August 6, 2008

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT
PIIESA – MICHOUD CANAL – GIWW
IHNC HURRICANE PROTECTION PROGRAM
NEW ORLEANS, LOUISIANA

Prepared for

US Army Corps of Engineers®

New Orleans District

Under Contract to
U.S. Army Corps of Engineers – New Orleans District
Environmental Services IAW
DACW29-03-D-0014 Task Order #0047

By

MMG
Materials Management Group, Inc.

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATE OF COMPLIANCE

(Read instructions on the reverse side prior to initiating this form)

DATE: August 6, 2008

TRANSMITTAL NO.: TO 047-006

SECTION 1 - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE:
U.S. Army Corps of Engineers New Orleans District P.O. Box 60267 New Orleans, LA 70160	Materials Management Group, Inc. 3520 General DeGaulle Drive, Suite 3010 New Orleans, LA 70114	DACW29-03-D-0014	☐ THIS IS A NEW TRANSMITTAL ☒ THIS IS A RESUBMITTAL OF TRANSMITTAL 1
SPECIFICATION SECTION; (Cover only one section with each transmittal)	PROJECT TITLE AND LOCATION		
	Task Order 047 – PIIESA Michoud Canal-GIWW Area, IHNC Hurricane Protection Project, New Orleans, Louisiana		

ITEM NO. a.	DESCRIPTION OF ITEM *(Type, size, model number, etc.)* b.	MFG. OR CONTR. CAT. CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* c.	NO. OF COPIES d.	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE g.	VARIATION *(See instruction no. 6)* h.	FOR CE USE CODE i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			
1	Task Order No. 47 Final PIIESA Report		3 + 3 cds			2876-DD-ACE-NOL-047		

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

C. Paul Lo, Project Manager

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
		August 6, 2008

Comments on:
Materials Management Group, Inc.
Draft Final Rpt Submittals for
CTO Number: DACW29-03-D-0014
Task Order #0047

Phase II Environmental Site Assessment
Michoud Canal-GIWW
IHNC Hurricane Protection Program
New Orleans, LA

Reviewer: John Templeton
Respondent: Karly Gibbs, Paul Lo

1. Respondent concurs (C), Does not Concur (D), or takes Exception (E).
2. Commenter Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Section : Item/Page	Paragraph/ Line	Comment	C, D, E[1]	Response	A or D[2]
1. Templeton	TOC	Table 1	TOC title is currently not the same as within the body		The title appears the same throughout the report – confirmed for final submittal.	
2. Templeton	Executive Summary	Findings	4th line should read "The metals' concentrations…" Need apostrophe (again in 5.2 second sentence)		Removed "s" from metals - changed text to read "the metal concentrations…"	
3. Templeton	General	Footnotes	Suggested to remove Company Info from footer on all pages	E	This is MMG's standard format that has been accepted and approved by the USACE for over 10 years.	
4. Templeton	General	3.2	Please explain why composites were produced from 3 borings and borings not analyzed individually		Composite sampling was conducted as dictated by the USACE in the task order.	

Phase II Environmental Site Assessment Report

for

Michoud Canal – GIWW Area
New Orleans, LA

Approval Page

Materials Management Group, Inc.
C. Paul Lo, Project Manager

Materials Management Group, Inc.
Karly Gibbs, Risk Assessor

Materials Management Group, Inc.
Wendell Thompson, Geologist

USACE – NOD
Contracting Officer

USACE – NOD
Project Manager

USACE – NOD
Technical Representative

USACE – NOD
Technical Representative

Table of Contents

Executive Summary

Background
This report addresses the findings of the limited Phase II Environmental Site Assessment (PIIESA) conducted at the northeast corner of Michoud Canal and the Gulf Intracoastal Waterway (GIWW) in New Orleans, Louisiana. The subject area is proposed for use as a staging area under the IHNC Hurricane Protection Project. A Phase I Environmental Site Assessment (PIESA) previously conducted in the area revealed that both sites adjacent to the property (BOC gases and former US Filter – currently FCC Environmental) have histories of leaking underground storage tanks. Furthermore, previous sampling in the area revealed contaminant concentrations above the Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) screening standards. Therefore, to evaluate the potential presence of contaminants for protection of future workers at the site as well as to provide baseline chemical data for the site, Materials Management Group, Inc. (MMG) conducted a limited PIIESA of the site under USACE IQRC Contract DACW29-03-D-0014. The Phase II ESA was performed in accordance with all relevant regulations and guidance.

Findings
The analytical results from the limited Phase II ESA are summarized in Table 1 and the final analytical report is included in Appendix B. Briefly, the results indicated that a few of the COCs (TPH-O, BTEX, and metals (arsenic, barium, chromium, and lead)) were detected at the site. The metal concentrations are in the range associated with background levels, and the presence of the organic COCs is likely associated with previous surface spills (other than one concentration of benzene, the organic contaminant concentrations are very low). TPH-G, TPH-D, and PAHs were not detected in any sample.

Benzene is the only contaminant that was detected above the screening standard. This concentration (0.091 mg/kg) was detected in the primary sample from composite 2. Benzene was not detected in the split sample collected from this composite. It is unknown whether benzene is elevated at all three discrete borings (B4, B5, and B6) comprising this composite or only at one of them.

Recommendations
Based on the findings, MMG recommends further investigation around boreholes B4, B5, and B6 for benzene only in the surface soil (0-3 feet bgs) to define the area of contamination and also to evaluate the potential impact to groundwater. It is necessary to determine the source of the benzene contamination identified in composite soil sample 2. It is possible that benzene may be eliminated from further investigation under additional sampling.

1.0 Introduction

Under Indefinite Quantity Requirements Contract (IQRC) DACW29-03-D-0014 Task Order 47, the U.S. Army Corps of Engineers (USACE) New Orleans District (MVN) tasked Materials Management Group, Inc. (MMG) to conduct a limited Phase II Environmental Site Assessment (ESA) at the northeast corner of Michoud Canal and the Gulf Intracoastal Waterway (GIWW) in New Orleans, Louisiana. The site is the proposed location for a staging area under the Inner Harbor Navigation Canal (IHNC) Hurricane Protection Project. Use of this site under this project would involve construction worker and site personnel activities (and associated possible exposure to potential contaminants) at this location. The USACE granted Notice to Proceed with the project on June 25, 2008. This report follows the guidance outlined in the ASTM Standard E 1903-97. The report will be submitted to the USACE initially, however the USACE will ultimately determine the final distribution list.

1.1 Purpose

The purpose of the limited Phase II ESA was to evaluate the potential for contaminants at the site based on site history of the adjacent properties (leaking underground storage tanks) as well as based on elevated contaminant concentrations in the area revealed under previous investigation, and to collect preliminary baseline chemical data for the site. The scope of work included soil sampling and analysis of composite samples from multiple discrete borings along the north and east perimeter of the site. The purpose of this report is to summarize the field activities of the limited Phase II ESA, discuss the findings, and provide an assessment of the success of the investigation with regard to the project objectives.

1.2 Special Terms and Conditions

This report does not constitute legal advice, nor does MMG purport to give legal advice. Environmental conditions and regulations are subject to constant change and reinterpretation. It should not be assumed that current conditions and/or regulatory positions will remain constant. Furthermore, because the facts stated in this report are subject to professional interpretation, other professionals might reach differing conclusions.

No warranty can be made that conditions were representative of areas not sampled (or investigated). Tests or data collected during this investigation were obtained only for the purposes or objectives stated in the work plan or in this report, and should not be used for reasons other than those intended.

Possession of this Phase II ESA report does not carry with it the rights of publication, and any parts thereof may not be reproduced in any form without written permission of its writer or that of the client (USACE) who ordered the report.

The client (USACE) and their designated users may rely on the information presented in this report. Should substantial time pass or a change in use of the property occur, the accuracy of this report may be compromised and additional site investigation may be required.

1.3 Limitations and Exceptions of Assessment

There were no limitations of or exceptions to the assessment; all activities were carried out as indicated in the work plan. It should be noted that as per the scope of work under the task order, sampling was only conducted along the north/west and east sides of the site (along the road on the north/west side and the fence line on the east side). These areas were chosen based on proximity to the sources of potential contamination. MMG cannot evaluate the potential for contamination further to the south since this area was not investigated.

1.4 Limiting Conditions and Methodology Used

Under the requirements of the Task Order, the site assessment was performed in accordance with a brief work plan. The site assessment was designed to compare the results with the Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) screening standards for data evaluation purposes.

The guidance and regulations followed over the course of this project included:

- American Society for Testing and Standards (ASTM) E 1903-97 “Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process;”
- LDEQ RECAP document (2003);
- USACE EM 200-1-3 “Requirements for the Preparation of Sampling and Analysis Plans.”

This limited Phase II ESA was conducted to address concerns with the potential for contamination based on site history of leaking tanks at the adjacent properties as well as elevated contaminants detected in a previous investigation.

Specific contaminants based on adjacent site history and previous investigation were included for analysis to meet the project objectives; these were petroleum hydrocarbons (gasoline, diesel, and oil ranges), polycyclic aromatic hydrocarbons, volatile organic compounds (BTEX/MTBE), and RCRA metals.

2.0 Background

For the purposes of this Phase II ESA report, general background information has been summarized (detailed background information has been presented to the USACE in previous reports for the area).

2.1 Site Description and Features

The site is a vegetation-covered property located at the northeast corner of Michoud Canal and the GIWW. The site is at the southern end of the industrial complex located on the east bank of Michoud Canal. North of the site is an access road, with FCC Environmental (formerly US Filter) located across the road. The BOC gases property is located to the east, and the GIWW is located south of the site. Michoud Canal is located west of the site, with the NASA Michoud Assembly Facility located immediately across the canal. The surrounding area north of the GIWW is primarily industrial while south of the GIWW is marsh and wetlands that are part of the Mississippi River Gulf Outlet (MRGO) spoil area. See Figure 1 for a site location map.

2.2 Physical Setting

Based on review of the most current USGS Topographic Map, the physical setting of the site is indicated below.

Geography
The site is located near the NASA Michoud Assembly Facility area of New Orleans, LA. The site is located at the connection between Michoud Canal and the Intracoastal Waterway. The site is east of Michoud Canal and north of the Intracoastal Waterway.

Physical Setting
Also, based on The Soil Survey of Orleans Parish, LA provided by the U.S. Department of Agriculture Soil Conservation Service (1989) the site has soils classified as Aquents.

Aquents: Aquents are a sandy to clayey muck material that has been excavated from other places during the construction of navigable waterways. These soils are slightly saline-to-saline thought. They are level, highly permeable, and are very poorly drained.

2.3 Site History and Land Use

The subject property is primarily covered with vegetation; no previous site use has been identified.

2.4 Adjacent Property Land Use

Based on site observations and information from the USACE, the properties adjacent to the sites are as follows:

To the north – US Filter site (FCC Environmental); to the east – BOC gases; to the west – Michoud Canal; and to the south – the GIWW and wetlands and marsh from the MRGO spoil area.

Land in the area is primarily industrial, with uninhabitable marsh and wetlands beyond the industrial properties.

2.5 Summary of Previous Assessments

Previous investigations (including a Phase I Environmental Site Assessment) have been conducted in the Michoud area. The findings of these investigations indicated that both adjacent properties (US Filter and BOC Gases) have histories of leaking underground storage tanks. In addition, previous sampling indicated that selenium, chromium, TPH-D, TPH-O, and several PAHs were detected above the RECAP screening standards in groundwater.

3.0 Phase II Activities

MMG conducted the limited Phase II ESA at the subject property on June 30, 2008. The scope of work and field and analytical methods are described in the following sections.

3.1 Scope of Assessment

The scope of work under the limited Phase II ESA included soil sampling from 12 discrete boreholes to be composited into four samples for analysis for the contaminants of concern (COCs), including Total Petroleum Hydrocarbons – gasoline, diesel, and oil ranges (TPH-G, TPH-D, and TPH-O), polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethyl benzene, xylene(s) (BTEX), methyl tert butyl ether (MTBE), and RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver).

3.1.1 Supplemental Record Review

Part of the scope development for the Phase II ESA involved some records review, including site background information. This information aided in determining the contaminants of concern (COCs) and the appropriate sampling locations.

