5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05


Groundwater Elevation and Product Thickness
GPT-6-5
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05


Groundwater Elevation and Product Thickness
GPT-6-6
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05


Groundwater Elevation and Product Thickness
GPT-6-7
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05


Groundwater Elevation and Product Thickness
GPT-6-8
Corrected GWE (ft msl)
Product Thickness (ft)
Date
GWE
Thickness
30
25
20
15
10
5
0
2 5
2
1 5
1
0 5
0
7/28/01
11/5/01
2/13/02
5/24/02
9/1/02
12/10/02
3/20/03
6/28/03
10/6/03
1/14/04
4/23/04
8/1/04
11/9/04
2/17/05
5/28/05
9/5/05
12/14/05