3.1.2 Sampling and Chemical Testing Plan

Prior to conducting the limited Phase II ESA site activities, MMG prepared a brief work plan to incorporate the components of a Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), and Site-Specific Safety and Health Plan (SSHP); this short-form Sampling and Analysis Plan (SAP) documented the tasks to be completed. The plan described the investigation methodologies, including drilling, sampling, and analysis methods, the quality objectives of the site assessment, including quality of data and quality assurance for sampling protocols, as well as the health and safety hazards and their mitigation.

The rationale for the sampling activities is as follows. The purpose of the limited Phase II ESA was to evaluate the potential for contamination at the site based on site history of the adjacent sites and to collect preliminary baseline chemical data; both of these objectives address the potential for personnel exposure at the

site during IHNC hurricane protection project construction activities. The USACE Task Order specified both the number of discrete borings and composite samples as well the locations of the boreholes. In general, the desired outcome was to provide information about potential contamination along the property lines shared with the sites with histories of contamination while limiting the total number of samples for analysis (therefore composite samples were stipulated). Therefore, 12 total boreholes were drilled: six along the US Filter site property line and six along the BOC Gases property line. The soil samples collected from the discrete borings were composited into four samples for analysis. The actual sample locations were based on site conditions (accessibility) as well as the Geologist's discretion to represent potential areas of contamination; see Figure 2 for the actual locations. Since the concern for contamination was based on leaking underground storage tanks as well as elevated concentrations of petroleum hydrocarbons and metals, the contaminants of concern included TPH-G, TPH-D, TPH-O, PAHs, BTEX/MTBE, and RCRA metals.

3.1.3 Deviations from the Work Plan

There were not deviations from the SAP; all activities were conducted as indicated in the plan.

3.2 Field Explorations and Methods

Photo documentation of all site activities is included in Appendix D. Copies of all field logs and paperwork are included in Appendix C. The final safety report is included in Appendix E.

MMG conducted soil sampling from 12 discrete locations at site. The sampling was conducted on June 30, 2008. MMG's subcontractor, QRI Inc., used the direct push technology of a truck-mounted Geoprobe drill rig to advance the 0-3 foot borings and collect the interval(s) for composite sampling.

The borehole locations (indicated on Figure 2) were chosen based on those specified by the USACE, at the Geologist's discretion to ensure areas representative of potential contamination were investigated, and based on accessibility. Soil lithology is described in Section 4.1. One interval (0-3 feet bgs) was collected from each of the 12 discrete borings; groups of three adjacent borings were composited to produce four soil samples for analysis. The breakdown of composite samples is as follows: Comp 1 – B1, B2, and B3; Comp 2 – B4, B5, and B6; Comp 3 – B7, B8, and B9; and Comp 4 – B10, B11, and B12.

The soil intervals from each group of discrete borings were placed in a plastic baggie and homogenized to produce composite samples. A split sample was collected from the material produced for Comp 2. Matrix spike/matrix spike duplicate (MS/MSD) analysis was requested on the Comp 4 sample. A rinsate blank was collected following collection of the Comp 3 sample. A field blank was collected while sampling was conducted. A trip blank was included in the cooler

containing the volatile samples. All samples were analyzed for TPH-G, TPH-D, TPH-O, PAHs, BTEX/MTBE, and RCRA metals. The samples were packaged in a cooler (according to MMG's standard operating procedures) and shipped via Fed Ex to Southern Petroleum Laboratories, Inc. (SPL) in Scott, Louisiana. The analytical results are presented in Table 1, and are discussed briefly in Section 4.0. The final analytical report is included in Appendix B.

3.3 Sampling and Chemical Analyses and Methods

The SAP addresses the laboratory procedures and analyses that were performed in more detail. This section lists the specific EPA SW-846 (or other) analytical methods used over the course of the limited Phase II ESA.

The analytical methods used for analysis of the soil samples were:

- TPH-G – 5035, 8015
- TPH-D and TPH-O – 8015
- BTEX/MTBE – 5035, 8260
- PAHs – 8270
- RCRA metals – 6010, 7400

4.0 Evaluation and Presentation of Results

The following sections describe the results of the limited Phase II ESA. The full analytical report is included as Appendix B.

4.1 Subsurface Conditions

The following sections describe the lithology as observed from boring inspection at each of the 12 discrete boreholes.

4.1.1 Geologic Setting

The geology is consistent with the deposition of near surface sedimentary deposits associated with fluvial depositional processes (Mississippi River Alluvium). These deposits typically consist of gray and brown silty clay and some fine sand that are consistent with past and present courses of the Mississippi River associated tributaries and surface fill. Underlying rock formations include Quaternary and Tertiary sedimentary deposits.

4.1.2 Hydrogeologic Conditions

The hydrogeologic regime underlying the site consists of a near-surface Gonzales – New Orleans alluvial aquifer. Ground water movement is in a southeastern direction.

4.1.2 Verification of Sampling and Quality Objectives

The sampling objectives included collection of composite soil samples. The sampling objectives were met. In addition, the quality objectives included collection of specific quality control samples, including a split sample and blanks,

and running MS/MSD analysis. These quality objectives were also met without exception.

4.2 Analytical Data

The analytical results from the soil sampling under the limited Phase II ESA are summarized in Table 1. The analytical results (COCs detected) are briefly summarized below for each composite sample. The actual concentrations detected at each location are listed on the summary table. Overall, there were few COCs detected, and the detected concentrations were primarily from the boreholes advanced along the eastern boundary of the site. The detected COCs included oil range hydrocarbons, BTEX, and metals (arsenic, barium, chromium, and lead). Benzene is the only contaminant detected above the limiting RECAP screening standard.

Comp 1 (B1, B2, & B3): The COCs detected in composite sample 1 were TPH-O, toluene, xylene(s), arsenic, barium, chromium, and lead.

Comp 2 (B4, B5, & B6): The COCs detected in composite sample 2 were TPH-O, benzene, toluene, ethyl benzene, xylene(s), arsenic, barium, chromium, and lead.

The COCs detected in the split sample of composite sample 2 were TPH-O, toluene, xylene(s), arsenic, barium, chromium, and lead.

Comp 3 (B7, B8, & B9): The COCs detected in composite sample 3 were xylene(s), barium, chromium, and lead.

Comp 4 (B10, B11, & B12): The COCs detected in composite sample 4 were xylene(s), arsenic, barium, chromium, and lead.

The data quality is discussed in Section 5.3.

An evaluation of these data with regard to RECAP screening standards is included in Section 5.2; the limiting RECAP screening standards are included on Table 1.

5.0 Discussion of Findings and Conclusions

This limited Phase II ESA was conducted in accordance with the approved work plan (short-from SAP) and all guidance referenced in those work plans, including ASTM guidance E 1903-97. All activities planned for this site were performed as anticipated.

5.1 Recognized Environmental Conditions

The limited Phase II ESA was conducted to evaluate the potential presence of contaminants for protection of future workers at the site as well as to provide baseline chemical data for the site.

The scope of work under the limited Phase II ESA included soil sampling and analysis from 12 discrete borings that were composited into four composite samples.

The results of the limited Phase II ESA indicate the following. Recommendations based on the findings are included in Section 6.0.

The investigation results revealed very low levels of oil range petroleum hydrocarbons TPH-O, toluene, ethyl benzene, xylene(s), and metals (arsenic, barium, chromium, and lead). With the exception of xylene(s) barium, chromium, and lead, which were detected in all of the samples, the contaminants detected were limited to composite samples 1 and 2 (consisting of boreholes B1-B6, located along the fence line at the eastern side of the property). Benzene was detected in composite sample 2 only, however, the concentration was above the limiting RECAP standard. Since the concentration was detected in a composite sample, it is unknown if the elevated concentration is the result of contamination at one or all three of the discrete borings (B4-B6). It should be noted that the split sample was collected from composite sample 2, and benzene was not detected in the split sample. This is sometimes the result of split sample collection of clay soil material and sand; it can be difficult to fully homogenize the material to produce the split sample. Also, if the benzene contamination is a hot spot (rather than a plume across a larger area) it would be possible to be detected in one subsample and not another from the same larger composite sample. The elevated benzene concentration did not exceed the RECAP screening standard for non-industrial exposure (protective of direct contact with the soil).

Gasoline and diesel range petroleum hydrocarbons (TPH-G and TPH-D) and PAHs were not detected in any of the samples. It should also be noted that selenium was not detected at any location. Furthermore, the selenium detection limits were significantly below the limiting RECAP screening standard, which is soil protective of groundwater. Therefore, it is unlikely that selenium in the soil is impacting groundwater at the site. In addition, contaminants were not detected in the QC samples; therefore cross contamination of samples or sample contamination from site activities (from VOCs) are not a concern.

5.2 Affected Media

The analytical results from the limited Phase II ESA indicate that a few of the COCs (TPH-O, BTEX, and metals (arsenic, barium, chromium, and lead)) were detected at the site. The metal concentrations are in the range associated with

background levels, and the presence of the organic COCs is likely associated with previous surface spills.

The concentrations detected in each composite sample are indicated in Table 1. These data were reviewed with respect to LDEQ RECAP screening standards. The screening standards considered are the most stringent of soil screening non-industrial (SSni) or soil screening protective of groundwater (SSgw). The limiting RECAP screening standards for each contaminant of concern are included on the summary table.

Benzene is the only contaminant that was detected above the screening standard. This concentration (0.091 mg/kg) was detected in the primary sample from composite 2. Benzene was not detected in the split sample collected from this composite. It is unknown whether benzene is elevated at all three discrete borings (B4, B5, and B6) comprising this composite or only at one of them.

5.3 Evaluation of Media Quality

One of the objectives of the limited Phase II ESA was to provide quality data to support risk-based decisions about contamination at the site. The quality of the data is based on the results of the quality control samples (trip blanks, field blanks, rinsate blanks, split samples, and matrix spike/matrix spike duplicate (MS/MSD) analysis).

As indicated in the final analytical report from the laboratory (see Appendix B), some of the samples reported recoveries outside of QC acceptance criteria for spiking compounds and surrogates (which can be attributed to matrix interference); this occurred primarily with TPH-D, TPH-G, some PAHs, and selenium. Overall, the samples were within the acceptance criteria.

Also, 2-methylnaphthalene was detected in the laboratory method blank. This may be the result of laboratory contamination; the project samples did not indicate the presence of this COC. All QC samples (trip blank, field blank, and rinsate blank) indicated that COCs were not detected.

Overall, the data are of sufficient quality to satisfy the objectives of this assessment and the recommendations provided in this report.

5.4 Other Concerns (Adequacy of Assessment)

The Phase II ESA is a limited site assessment conducted to provide information about suspected or potential environmental conditions at a property. The findings of the Phase II ESA provide information about the RECs identified in the Phase I ESA, or in this case about potential contamination as well as baseline chemical information at the site. The soil sample results indicate that there is one area (represented by discrete borings B4, B5, and B6) that has some elevated concentration(s) of benzene. Since composite sampling was conducted, it is impossible to determine whether all three borings contained

benzene, or if it was just from one location. All other sample locations indicated that there was no contamination. MMG's recommendations are discussed in Section 6.0.

6.0 Recommendations

The detected low level concentrations and elevated benzene concentration are likely the result of spills (rather than releases from neighboring underground storage tanks). Based on the analytical results, MMG recommends further investigation around boreholes B4, B5, and B6 for benzene only in the surface soil (0-3 feet bgs) to define the area of contamination and also to evaluate the potential impact to groundwater. It is necessary to determine the source of the benzene contamination identified in composite soil sample 2. In addition, since the limiting screening standard for benzene is protective of groundwater, if benzene is detected in future discrete soil samples above the limiting standard, SPLP (synthetic precipitation leaching procedure) analysis should be conducted to evaluate the potential impact to groundwater. It is also possible that additional discrete soil samples will eliminate benzene from further consideration. Further investigation of the other areas or other contaminants is not necessary.

Tables

Table 1: Summary of Composite Sample Analytical Results

Parameter	RECAP SS (mg/kg)[1]	Analytical Result (mg/kg)				
		S-2876ACE-Comp1	S-2876ACE-Comp2	S-2876ACE-Comp2a	S-2876ACE-Comp3	S-2876ACE-Comp4
TPH-G	65	<5.2	<5.8	<6.4	<5.1	<5.2
TPH-D	65	<3.3	<3.3	<3.3	<3.3	<3.3
TPH-O	180	3.8	4.4	6.1	<3.3	<3.3
Benzene	0.051	<0.027	**0.091**	<0.028	<0.025	<0.025
Toluene	20	0.061	0.18	0.068	<0.05	<0.05
Ethyl benzene	19	<0.053	0.26	<0.057	<0.05	<0.05
Xylene(s)	18	0.054	0.96	0.074	0.058	0.141
MTBE	0.077	<0.053	<0.051	<0.057	<0.05	<0.05
Acenaphthene	220	<0.033	<0.033	<0.033	<0.033	<0.033
Acenaphthylene	88	<0.033	<0.033	<0.033	<0.033	<0.033
Anthracene	120	<0.033	<0.033	<0.033	<0.033	<0.033
Benz(a)anthracene	0.62	<0.033	<0.033	<0.033	<0.033	<0.033
Benzo(a)pyrene	0.33	<0.033	<0.033	<0.033	<0.033	<0.033
Benzo(b)fluoranthene	0.62	<0.033	<0.033	<0.033	<0.033	<0.033
Benzo(k)fluoranthene	6.2	<0.033	<0.033	<0.033	<0.033	<0.033
Chrysene	62	<0.033	<0.033	<0.033	<0.033	<0.033
Dibenz(a,h)anthracene	0.33	<0.033	<0.033	<0.033	<0.033	<0.033
Fluoranthene	220	<0.033	<0.033	<0.033	<0.033	<0.033
Fluorene	230	<0.033	<0.033	<0.033	<0.033	<0.033
Indeno(1,2,3-cd)pyrene	0.62	<0.033	<0.033	<0.033	<0.033	<0.033
2-Methylnaphthalene	1.7	<0.033	<0.033	<0.033	<0.033	<0.033
Naphthalene	1.5	<0.033	<0.033	<0.033	<0.033	<0.033
Phenanthrene	660	<0.033	<0.033	<0.033	<0.033	<0.033
Pyrene	230	<0.033	<0.033	<0.033	<0.033	<0.033
Arsenic	12	5.94	3.31	5.83	<2.0	3.49

Parameter	RECAP SS (mg/kg)[1]	Analytical Result (mg/kg)				
		S-2876ACE-Comp1	S-2876ACE-Comp2	S-2876ACE-Comp2a	S-2876ACE-Comp3	S-2876ACE-Comp4
Barium	550	97.6	79.3	59.8	31.7	46.1
Cadmium	3.9	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	23	11.1	9.49	6.96	5.04	4.54
Lead	100	15.8	24.5	7.31	4.04	4.66
Mercury	2.3	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	20	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	39	<1.0	<1.0	<1.0	<1.0	<1.0

1. The RECAP screening standards listed are the more stringent of soil screening non-industrial exposure (SSni) and soil screening protective of groundwater (SSgw).

Table 2: Discrete Borehole Geographic Coordinates

Location	Latitude	Longitude
B1	N 30º01’6.3”	W 89º54’2.3”
B2	N 30º01’5.5”	W 89º54’1.9”
B3	N 30º01’4.7”	W 89º51’1.5”
B4	N 30º01’4.0”	W 89º54’1.1”
B5	N 30º01’3.2”	W 89º54’0.7”
B6	N 30º01’2.5”	W 89º54’0.2”
B7	N 30º01’3.6”	W 89º51’5.7”
B8	N 30º01’3.5”	W 89º54’6.7”
B9	N 30º01’3.1”	W 89º54’7.4”
B10	N 30º01’1.8”	W 89º54’10.5”
B11	N 30º01’1.6”	W 89º54’11.5”
B12	N 30º01’1.2”	W 89º54’12.4”

Figures

Figure 1: Site Location Map

Figure 2: Actual Sample Location Map

BOREHOLE	NORTH (deg min sec)	WEST (deg min sec)
B1	30 01 6.3	89 54 2.3
B2	30 01 5.5	89 54 1.9
B3	30 01 4.7	89 54 1.5
B4	30 01 4.0	89 54 1.1
B5	30 01 3.2	89 54 0.7
B6	30 01 2.5	89 54 0.2
B7	30 01 3.6	89 54 5.7
B8	30 01 3.5	89 54 6.7
B9	30 01 3.1	89 54 7.4
B10	30 01 1.8	89 54 10.5
B11	30 01 1.6	89 54 11.5
B12	30 01 1.2	89 54 12.4

Appendices

Appendix A: Sampling Logs

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~
Sample I.D.: S-2876ACE-Comp 1	
Date (YYMMDD): 08-06-30	
Time (HHMMSS): 09:30	
Top Depth: 0	
Bottom Depth: 3	
Matrix: Soil	
Sample Qualifier: QA/QC/RB/CS	
Sample Type: Composite	
Sampler: R. Pumilia	
Witness: W. Thompson	
Contractor: WHE	
Remarks:	
Weather: See Field Book	
Prepared by: R. Pumilia	
Checked by: W. Thompson	

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
Encores	N/A	TPH-G BETEX/MTBE	3
8oz	8oz	TPH-D, O PAHs	1
4oz	4oz	RCRA metal	1
4oz	4oz	Hold SPLP	1

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~

Sample I.D.: S-2876ACE-Comp2

Date (YYMMDD): 080630

Time (HHMMSS): 900

Top Depth: 0

Bottom Depth: 3

Matrix: Soil

Sample Qualifier: QA/QC/RB/CS

Sample Type: Composit

mpler: R. Pomilia

Witness: W. Thompson

Contractor: WHE

Remarks:

Weather: See field book

Prepared by: R.P.

ıecked by: W. Thompson

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
encores	N/A	TPH-G BTEX/MTBE	3
8oz	8oz	TPH-D,O PAHs	1
4oz	4oz	RCRA metal	1
4oz	4oz	Hold SPLP	1

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~

Sample I.D.: S-2876ACE-Comp2a

Date (YYMMDD): 080630

Time (HHMMSS): 900

Top Depth: 0

Bottom Depth: 3

Matrix: Soil

Sample Qualifier: QA/QC/RB/(CS)

Sample Type: Composit

mpler: R. Pomilia

Witness: W. Thompson

Contractor: WHE

Remarks:

Weather: See field book

Prepared by: R. Pomilia

ıecked by: W. Thompson

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
encores	N/A	TPH-G BTEX/MTBE	3
8oz	8oz	TPH-D,O PAH's	1
4oz	4oz	RCRA Metal	1
4oz	4oz	Hold SPLP	1

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~
Sample I.D.: S-2876ACE-Comp3	
Date (YYMMDD): 080630	
Time (HHMMSS): 092000	
Top Depth: 0	
Bottom Depth: 3	
Matrix: Soil	
Sample Qualifier: QA/QC/RB/(FD)	
Sample Type: Composit	
Sampler: R. Pumilia	
Witness: W. Thompson	
Contractor: WHE	
Remarks:	
Weather: See field book	
Prepared by:	
Checked by:	

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
encores	N/A	TPH-G BTEX/MTBE	3
8oz	8oz	TPH-D, O PAH's	1
4oz	4oz	RCRA Metal	1
4oz	4oz	Hold SPLP	1

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~
Sample I.D.: S-2876ACE-Comp4	
Date (YYMMDD): 080630	
Time (HHMMSS): 100000	
Top Depth: 0	
Bottom Depth: 3	
Matrix: Soil	
Sample Qualifier: QA/QC/RB/(CS)	
Sample Type: Composit	
mpler: R. Pumilia	
Witness: W. Thompson	
Contractor: WHE	
Remarks:	
Weather: See field book	
Prepared by:	
iecked by:	

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
encores	N/A	TPH-G BTEX/MTBE	9
802	802	TPH D, O PAH's	3
402	402	RCRA Metal	3
402	402	Hold SPLP	1

Field Screening Results

~~SOIL~~ W SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud GIWW~~

Sample I.D.: W-2876-FB-6-30-08

Date (YYMMDD): 080630

Time (HHMMSS): 101500

Top Depth: NA

Bottom Depth: NA

Matrix: Water

Sample Qualifier: ~~QA/QC~~/RB/CS

Sample Type: grab

mpler: G. Brooks

Witness: W. Thompson

Contractor: WHE

Remarks:

Weather: See field book

Prepared by:

iecked by:

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
40ml	160ml	TPH-G BTEX/MTBE	4

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud-GIWW~~

Sample I.D.: W-2876ACE-TB-6·30·8

Date (YYMMDD): 080630

Time (HHMMSS): 102000

Top Depth: NA

Bottom Depth: NA

Matrix: Water

Sample Qualifier: QA/QC/RB/CS

Sample Type: grab

mpler: G. Brooks

Witness: W. Thompson

Contractor: WHE

Remarks:

Weather: see field book

Prepared by:

iecked by:

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
40ml	3 120ml	TPH G. BTEX/MTBE	3

Field Screening Results

SOIL SAMPLE COLLECTION LOG

Delivery Order No DACW29-03-D-0014, TO 47	Project: 2876-ACE Site: ~~Michoud GIWW~~

Sample I.D.: W-2876ACE-~~AB~~-Comp3-6/30/8

Date (YYMMDD): 080630

Time (HHMMSS): 102000

Top Depth: NA

Bottom Depth: NA

Matrix: Water

Sample Qualifier: QA/QC/RB/CS

Sample Type: grab

Sampler: G. Brooks

Witness: W. Thompson

Contractor: WHE

Remarks:

Weather: see field book

Prepared by:

Checked by:

Analytical Request

Container Type	Sample Volume	Parameter	No. of Cont.
40ml	160ml	TPH, G BTEX/MTBE	4
60ml	180ml	TPH D, O	3
1L	1L	PAH's	1
500mL	500mL	RCRA metal	1

Field Screening Results

Appendix B: Final Analytical Report

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Case Narrative for:

MATERIALS MANAGEMENT GROUP, INC.

Certificate of Analysis Number:

08070010

Report To:		Project Name:	2876ACE
MATERIALS MANAGEMENT GROUP, INC.		Site:	PIIESA-MICHOUD CANAL-GIWW
Karly Gibbs		Site Address:	
3520 GENERAL DEGAULLE DR.			
SUITE 3010		PO Number:	
NEW ORLEANS		State:	Louisiana
LA		State Cert. No.:	02048
70114-		Date Reported:	7/18/2008
ph: (504) 368-0568	fax:		

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data for those samples spiked by the laboratory and may be applicable to other samples of similar matrix from the site. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process. If insufficient sample is supplied for MS/MSD, a Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) are reported with the analytical batch and serve as the batch quality control (QC).

Results are reported on a Wet Weight Basis unless otherwise noted in the sample unit field as -dry.

The collection of samples using encores, terracores or other field collection devices may result in inconsistent initial sample weights for the parent sample and MS/MSD samples.

The MS/MSD recovery and precision data are calculated based on detected spike concentrations that are adjusted for initial sample weights. As a result of the variability between initial sample weights, the calculated RPD may have increased bias.

EXCEPTIONS:
Diesel Range Organics-Method 8015B: Lab batch 71282-The recovery of DRO in the LCS exceeded the upper laboratory control limit. The recoveries of DRO in the LCSD, MS, and MSD samples were within control limits.

Volatile Organics-Method 8260B: Lab batch R183456-The LCS and LCSD samples were not spiked with the laboratory spiking standard. The MS and MSD samples were correctly spiked with the laboratory spiking solution and the recoveries were within acceptable QC limits. The MS and MSD samples can be considered the quality control for the associated sample.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

TOTAL NUMBER OF PAGES IN THIS REPORT: _____ PAGES

Amy K. Jackson

7/18/2008

Amy K. Jackson
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

MATERIALS MANAGEMENT GROUP, INC.

Certificate of Analysis Number:

08070010

Report To: **MATERIALS MANAGEMENT GROUP, INC.**
Karly Gibbs
3520 GENERAL DEGAULLE DR.
SUITE 3010
NEW ORLEANS
LA
70114-
ph: (504) 368-0568 **fax: (504) 368-8403**

Fax To:

Project Name: **2876ACE**
Site: **PIIESA-MICHOUD CANAL-GIWW**
Site Address:

PO Number:
State: **Louisiana**
State Cert. No.: **02048**
Date Reported: **7/18/2008**

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
S-2876ACE-COMP1	08070010-01	Soil	6/30/2008 8:30:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP2	08070010-02	Soil	6/30/2008 9:00:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP2a	08070010-03	Soil	6/30/2008 9:00:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP3	08070010-04	Soil	6/30/2008 9:20:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP4	08070010-05	Soil	6/30/2008 10:00:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP4MS	08070010-05MS	Soil	6/30/2008 10:00:00 AM	7/1/2008 9:30:00 AM	267648	☐
S-2876ACE-COMP4MSD	08070010-05MSD	Soil	6/30/2008 10:00:00 AM	7/1/2008 9:30:00 AM	267648	☐
W-2876ACE-RB-COMP3-6-30-08	08070010-06	Water	6/30/2008 9:25:00 AM	7/1/2008 9:30:00 AM	267648	☐
W-2876ACE-TB-6-30-08	08070010-07	Water	6/30/2008 10:20:00 AM	7/1/2008 9:30:00 AM	267648	☐
W-2876ACE-FB-6-30-08	08070010-08	Water	6/30/2008 10:15:00 AM	7/1/2008 9:30:00 AM	267648	☐

Amy K. Jackson
Project Manager

7/18/2008
Date

Ron Benjamin
Laboratory Director

Tristan Davis
Quality Assurance Officer

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP1 **Collected:** 06/30/2008 8:30 **SPL Sample ID:** 08070010-01

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP PAH BY EPA 8270C					**MCL**	**SW8270C**	**Units: mg/Kg**	
2-Methylnaphthalene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Acenaphthene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Acenaphthylene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Anthracene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Benz(a)anthracene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Benzo(a)pyrene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Benzo(b)fluoranthene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Benzo(k)fluoranthene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Chrysene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Dibenz(a,h)anthracene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Fluoranthene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Fluorene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Indeno(1,2,3-cd)pyrene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Naphthalene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Phenanthrene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Pyrene	ND			0.033	1	07/09/08 10:06	KTK	2710981
Surr: 2-Fluorobiphenyl	85.4		%	23-140	1	07/09/08 10:06	KTK	2710981
Surr: 4-Terphenyl-d14	95.0		%	24-151	1	07/09/08 10:06	KTK	2710981
Surr: Nitrobenzene-d5	86.0		%	19-147	1	07/09/08 10:06	KTK	2710981

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/01/2008 15:36	JT	1.00

MERCURY, TOTAL BY COLD VAPOR					**MCL**	**SW7471A**	**Units: mg/Kg**	
Mercury	ND			0.1	1	07/03/08 0:41	PFB	2702754

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7471A	07/02/2008 15:30	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B					**MCL**	**SW8015B**	**Units: mg/Kg**	
Diesel Range Organics (C10-C28)	ND			3.3	1	07/03/08 0:59	DF	2704804
Surr: o-Terphenyl	63.0		%	35-145	1	07/03/08 0:59	DF	2704804

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:16	JT	1.00

RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/Kg**	
Gasoline Range Organics (C6-C10)	ND			5.2	50	07/03/08 19:56	JAP	2704551
Surr: 1,4-Difluorobenzene	92.8		%	46-138	50	07/03/08 19:56	JAP	2704551
Surr: 4-Bromofluorobenzene	98.1		%	38-148	50	07/03/08 19:56	JAP	2704551

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP1 **Collected:** 06/30/2008 8:30 **SPL Sample ID:** 08070010-01

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 8:30	Field	1.04

RECAP OIL RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg	
Oil Range Organics (C28-C35)	3.8		3.3	1	07/03/08 0:59	DF	2704820
Surr: o-Terphenyl	62.9	%	35-145	1	07/03/08 0:59	DF	2704820

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:17	JT	1.00

TOTAL METALS BY METHOD 6010B - SOLID			MCL	SW6010B	Units: mg/Kg	
Arsenic	5.94	2	1	07/02/08 19:54	SVW	2703209
Barium	97.6	1	1	07/02/08 19:54	SVW	2703209
Cadmium	ND	1	1	07/02/08 19:54	SVW	2703209
Chromium	11.1	1	1	07/02/08 19:54	SVW	2703209
Lead	15.8	1	1	07/02/08 19:54	SVW	2703209
Selenium	ND	2	1	07/02/08 19:54	SVW	2703209
Silver	ND	1	1	07/02/08 19:54	SVW	2703286

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3050B	07/02/2008 10:15	SA	1.00

VOLATILE ORGANICS:METHOD 8260B+MTBE				MCL	SW8260B	Units: mg/Kg	
Benzene	ND		0.027	50	07/07/08 21:53	HJL	2708896
Ethylbenzene	ND		0.053	50	07/07/08 21:53	HJL	2708896
Methyl tert-butyl ether	ND		0.053	50	07/07/08 21:53	HJL	2708896
Toluene	0.061		0.053	50	07/07/08 21:53	HJL	2708896
m,p-Xylene	ND		0.11	50	07/07/08 21:53	HJL	2708896
o-Xylene	ND		0.053	50	07/07/08 21:53	HJL	2708896
Xylenes,Total	ND		0.053	50	07/07/08 21:53	HJL	2708896
Surr: 1,2-Dichloroethane-d4	88.0	%	62-134	50	07/07/08 21:53	HJL	2708896
Surr: 4-Bromofluorobenzene	102	%	75-128	50	07/07/08 21:53	HJL	2708896
Surr: Toluene-d8	102	%	78-120	50	07/07/08 21:53	HJL	2708896

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 8:30	Field	1.06

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP2 **Collected:** 06/30/2008 9:00 **SPL Sample ID:** 08070010-02

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP PAH BY EPA 8270C					**MCL**	**SW8270C**	**Units: mg/Kg**	
2-Methylnaphthalene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Acenaphthene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Acenaphthylene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Anthracene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Benz(a)anthracene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Benzo(a)pyrene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Benzo(b)fluoranthene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Benzo(k)fluoranthene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Chrysene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Dibenz(a,h)anthracene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Fluoranthene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Fluorene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Indeno(1,2,3-cd)pyrene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Naphthalene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Phenanthrene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Pyrene	ND			0.033	1	07/09/08 10:41	KTK	2710982
Surr: 2-Fluorobiphenyl	73.2		%	23-140	1	07/09/08 10:41	KTK	2710982
Surr: 4-Terphenyl-d14	84.8		%	24-151	1	07/09/08 10:41	KTK	2710982
Surr: Nitrobenzene-d5	76.0		%	19-147	1	07/09/08 10:41	KTK	2710982

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/01/2008 15:36	JT	1.00

MERCURY, TOTAL BY COLD VAPOR					**MCL**	**SW7471A**	**Units: mg/Kg**	
Mercury	ND			0.1	1	07/03/08 0:44	PFB	2702755

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7471A	07/02/2008 15:30	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B					**MCL**	**SW8015B**	**Units: mg/Kg**	
Diesel Range Organics (C10-C28)	ND			3.3	1	07/03/08 2:03	DF	2704807
Surr: o-Terphenyl	58.3		%	35-145	1	07/03/08 2:03	DF	2704807

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:16	JT	1.00

RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/Kg**	
Gasoline Range Organics (C6-C10)	ND			5.8	50	07/03/08 20:44	JAP	2704552
Surr: 1,4-Difluorobenzene	93.7		%	46-138	50	07/03/08 20:44	JAP	2704552
Surr: 4-Bromofluorobenzene	99.5		%	38-148	50	07/03/08 20:44	JAP	2704552

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP2 **Collected:** 06/30/2008 9:00 **SPL Sample ID:** 08070010-02

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:00	Field	1.16

RECAP OIL RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg	
Oil Range Organics (C28-C35)	4.4		3.3	1	07/03/08 2:03	DF	2704823
Surr: o-Terphenyl	58.1	%	35-145	1	07/03/08 2:03	DF	2704823

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:17	JT	1.00

TOTAL METALS BY METHOD 6010B - SOLID				MCL	SW6010B	Units: mg/Kg	
Arsenic	3.31		2	1	07/02/08 19:59	SVW	2703210
Barium	79.3		1	1	07/02/08 19:59	SVW	2703210
Cadmium	ND		1	1	07/02/08 19:59	SVW	2703210
Chromium	9.49		1	1	07/02/08 19:59	SVW	2703210
Lead	24.5		1	1	07/02/08 19:59	SVW	2703210
Selenium	ND		2	1	07/02/08 19:59	SVW	2703210
Silver	ND		1	1	07/02/08 19:59	SVW	2703287

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3050B	07/02/2008 10:15	SA	1.00

VOLATILE ORGANICS:METHOD 8260B+MTBE				MCL	SW8260B	Units: mg/Kg	
Benzene	0.091		0.026	50	07/07/08 22:22	HJL	2708897
Ethylbenzene	0.26		0.051	50	07/07/08 22:22	HJL	2708897
Methyl tert-butyl ether	ND		0.051	50	07/07/08 22:22	HJL	2708897
Toluene	0.18		0.051	50	07/07/08 22:22	HJL	2708897
m,p-Xylene	0.8		0.1	50	07/07/08 22:22	HJL	2708897
o-Xylene	0.16		0.051	50	07/07/08 22:22	HJL	2708897
Xylenes,Total	0.96		0.051	50	07/07/08 22:22	HJL	2708897
Surr: 1,2-Dichloroethane-d4	88.7	%	62-134	50	07/07/08 22:22	HJL	2708897
Surr: 4-Bromofluorobenzene	103	%	75-128	50	07/07/08 22:22	HJL	2708897
Surr: Toluene-d8	101	%	78-120	50	07/07/08 22:22	HJL	2708897

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:00	Field	1.02

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP2a **Collected:** 06/30/2008 9:00 **SPL Sample ID:** 08070010-03

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP PAH BY EPA 8270C					**MCL**	**SW8270C**	**Units: mg/Kg**	
2-Methylnaphthalene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Acenaphthene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Acenaphthylene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Anthracene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Benz(a)anthracene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Benzo(a)pyrene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Benzo(b)fluoranthene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Benzo(k)fluoranthene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Chrysene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Dibenz(a,h)anthracene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Fluoranthene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Fluorene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Indeno(1,2,3-cd)pyrene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Naphthalene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Phenanthrene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Pyrene	ND			0.033	1	07/09/08 11:15	KTK	2710983
Surr: 2-Fluorobiphenyl	78.0		%	23-140	1	07/09/08 11:15	KTK	2710983
Surr: 4-Terphenyl-d14	87.0		%	24-151	1	07/09/08 11:15	KTK	2710983
Surr: Nitrobenzene-d5	79.7		%	19-147	1	07/09/08 11:15	KTK	2710983

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/01/2008 15:36	JT	1.00

MERCURY, TOTAL BY COLD VAPOR					**MCL**	**SW7471A**	**Units: mg/Kg**	
Mercury	ND			0.1	1	07/03/08 0:47	PFB	2702756

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7471A	07/02/2008 15:30	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B					**MCL**	**SW8015B**	**Units: mg/Kg**	
Diesel Range Organics (C10-C28)	ND			3.3	1	07/04/08 6:04	DF	2704863
Surr: o-Terphenyl	91.8		%	35-145	1	07/04/08 6:04	DF	2704863

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/03/2008 14:41	JT	1.00

RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/Kg**	
Gasoline Range Organics (C6-C10)	ND			6.4	50	07/04/08 0:24	JAP	2704556
Surr: 1,4-Difluorobenzene	94.0		%	46-138	50	07/04/08 0:24	JAP	2704556
Surr: 4-Bromofluorobenzene	99.6		%	38-148	50	07/04/08 0:24	JAP	2704556

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP2a **Collected:** 06/30/2008 9:00 **SPL Sample ID:** 08070010-03

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:00	Field	1.28

RECAP OIL RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg	
Oil Range Organics (C28-C35)	6.1		3.3	1	07/04/08 6:04	DF	2704889
Surr: o-Terphenyl	91.6	%	35-145	1	07/04/08 6:04	DF	2704889

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/03/2008 14:42	JT	1.00

TOTAL METALS BY METHOD 6010B - SOLID				MCL	SW6010B	Units: mg/Kg	
Arsenic	5.83		2	1	07/02/08 20:05	SVW	2703211
Barium	59.8		1	1	07/02/08 20:05	SVW	2703211
Cadmium	ND		1	1	07/02/08 20:05	SVW	2703211
Chromium	6.96		1	1	07/02/08 20:05	SVW	2703211
Lead	7.31		1	1	07/02/08 20:05	SVW	2703211
Selenium	ND		2	1	07/02/08 20:05	SVW	2703211
Silver	ND		1	1	07/02/08 20:05	SVW	2703288

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3050B	07/02/2008 10:15	SA	1.00

VOLATILE ORGANICS:METHOD 8260B+MTBE				MCL	SW8260B	Units: mg/Kg	
Benzene	ND		0.028	50	07/06/08 16:13	HJL	2707471
Ethylbenzene	ND		0.057	50	07/06/08 16:13	HJL	2707471
Methyl tert-butyl ether	ND		0.057	50	07/06/08 16:13	HJL	2707471
Toluene	0.068		0.057	50	07/06/08 16:13	HJL	2707471
m,p-Xylene	ND		0.11	50	07/06/08 16:13	HJL	2707471
o-Xylene	ND		0.057	50	07/06/08 16:13	HJL	2707471
Xylenes,Total	ND		0.057	50	07/06/08 16:13	HJL	2707471
Surr: 1,2-Dichloroethane-d4	93.3	%	62-134	50	07/06/08 16:13	HJL	2707471
Surr: 4-Bromofluorobenzene	101	%	75-128	50	07/06/08 16:13	HJL	2707471
Surr: Toluene-d8	99.8	%	78-120	50	07/06/08 16:13	HJL	2707471

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:00	Field	1.14

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP3 **Collected:** 06/30/2008 9:20 **SPL Sample ID:** 08070010-04

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP PAH BY EPA 8270C					**MCL**	**SW8270C**	**Units: mg/Kg**	
2-Methylnaphthalene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Acenaphthene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Acenaphthylene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Anthracene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Benz(a)anthracene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Benzo(a)pyrene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Benzo(b)fluoranthene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Benzo(k)fluoranthene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Chrysene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Dibenz(a,h)anthracene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Fluoranthene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Fluorene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Indeno(1,2,3-cd)pyrene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Naphthalene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Phenanthrene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Pyrene	ND			0.033	1	07/09/08 11:50	KTK	2710984
Surr: 2-Fluorobiphenyl	85.9		%	23-140	1	07/09/08 11:50	KTK	2710984
Surr: 4-Terphenyl-d14	93.7		%	24-151	1	07/09/08 11:50	KTK	2710984
Surr: Nitrobenzene-d5	86.9		%	19-147	1	07/09/08 11:50	KTK	2710984

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/01/2008 15:36	JT	1.00

MERCURY, TOTAL BY COLD VAPOR					**MCL**	**SW7471A**	**Units: mg/Kg**	
Mercury	ND			0.1	1	07/03/08 0:50	PFB	2702757

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7471A	07/02/2008 15:30	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B					**MCL**	**SW8015B**	**Units: mg/Kg**	
Diesel Range Organics (C10-C28)	ND			3.3	1	07/03/08 2:35	DF	2704809
Surr: o-Terphenyl	69.8		%	35-145	1	07/03/08 2:35	DF	2704809

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:16	JT	1.00

RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/Kg**	
Gasoline Range Organics (C6-C10)	ND			5.1	50	07/03/08 21:27	JAP	2704553
Surr: 1,4-Difluorobenzene	94.2		%	46-138	50	07/03/08 21:27	JAP	2704553
Surr: 4-Bromofluorobenzene	99.2		%	38-148	50	07/03/08 21:27	JAP	2704553

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP3 **Collected:** 06/30/2008 9:20 **SPL Sample ID:** 08070010-04

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:20	Field	1.02

RECAP OIL RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg		
Oil Range Organics (C28-C35)	ND		3.3	1	07/03/08 2:35	DF	2704825
Surr: o-Terphenyl	69.6	%	35-145	1	07/03/08 2:35	DF	2704825

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:17	JT	1.00

TOTAL METALS BY METHOD 6010B - SOLID			MCL	SW6010B	Units: mg/Kg	
Arsenic	ND	2	1	07/02/08 20:10	SVW	2703212
Barium	31.7	1	1	07/02/08 20:10	SVW	2703212
Cadmium	ND	1	1	07/02/08 20:10	SVW	2703212
Chromium	5.04	1	1	07/02/08 20:10	SVW	2703212
Lead	4.04	1	1	07/02/08 20:10	SVW	2703212
Selenium	ND	2	1	07/02/08 20:10	SVW	2703212
Silver	ND	1	1	07/02/08 20:10	SVW	2703289

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3050B	07/02/2008 10:15	SA	1.00

VOLATILE ORGANICS:METHOD 8260B+MTBE				MCL	SW8260B	Units: mg/Kg	
Benzene	ND		0.025	50	07/06/08 15:44	HJL	2707470
Ethylbenzene	ND		0.05	50	07/06/08 15:44	HJL	2707470
Methyl tert-butyl ether	ND		0.05	50	07/06/08 15:44	HJL	2707470
Toluene	ND		0.05	50	07/06/08 15:44	HJL	2707470
m,p-Xylene	ND		0.1	50	07/06/08 15:44	HJL	2707470
o-Xylene	ND		0.05	50	07/06/08 15:44	HJL	2707470
Xylenes,Total	ND		0.05	50	07/06/08 15:44	HJL	2707470
Surr: 1,2-Dichloroethane-d4	103	%	62-134	50	07/06/08 15:44	HJL	2707470
Surr: 4-Bromofluorobenzene	113	%	75-128	50	07/06/08 15:44	HJL	2707470
Surr: Toluene-d8	112	%	78-120	50	07/06/08 15:44	HJL	2707470

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	06/30/2008 9:20	Field	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP4 **Collected:** 06/30/2008 10:00 **SPL Sample ID:** 08070010-05

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP PAH BY EPA 8270C					**MCL**	**SW8270C**	**Units: mg/Kg**	
2-Methylnaphthalene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Acenaphthene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Acenaphthylene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Anthracene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Benz(a)anthracene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Benzo(a)pyrene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Benzo(b)fluoranthene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Benzo(k)fluoranthene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Chrysene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Dibenz(a,h)anthracene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Fluoranthene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Fluorene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Indeno(1,2,3-cd)pyrene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Naphthalene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Phenanthrene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Pyrene	ND			0.033	1	07/09/08 12:24	KTK	2710985
Surr: 2-Fluorobiphenyl	81.3		%	23-140	1	07/09/08 12:24	KTK	2710985
Surr: 4-Terphenyl-d14	92.3		%	24-151	1	07/09/08 12:24	KTK	2710985
Surr: Nitrobenzene-d5	81.2		%	19-147	1	07/09/08 12:24	KTK	2710985

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/01/2008 15:36	JT	1.00

MERCURY, TOTAL BY COLD VAPOR					**MCL**	**SW7471A**	**Units: mg/Kg**	
Mercury	ND			0.1	1	07/03/08 0:21	PFB	2702748

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7471A	07/02/2008 15:30	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B					**MCL**	**SW8015B**	**Units: mg/Kg**	
Diesel Range Organics (C10-C28)	ND			3.3	1	07/03/08 2:51	DF	2704810
Surr: o-Terphenyl	50.4		%	35-145	1	07/03/08 2:51	DF	2704810

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:16	JT	1.00

RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/Kg**	
Gasoline Range Organics (C6-C10)	ND			5.2	50	07/03/08 23:40	JAP	2704555
Surr: 1,4-Difluorobenzene	92.0		%	46-138	50	07/03/08 23:40	JAP	2704555
Surr: 4-Bromofluorobenzene	98.6		%	38-148	50	07/03/08 23:40	JAP	2704555

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Client Sample ID: S-2876ACE-COMP4 **Collected:** 06/30/2008 10:00 **SPL Sample ID:** 08070010-05

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5035	07/01/2008 18:03	CAH	1.04

RECAP OIL RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg	
Oil Range Organics (C28-C35)	ND		3.3	1	07/03/08 2:51	DF	2704826
Surr: o-Terphenyl	50.3	%	35-145	1	07/03/08 2:51	DF	2704826

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/02/2008 7:17	JT	1.00

TOTAL METALS BY METHOD 6010B - SOLID			MCL	SW6010B	Units: mg/Kg	
Arsenic	3.49	2	1	07/02/08 19:11	SVW	2703201
Barium	46.1	1	1	07/02/08 19:11	SVW	2703201
Cadmium	ND	1	1	07/02/08 19:11	SVW	2703201
Chromium	4.54	1	1	07/02/08 19:11	SVW	2703201
Lead	4.66	1	1	07/02/08 19:11	SVW	2703201
Selenium	ND	2	1	07/02/08 19:11	SVW	2703201
Silver	ND	1	1	07/02/08 19:11	SVW	2703278

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3050B	07/02/2008 10:15	SA	1.00

VOLATILE ORGANICS:METHOD 8260B+MTBE				MCL	SW8260B	Units: mg/Kg	
Benzene	ND		0.025	50	07/09/08 0:48	HJL	2710710
Ethylbenzene	ND		0.05	50	07/09/08 0:48	HJL	2710710
Methyl tert-butyl ether	ND		0.05	50	07/09/08 0:48	HJL	2710710
Toluene	ND		0.05	50	07/09/08 0:48	HJL	2710710
m,p-Xylene	ND		0.1	50	07/09/08 0:48	HJL	2710710
o-Xylene	ND		0.05	50	07/09/08 0:48	HJL	2710710
Xylenes,Total	ND		0.05	50	07/09/08 0:48	HJL	2710710
Surr: 1,2-Dichloroethane-d4	93.8	%	62-134	50	07/09/08 0:48	HJL	2710710
Surr: 4-Bromofluorobenzene	104	%	75-128	50	07/09/08 0:48	HJL	2710710
Surr: Toluene-d8	103	%	78-120	50	07/09/08 0:48	HJL	2710710

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: W-2876ACE-RB-COMP3-6-30-08 **Collected:** 06/30/2008 9:25 **SPL Sample ID:** 08070010-06

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit		Dil. Factor	Date Analyzed	Analyst	Seq. #
MERCURY, TOTAL BY COLD VAPOR				**MCL**	**SW7470A**	**Units: mg/L**		
Mercury	ND		0.0002		1	07/02/08 16:22	PFB	2702606

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7470A	07/02/2008 11:00	PFB	1.00

RECAP DIESEL RANGE ORGANICS BY METHOD 8015B				**MCL**	**SW8015B**	**Units: mg/L**		
Diesel Range Organics (C10-C28)	ND		0.1		1	07/02/08 1:05	MCB	2702247
Surr: o-Terphenyl	103	%	21-128		1	07/02/08 1:05	MCB	2702247

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3511	07/01/2008 14:00	JDF	1.00

RECAP GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**		
Gasoline Range Organics (C6-C10)	ND		0.1		1	07/03/08 8:23	JAP	2703091
Surr: 1,4-Difluorobenzene	105	%	48-147		1	07/03/08 8:23	JAP	2703091
Surr: 4-Bromofluorobenzene	104	%	52-133		1	07/03/08 8:23	JAP	2703091

RECAP OIL RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**		
Oil Range Organics (C28-C35)	ND		0.1		1	07/02/08 1:05	MCB	2702263
Surr: o-Terphenyl	103	%	21-128		1	07/02/08 1:05	MCB	2702263

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3511	07/01/2008 14:07	JDF	1.00

Qualifiers:

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B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: W-2876ACE-RB-COMP3-6-30-08 **Collected:** 06/30/2008 9:25 **SPL Sample ID:** 08070010-06

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
SEMIVOLATILE ORGANIC PAH BY EPA 8270C			**MCL**	**SW8270C**	**Units: ug/L**		
2-Methylnaphthalene	ND		2	10	07/11/08 7:11	LMG	2722565
Acenaphthene	ND		2	10	07/11/08 7:11	LMG	2722565
Acenaphthylene	ND		2	10	07/11/08 7:11	LMG	2722565
Anthracene	ND		10	10	07/11/08 7:11	LMG	2722565
Benz(a)anthracene	ND		2	10	07/11/08 7:11	LMG	2722565
Benzo(a)pyrene	ND		2	10	07/11/08 7:11	LMG	2722565
Benzo(b)fluoranthene	ND		2	10	07/11/08 7:11	LMG	2722565
Benzo(k)fluoranthene	ND		2	10	07/11/08 7:11	LMG	2722565
Chrysene	ND		2	10	07/11/08 7:11	LMG	2722565
Dibenz(a,h)anthracene	ND		2	10	07/11/08 7:11	LMG	2722565
Fluoranthene	ND		2	10	07/11/08 7:11	LMG	2722565
Fluorene	ND		2	10	07/11/08 7:11	LMG	2722565
Indeno(1,2,3-cd)pyrene	ND		2	10	07/11/08 7:11	LMG	2722565
Naphthalene	ND		2	10	07/11/08 7:11	LMG	2722565
Phenanthrene	ND		2	10	07/11/08 7:11	LMG	2722565
Pyrene	ND		2	10	07/11/08 7:11	LMG	2722565
Surr: 2-Fluorobiphenyl	84.1		% 14-124	10	07/11/08 7:11	LMG	2722565
Surr: 4-Terphenyl-d14	91.0		% 19-117	10	07/11/08 7:11	LMG	2722565
Surr: Nitrobenzene-d5	89.1		% 27-109	10	07/11/08 7:11	LMG	2722565

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510B	07/03/2008 12:40	JB	1.00

TOTAL METALS BY METHOD 6010B - WATER			MCL	SW6010B	Units: mg/L		
Arsenic	ND		0.02	1	07/02/08 12:58	SVW	2702410
Barium	ND		0.01	1	07/02/08 12:58	SVW	2702410
Cadmium	ND		0.01	1	07/02/08 12:58	SVW	2702410
Chromium	ND		0.01	1	07/02/08 12:58	SVW	2702410
Lead	ND		0.01	1	07/02/08 12:58	SVW	2702410
Selenium	ND		0.02	1	07/02/08 12:58	SVW	2702410
Silver	ND		0.01	1	07/02/08 12:58	SVW	2702447

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	07/01/2008 17:00	SA	1.00

Qualifiers:

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B/V - Analyte detected in the associated Method Blank
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E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: W-2876ACE-RB-COMP3-6-30-08 **Collected:** 06/30/2008 9:25 **SPL Sample ID:** 08070010-06

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS:METHOD 8260B:BTEX+MTBE				**MCL**	**SW8260B**	**Units: mg/L**		
Benzene	ND			0.001	1	07/04/08 3:15	HJL	2706012
Ethylbenzene	ND			0.001	1	07/04/08 3:15	HJL	2706012
Methyl tert-butyl ether	ND			0.005	1	07/04/08 3:15	HJL	2706012
Toluene	ND			0.001	1	07/04/08 3:15	HJL	2706012
m,p-Xylene	ND			0.002	1	07/04/08 3:15	HJL	2706012
o-Xylene	ND			0.001	1	07/04/08 3:15	HJL	2706012
Xylenes,Total	ND			0.001	1	07/04/08 3:15	HJL	2706012
Surr: 1,2-Dichloroethane-d4	96.6		%	74-133	1	07/04/08 3:15	HJL	2706012
Surr: 4-Bromofluorobenzene	100		%	74-116	1	07/04/08 3:15	HJL	2706012
Surr: Toluene-d8	97.9		%	84-112	1	07/04/08 3:15	HJL	2706012

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: W-2876ACE-TB-6-30-08 **Collected:** 06/30/2008 10:20 **SPL Sample ID:** 08070010-07

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Gasoline Range Organics (C6-C10)	ND			0.1	1	07/03/08 8:52	JAP	2703092
Surr: 1,4-Difluorobenzene	103		%	48-147	1	07/03/08 8:52	JAP	2703092
Surr: 4-Bromofluorobenzene	103		%	52-133	1	07/03/08 8:52	JAP	2703092
VOLATILE ORGANICS:METHOD 8260B:BTEX+MTBE					**MCL**	**SW8260B**	**Units: mg/L**	
Benzene	ND			0.001	1	07/04/08 3:44	HJL	2706013
Ethylbenzene	ND			0.001	1	07/04/08 3:44	HJL	2706013
Methyl tert-butyl ether	ND			0.005	1	07/04/08 3:44	HJL	2706013
Toluene	ND			0.001	1	07/04/08 3:44	HJL	2706013
m,p-Xylene	ND			0.002	1	07/04/08 3:44	HJL	2706013
o-Xylene	ND			0.001	1	07/04/08 3:44	HJL	2706013
Xylenes,Total	ND			0.001	1	07/04/08 3:44	HJL	2706013
Surr: 1,2-Dichloroethane-d4	95.0		%	74-133	1	07/04/08 3:44	HJL	2706013
Surr: 4-Bromofluorobenzene	101		%	74-116	1	07/04/08 3:44	HJL	2706013
Surr: Toluene-d8	99.7		%	84-112	1	07/04/08 3:44	HJL	2706013

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: W-2876ACE-FB-6-30-08 **Collected:** 06/30/2008 10:15 **SPL Sample ID:** 08070010-08

Site: PIIESA-MICHOUD CANAL-GIWW

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
RECAP GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Gasoline Range Organics (C6-C10)	ND			0.1	1	07/03/08 9:21	JAP	2703093
Surr: 1,4-Difluorobenzene	106		%	48-147	1	07/03/08 9:21	JAP	2703093
Surr: 4-Bromofluorobenzene	105		%	52-133	1	07/03/08 9:21	JAP	2703093
VOLATILE ORGANICS:METHOD 8260B:BTEX+MTBE					**MCL**	**SW8260B**	**Units: mg/L**	
Benzene	ND			0.001	1	07/04/08 4:12	HJL	2706014
Ethylbenzene	ND			0.001	1	07/04/08 4:12	HJL	2706014
Methyl tert-butyl ether	ND			0.005	1	07/04/08 4:12	HJL	2706014
Toluene	ND			0.001	1	07/04/08 4:12	HJL	2706014
m,p-Xylene	ND			0.002	1	07/04/08 4:12	HJL	2706014
o-Xylene	ND			0.001	1	07/04/08 4:12	HJL	2706014
Xylenes,Total	ND			0.001	1	07/04/08 4:12	HJL	2706014
Surr: 1,2-Dichloroethane-d4	95.3		%	74-133	1	07/04/08 4:12	HJL	2706014
Surr: 4-Bromofluorobenzene	100		%	74-116	1	07/04/08 4:12	HJL	2706014
Surr: Toluene-d8	98.8		%	84-112	1	07/04/08 4:12	HJL	2706014

Qualifiers:

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B/V - Analyte detected in the associated Method Blank
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J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

LAFAYETTE LABORATORY
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SCOTT, LA 70583
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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Diesel Range Organics by Method 8015B **WorkOrder:** 08070010
Method: SW8015B **Lab Batch ID:** 71234

Method Blank

RunID: TPHC_080701C-2702242 Units: mg/L
Analysis Date: 07/01/2008 22:53 Analyst: MCB
Preparation Date: 07/01/2008 9:02 Prep By: JDF Method SW3511

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06B	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	0.10
Surr: o-Terphenyl	99.3	21-128

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHC_080701C-2702243 Units: mg/L
Analysis Date: 07/01/2008 23:12 Analyst: MCB
Preparation Date: 07/01/2008 9:02 Prep By: JDF Method SW3511

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	6.00	5.67	94.5	6.00	5.51	91.8	2.9	37	46	121
Surr: o-Terphenyl	0.100	0.111	111	0.100	0.108	108	2.7	30	21	128

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

Sample Spiked: 08061450-01
RunID: TPHC_080701C-2702245 Units: mg/L
Analysis Date: 07/02/2008 0:27 Analyst: MCB
Preparation Date: 07/01/2008 9:02 Prep By: JDF Method SW3511

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics (C10-C28)	ND	6	5.23	87.2	6	5.55	92.5	5.89	46	14	131
Surr: o-Terphenyl	ND	0.1	0.0988	98.8	0.1	0.107	107	8.16	30	21	128

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **RECAP Oil Range Organics** **WorkOrder:** **08070010**
Method: **SW8015B** **Lab Batch ID:** **71268**

Method Blank

RunID: TPHC_080701D-2702260 Units: mg/L
Analysis Date: 07/01/2008 22:53 Analyst: MCB
Preparation Date: 07/01/2008 14:07 Prep By: JDF Method SW3511

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06B	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
Oil Range Organics (C28-C35)	ND	0.10
Surr: o-Terphenyl	99.3	21-128

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHC_080701D-2702261 Units: mg/L
Analysis Date: 07/01/2008 23:49 Analyst: MCB
Preparation Date: 07/01/2008 14:07 Prep By: JDF Method SW3511

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Oil Range Organics (C28-C35)	6.00	5.92	98.7	6.00	6.36	106	7.1	30	27	165
Surr: o-Terphenyl	0.100	0.110	110	0.100	0.117	117	6.2	30	21	128

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Diesel Range Organics by Method 8015B **WorkOrder:** 08070010
Method: SW8015B **Lab Batch ID:** 71282

Method Blank

RunID: TPHB_080702A-2704799 Units: mg/Kg
Analysis Date: 07/02/2008 22:33 Analyst: DF
Preparation Date: 07/02/2008 7:16 Prep By: JT Method SW3550B

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	3.3
Surr: o-Terphenyl	113.9	35-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01B	S-2876ACE-COMP1
08070010-02B	S-2876ACE-COMP2
08070010-04B	S-2876ACE-COMP3
08070010-05B	S-2876ACE-COMP4

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHB_080702A-2704800 Units: mg/Kg
Analysis Date: 07/02/2008 22:50 Analyst: DF
Preparation Date: 07/02/2008 7:16 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	100	111	111 *	100	104	104	6.3	39	40	105
Surr: o-Terphenyl	1.67	2.24	135	1.67	2.11	126	6.2	30	35	145

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

Sample Spiked: 08070010-05
RunID: TPHB_080702A-2704802 Units: mg/Kg
Analysis Date: 07/02/2008 23:54 Analyst: DF
Preparation Date: 07/02/2008 7:16 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics (C10-C28)	ND	100	81.8	81.8	100	99.1	99.1	19.2	39	25	107
Surr: o-Terphenyl	ND	1.67	1.41	84.8	1.67	1.79	107	23.4	30	35	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Oil Range Organics **WorkOrder:** 08070010
Method: SW8015B **Lab Batch ID:** 71283

Method Blank

RunID: TPHB_080702B-2704815 Units: mg/Kg
Analysis Date: 07/02/2008 22:33 Analyst: DF
Preparation Date: 07/02/2008 7:17 Prep By: JT Method SW3550B

Analyte	Result	Rep Limit
Oil Range Organics (C28-C35)	ND	3.3
Surr: o-Terphenyl	113.9	35-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01B	S-2876ACE-COMP1
08070010-02B	S-2876ACE-COMP2
08070010-04B	S-2876ACE-COMP3
08070010-05B	S-2876ACE-COMP4

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHB_080702B-2704816 Units: mg/Kg
Analysis Date: 07/02/2008 23:22 Analyst: DF
Preparation Date: 07/02/2008 7:17 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Oil Range Organics (C28-C35)	100	102	102	100	113	113	10.0	30	27	165
Surr: o-Terphenyl	1.67	2.20	132	1.67	2.33	140	6.0	30	35	145

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

Sample Spiked: 08070010-05
RunID: TPHB_080702B-2704818 Units: mg/Kg
Analysis Date: 07/03/2008 0:26 Analyst: DF
Preparation Date: 07/02/2008 7:17 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Oil Range Organics (C28-C35)	ND	100	103	103	100	102	102	0.691	30	41	189
Surr: o-Terphenyl	ND	1.67	1.75	105	1.67	1.66	99.3	5.61	30	35	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Diesel Range Organics by Method 8015B **WorkOrder:** 08070010
Method: SW8015B **Lab Batch ID:** 71357

Method Blank

RunID: TPHB_080703B-2704858 Units: mg/Kg
Analysis Date: 07/04/2008 3:39 Analyst: DF
Preparation Date: 07/03/2008 14:41 Prep By: JT Method SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-03B	S-2876ACE-COMP2a

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	3.3
Surr: o-Terphenyl	84.6	35-145

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHB_080703B-2704859 Units: mg/Kg
Analysis Date: 07/04/2008 3:55 Analyst: DF
Preparation Date: 07/03/2008 14:41 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	100	90.6	90.6	100	77.7	77.7	15.3	39	40	105
Surr: o-Terphenyl	1.67	1.86	112	1.67	1.61	96.7	14.6	30	35	145

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

Sample Spiked: 08070106-23
RunID: TPHB_080703B-2704861 Units: mg/Kg
Analysis Date: 07/04/2008 5:00 Analyst: DF
Preparation Date: 07/03/2008 14:41 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics (C10-C28)	ND	100	81.7	81.7	100	87.9	87.9	7.32	39	25	107
Surr: o-Terphenyl	ND	1.67	1.49	89.3	1.67	1.62	96.9	8.20	30	35	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Oil Range Organics **WorkOrder:** 08070010
Method: SW8015B **Lab Batch ID:** 71358

Method Blank

RunID: TPHB_080703C-2704884 Units: mg/Kg
Analysis Date: 07/04/2008 3:39 Analyst: DF
Preparation Date: 07/03/2008 14:42 Prep By: JT Method SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-03B	S-2876ACE-COMP2a

Analyte	Result	Rep Limit
Oil Range Organics (C28-C35)	ND	3.3
Surr: o-Terphenyl	84.6	35-145

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: TPHB_080703C-2704885 Units: mg/Kg
Analysis Date: 07/04/2008 4:27 Analyst: DF
Preparation Date: 07/03/2008 14:42 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Oil Range Organics (C28-C35)	100	93.3	93.3	100	86.4	86.4	7.7	30	27	165
Surr: o-Terphenyl	1.67	2.14	128	1.67	2.06	124	3.5	30	35	145

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

Sample Spiked: 08070106-23
RunID: TPHB_080703C-2704887 Units: mg/Kg
Analysis Date: 07/04/2008 5:32 Analyst: DF
Preparation Date: 07/03/2008 14:42 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Oil Range Organics (C28-C35)	ND	100	88.4	88.4	100	88.5	88.5	0.0615	30	41	189
Surr: o-Terphenyl	ND	1.67	1.92	115	1.67	1.96	117	1.90	30	35	145

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **RECAP Gasoline Range Organics** **WorkOrder:** **08070010**
Method: **SW8015B** **Lab Batch ID:** **R182996**

Method Blank

RunID: HPOO_080702C-2703085 Units: mg/L
Analysis Date: 07/02/2008 19:52 Analyst: JAP

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06A	W-2876ACE-RB-COMP3-6-3
08070010-07A	W-2876ACE-TB-6-30-08
08070010-08A	W-2876ACE-FB-6-30-08

Analyte	Result	Rep Limit
Gasoline Range Organics (C6-C10)	ND	0.10
Surr: 1,4-Difluorobenzene	98.0	48-147
Surr: 4-Bromofluorobenzene	99.2	52-133

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HPOO_080702C-2703086 Units: mg/L
Analysis Date: 07/02/2008 21:47 Analyst: JAP

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Gasoline Range Organics (C6-C10)	5.00	5.14	103	5.00	5.01	100	2.6	16	73	121
Surr: 1,4-Difluorobenzene	30.0	54.3	181 *	30.0	67.4	225 *	21.5	30	48	147
Surr: 4-Bromofluorobenzene	30.0	30.6	102	30.0	29.3	97.8	4.3	30	52	133

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP Gasoline Range Organics
Method: SW8015B
WorkOrder: 08070010
Lab Batch ID: R183082

Method Blank

RunID: HPEE_080630I-2704548 Units: mg/Kg
Analysis Date: 07/03/2008 15:29 Analyst: JAP

Analyte	Result	Rep Limit
Gasoline Range Organics (C6-C10)	ND	0.10
Surr: 1,4-Difluorobenzene	94.6	46-138
Surr: 4-Bromofluorobenzene	101.7	38-148

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01A	S-2876ACE-COMP1
08070010-02A	S-2876ACE-COMP2
08070010-03A	S-2876ACE-COMP2a
08070010-04A	S-2876ACE-COMP3
08070010-05A	S-2876ACE-COMP4

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HPEE_080630I-2704549 Units: mg/Kg
Analysis Date: 07/03/2008 17:42 Analyst: JAP

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Gasoline Range Organics (C6-C10)	5.00	4.53	90.6	5.00	4.31	86.2	4.9	21	73	126
Surr: 1,4-Difluorobenzene	30.0	40.8	136	30.0	41.7	139 *	2.4	30	46	138
Surr: 4-Bromofluorobenzene	30.0	31.5	105	30.0	30.1	100	4.9	30	38	148

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

Sample Spiked: 08070010-05
RunID: HPEE_080630I-2704557 Units: mg/Kg
Analysis Date: 07/04/2008 1:08 Analyst: JAP
Preparation Date: 07/01/2008 18:03 Prep By: CAH Method SW5035

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics (C6-C10)	ND	260	185	69.8	260	182	68.5	1.82	20	36	139
Surr: 1,4-Difluorobenzene	ND	1560	2200	141 *	1560	2140	137	2.49	30	46	138
Surr: 4-Bromofluorobenzene	ND	1560	1560	99.9	1560	1570	100	0.557	30	38	148

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - water** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71272**

Method Blank

RunID: ICPDV_080702B-2702395 Units: mg/L
Analysis Date: 07/02/2008 11:38 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06D	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
Arsenic	ND	0.02
Barium	ND	0.01
Cadmium	ND	0.01
Chromium	ND	0.01
Lead	ND	0.01
Selenium	ND	0.02

Laboratory Control Sample (LCS)

RunID: ICPDV_080702B-2702396 Units: mg/L
Analysis Date: 07/02/2008 11:43 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	1.000	1.046	104.6	80	120
Barium	1.000	0.9796	97.96	80	120
Cadmium	1.000	0.9964	99.64	80	120
Chromium	1.000	0.9754	97.54	80	120
Lead	1.000	0.9994	99.94	80	120
Selenium	1.000	1.019	101.9	80	120

Post Digestion Spike (PDS) / Post Digestion Spike Duplicate (PDSD)

Sample Spiked: 08061450-01
RunID: ICPDV_080702B-2702403 Units: mg/L
Analysis Date: 07/02/2008 12:20 Analyst: SVW

Analyte	Sample Result	PDS Spike Added	PDS Result	PDS % Recovery	PDSD Spike Added	PDSD Result	PDSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Selenium	ND	1	0.9868	98.68	1	1.015	101.5	2.810	20	75	125

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

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - water** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71272**

Sample Spiked: 08061450-01
RunID: ICPDV_080702B-2702399 Units: mg/L
Analysis Date: 07/02/2008 11:59 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	ND	1	0.9742	97.42	1	0.9668	96.68	0.7547	20	75	125
Barium	0.3550	1	1.193	83.81	1	1.169	81.42	2.026	20	75	125
Cadmium	ND	1	0.9134	91.34	1	0.9029	90.29	1.161	20	75	125
Chromium	ND	1	0.8905	89.05	1	0.8837	88.37	0.7737	20	75	125
Lead	ND	1	0.8839	88.39	1	0.8888	88.88	0.5555	20	75	125
Selenium	ND	1	0.5055	50.55 *	1	0.5242	52.42 *	3.623	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - water** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71272**

Method Blank

RunID: ICPDV_080702C-2702437 Units: mg/L
Analysis Date: 07/02/2008 11:38 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06D	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
Silver	ND	0.01

Laboratory Control Sample (LCS)

RunID: ICPDV_080702C-2702438 Units: mg/L
Analysis Date: 07/02/2008 11:43 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Silver	1.000	0.9899	98.99	80	120

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

Sample Spiked: 08061450-01
RunID: ICPDV_080702C-2702441 Units: mg/L
Analysis Date: 07/02/2008 11:59 Analyst: SVW
Preparation Date: 07/01/2008 17:00 Prep By: SA Method SW3010A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Silver	ND	1	0.9119	91.19	1	0.8563	85.63	6.286	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Mercury, Total by Cold Vapor** **WorkOrder:** **08070010**
Method: **SW7470A** **Lab Batch ID:** **71294**

Method Blank

RunID: FIMS-400_080702A-2702593 Units: mg/L
Analysis Date: 07/02/2008 15:39 Analyst: PFB
Preparation Date: 07/02/2008 11:00 Prep By: PFB Method SW7470A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06D	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Laboratory Control Sample (LCS)

RunID: FIMS-400_080702A-270259 Units: mg/L
Analysis Date: 07/02/2008 15:43 Analyst: PFB
Preparation Date: 07/02/2008 11:00 Prep By: PFB Method SW7470A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.01000	0.01049	104.9	80	120

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

Sample Spiked: 08061482-01
RunID: FIMS-400_080702A-270259 Units: mg/L
Analysis Date: 07/02/2008 15:52 Analyst: PFB
Preparation Date: 07/02/2008 11:00 Prep By: PFB Method SW7470A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.01	0.01076	107.6	0.01	0.01063	106.3	1.191	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - solid** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71297**

Method Blank

RunID: ICPDV_080702E-2703276 Units: mg/Kg
Analysis Date: 07/02/2008 19:01 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Result	Rep Limit
Silver	ND	0.5

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01C	S-2876ACE-COMP1
08070010-02C	S-2876ACE-COMP2
08070010-03C	S-2876ACE-COMP2a
08070010-04C	S-2876ACE-COMP3
08070010-05C	S-2876ACE-COMP4

Laboratory Control Sample (LCS)

RunID: ICPDV_080702E-2703277 Units: mg/Kg
Analysis Date: 07/02/2008 19:06 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Silver	126.0	129.4	102.7	66.4	134

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

Sample Spiked: 08070010-05
RunID: ICPDV_080702E-2703280 Units: mg/Kg
Analysis Date: 07/02/2008 19:22 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Silver	ND	100	101.1	101.1	100	96.99	96.99	4.191	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - solid** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71297**

Method Blank

RunID: ICPDV_080702D-2703199 Units: mg/Kg
Analysis Date: 07/02/2008 19:01 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Result	Rep Limit
Arsenic	ND	1
Barium	ND	0.5
Cadmium	ND	0.5
Chromium	ND	0.5
Lead	ND	0.5
Selenium	ND	1

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01C	S-2876ACE-COMP1
08070010-02C	S-2876ACE-COMP2
08070010-03C	S-2876ACE-COMP2a
08070010-04C	S-2876ACE-COMP3
08070010-05C	S-2876ACE-COMP4

Laboratory Control Sample (LCS)

RunID: ICPDV_080702D-2703200 Units: mg/Kg
Analysis Date: 07/02/2008 19:06 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	280.0	294.8	105.3	80.7	119
Barium	520.0	524.5	100.9	82.7	117
Cadmium	182.0	181.3	99.61	81.9	118
Chromium	142.0	137.1	96.53	81	120
Lead	72.20	70.77	98.02	81.9	118
Selenium	165.0	165.4	100.2	77.6	123

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

Sample Spiked: 08070010-05
RunID: ICPDV_080702D-2703203 Units: mg/Kg
Analysis Date: 07/02/2008 19:22 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	3.489	100	108.9	105.4	100	104.6	101.1	4.014	20	75	125
Barium	46.07	100	144.5	98.45	100	140.2	94.15	3.021	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Total Metals by Method 6010B - solid** **WorkOrder:** **08070010**
Method: **SW6010B** **Lab Batch ID:** **71297**

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

Sample Spiked: 08070010-05
RunID: ICPDV_080702D-2703203 Units: mg/Kg
Analysis Date: 07/02/2008 19:22 Analyst: SVW
Preparation Date: 07/02/2008 10:15 Prep By: SA Method SW3050B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Cadmium	ND	100	99.79	99.68	100	95.73	95.62	4.159	20	75	125
Chromium	4.545	100	106.6	102.0	100	103.1	98.56	3.303	20	75	125
Lead	4.657	100	105.2	100.6	100	100.2	95.58	4.857	20	75	125
Selenium	ND	100	100.3	100.3	100	95.37	95.37	5.069	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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LAFAYETTE LABORATORY
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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Mercury, Total by Cold Vapor** **WorkOrder:** **08070010**
Method: **SW7471A** **Lab Batch ID:** **71305**

Method Blank

RunID: FIMS-400_080702E-2702746 Units: mg/Kg
Analysis Date: 07/03/2008 0:15 Analyst: PFB
Preparation Date: 07/02/2008 15:30 Prep By: PFB Method SW7471A

Analyte	Result	Rep Limit
Mercury	ND	0.1

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01C	S-2876ACE-COMP1
08070010-02C	S-2876ACE-COMP2
08070010-03C	S-2876ACE-COMP2a
08070010-04C	S-2876ACE-COMP3
08070010-05C	S-2876ACE-COMP4

Laboratory Control Sample (LCS)

RunID: FIMS-400_080702E-270274 Units: mg/Kg
Analysis Date: 07/03/2008 0:18 Analyst: PFB
Preparation Date: 07/02/2008 15:30 Prep By: PFB Method SW7471A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	4.470	3.842	85.95	66	132.7

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

Sample Spiked: 08070010-05
RunID: FIMS-400_080702E-270275 Units: mg/Kg
Analysis Date: 07/03/2008 0:28 Analyst: PFB
Preparation Date: 07/02/2008 15:30 Prep By: PFB Method SW7471A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	1.5	1.488	99.23	1.5	1.496	99.75	0.5256	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP PAH by EPA 8270C **WorkOrder:** 08070010
Method: SW8270C **Lab Batch ID:** 71276

Method Blank

RunID: D_080709A-2710972 Units: mg/Kg
Analysis Date: 07/09/2008 5:00 Analyst: KTK
Preparation Date: 07/01/2008 15:36 Prep By: JT Method SW3550B

Analyte	Result	Rep Limit
2-Methylnaphthalene	ND	0.033
Acenaphthene	ND	0.033
Acenaphthylene	ND	0.033
Anthracene	ND	0.033
Benz(a)anthracene	ND	0.033
Benzo(a)pyrene	ND	0.033
Benzo(b)fluoranthene	ND	0.033
Benzo(k)fluoranthene	ND	0.033
Chrysene	ND	0.033
Dibenz(a,h)anthracene	ND	0.033
Fluoranthene	ND	0.033
Fluorene	ND	0.033
Indeno(1,2,3-cd)pyrene	ND	0.033
Naphthalene	ND	0.033
Phenanthrene	ND	0.033
Pyrene	ND	0.033
Surr: 2-Fluorobiphenyl	84.2	23-140
Surr: 4-Terphenyl-d14	92.6	24-151
Surr: Nitrobenzene-d5	89.5	19-147

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01B	S-2876ACE-COMP1
08070010-02B	S-2876ACE-COMP2
08070010-03B	S-2876ACE-COMP2a
08070010-04B	S-2876ACE-COMP3
08070010-05B	S-2876ACE-COMP4

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: D_080709A-2710973 Units: mg/Kg
Analysis Date: 07/09/2008 5:34 Analyst: KTK
Preparation Date: 07/01/2008 15:36 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
2-Methylnaphthalene	1.67	1.41	84.3	1.67	1.57	94.0	10.8	28	56	120
Acenaphthene	1.67	1.35	80.8	1.67	1.50	89.8	10.6	23	69	117
Acenaphthylene	1.67	1.53	91.9	1.67	1.70	102	10.2	24	58	127
Anthracene	1.67	1.28	76.8	1.67	1.49	89.6	15.4	23	69	117
Benz(a)anthracene	1.67	1.53	91.9	1.67	1.78	107	15.0	26	63	117
Benzo(a)pyrene	1.67	1.39	83.6	1.67	1.62	97.1	14.9	21	48	143
Benzo(b)fluoranthene	1.67	1.29	77.2	1.67	1.51	90.4	15.8	26	48	131
Benzo(k)fluoranthene	1.67	1.54	92.6	1.67	1.89	113	20.1	26	24	164
Chrysene	1.67	1.53	92.0	1.67	1.78	107	15.0	21	37	120
Dibenz(a,h)anthracene	1.67	1.38	82.8	1.67	1.72	103	22.1	27	36	134

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: RECAP PAH by EPA 8270C **WorkOrder:** 08070010
Method: SW8270C **Lab Batch ID:** 71276

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: D_080709A-2710973 Units: mg/Kg
Analysis Date: 07/09/2008 5:34 Analyst: KTK
Preparation Date: 07/01/2008 15:36 Prep By: JT Method SW3550B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Fluoranthene	1.67	1.38	82.7	1.67	1.57	94.5	13.3	36	71	120
Fluorene	1.67	1.50	90.1	1.67	1.72	103	13.4	25	65	125
Indeno(1,2,3-cd)pyrene	1.67	1.29	77.4	1.67	1.61	96.4	21.8	41	17	140
Naphthalene	1.67	1.18	70.9	1.67	1.31	78.6	10.2	24	54	123
Phenanthrene	1.67	1.58	95.0	1.67	1.76	106	10.5	23	66	128
Pyrene	1.67	1.62	96.9	1.67	1.81	109	11.6	32	21	143
Surr: 2-Fluorobiphenyl	1670	1310	78.9	1670	1440	86.5	9.2	30	23	140
Surr: 4-Terphenyl-d14	1670	1570	94.0	1670	1770	106	11.9	30	24	151
Surr: Nitrobenzene-d5	1670	1360	81.7	1670	1480	89.0	8.6	30	19	147

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

Sample Spiked: 08070010-05
RunID: D_080710A-2712686 Units: mg/Kg
Analysis Date: 07/10/2008 6:57 Analyst: KTK
Preparation Date: 07/01/2008 15:36 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
2-Methylnaphthalene	ND	1.67	1.52	91.3	1.67	1.53	91.6	0.392	28	56	120
Acenaphthene	ND	1.67	1.35	81.2	1.67	1.38	82.8	1.93	23	69	117
Acenaphthylene	ND	1.67	1.67	100	1.67	1.70	102	1.67	24	58	127
Anthracene	ND	1.67	1.34	80.3	1.67	1.35	81.3	1.20	23	69	117
Benz(a)anthracene	ND	1.67	1.66	99.8	1.67	1.75	105	5.16	26	63	117
Benzo(a)pyrene	ND	1.67	1.55	92.9	1.67	1.59	95.1	2.39	21	48	143
Benzo(b)fluoranthene	ND	1.67	1.48	88.8	1.67	1.56	93.4	5.12	26	48	131
Benzo(k)fluoranthene	ND	1.67	1.73	104	1.67	1.76	106	2.13	26	24	164
Chrysene	ND	1.67	1.63	97.8	1.67	1.71	102	4.57	21	37	120
Dibenz(a,h)anthracene	ND	1.67	1.20	72.0	1.67	1.19	71.2	1.10	27	36	134
Fluoranthene	ND	1.67	1.46	87.8	1.67	1.50	90.1	2.60	36	71	120
Fluorene	ND	1.67	1.82	109	1.67	1.86	111	2.05	25	65	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **RECAP PAH by EPA 8270C** **WorkOrder:** **08070010**
Method: **SW8270C** **Lab Batch ID:** **71276**

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

Sample Spiked: 08070010-05
RunID: D_080710A-2712686 Units: mg/Kg
Analysis Date: 07/10/2008 6:57 Analyst: KTK
Preparation Date: 07/01/2008 15:36 Prep By: JT Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Indeno(1,2,3-cd)pyrene	ND	1.67	1.07	64.2	1.67	1.06	63.8	0.725	41	17	140
Naphthalene	ND	1.67	1.24	74.7	1.67	1.23	73.9	1.08	24	54	123
Phenanthrene	ND	1.67	1.46	87.3	1.67	1.49	89.4	2.32	23	66	128
Pyrene	ND	1.67	1.76	106	1.67	1.82	109	3.15	32	21	143
Surr: 2-Fluorobiphenyl	ND	1670	1650	99.3	1670	1660	99.3	0.0532	30	23	140
Surr: 4-Terphenyl-d14	ND	1670	1720	103	1670	1790	107	4.03	30	24	151
Surr: Nitrobenzene-d5	ND	1670	1260	75.5	1670	1250	74.7	1.10	30	19	147

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: Semivolatile Organic PAH by EPA 8270C **WorkOrder:** 08070010
Method: SW8270C **Lab Batch ID:** 71348

Method Blank

RunID: L_080710A-2714717 Units: ug/L
Analysis Date: 07/11/2008 4:53 Analyst: LMG
Preparation Date: 07/03/2008 12:40 Prep By: Method SW3510B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06C	W-2876ACE-RB-COMP3-6-3

Analyte	Result	Rep Limit
2-Methylnaphthalene	0.46	0.20
Acenaphthene	ND	0.20
Acenaphthylene	ND	0.20
Anthracene	ND	1.0
Benz(a)anthracene	ND	0.20
Benzo(a)pyrene	ND	0.20
Benzo(b)fluoranthene	ND	0.20
Benzo(k)fluoranthene	ND	0.20
Chrysene	ND	0.20
Dibenz(a,h)anthracene	ND	0.20
Fluoranthene	ND	0.20
Fluorene	ND	0.20
Indeno(1,2,3-cd)pyrene	ND	0.20
Naphthalene	ND	0.20
Phenanthrene	ND	0.20
Pyrene	ND	0.20
Surr: 2-Fluorobiphenyl	85.2	14-124
Surr: 4-Terphenyl-d14	86.4	19-117
Surr: Nitrobenzene-d5	44.3	27-109

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: L_080710A-2714718 Units: ug/L
Analysis Date: 07/11/2008 5:20 Analyst: LMG
Preparation Date: 07/03/2008 12:40 Prep By: JB Method SW3510B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
1-Methylnaphthalene	50.0	42.8	85.5	50.0	42.1	84.1	1.7	36	17	114
2-Methylnaphthalene	50.0	41.1	82.2	50.0	40.8	81.5	0.8	37	20	102
Acenaphthene	50.0	40.3	80.6	50.0	38.7	77.4	4.0	30	42	146
Acenaphthylene	50.0	40.4	80.8	50.0	39.4	78.7	2.6	27	21	110
Anthracene	50.0	43.8	87.6	50.0	41.2	82.4	6.1	31	28	117
Benz(a)anthracene	50.0	44.2	88.3	50.0	43.6	87.2	1.2	23	28	116
Benzo(a)pyrene	50.0	40.0	79.9	50.0	38.1	76.3	4.6	18	23	135
Benzo(b)fluoranthene	50.0	40.6	81.3	50.0	38.6	77.3	5.1	32	12	139
Benzo(g,h,i)perylene	50.0	43.0	86.0	50.0	41.4	82.9	3.7	34	18	139
Benzo(k)fluoranthene	50.0	47.5	94.9	50.0	45.4	90.7	4.5	21	26	130

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
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N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Semivolatile Organic PAH by EPA 8270C** **WorkOrder:** **08070010**
Method: **SW8270C** **Lab Batch ID:** **71348**

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: L_080710A-2714718 Units: ug/L
Analysis Date: 07/11/2008 5:20 Analyst: LMG
Preparation Date: 07/03/2008 12:40 Prep By: JB Method SW3510B

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Chrysene	50.0	38.8	77.6	50.0	37.4	74.7	3.8	24	28	117
Dibenz(a,h)anthracene	50.0	42.6	85.3	50.0	41.6	83.1	2.6	38	20	132
Fluoranthene	50.0	35.5	71.1	50.0	42.0	84.1	16.7	25	23	121
Fluorene	50.0	49.4	98.7	50.0	33.6	67.1	38.2 *	29	22	117
Indeno(1,2,3-cd)pyrene	50.0	42.9	85.8	50.0	41.5	83.0	3.3	32	25	122
Naphthalene	50.0	35.9	71.8	50.0	35.2	70.4	2.0	36	21	101
Phenanthrene	50.0	31.2	62.4	50.0	29.5	59.0	5.5	25	28	116
Pyrene	50.0	36.5	72.9	50.0	35.2	70.3	3.6	31	63	120
Surr: 2-Fluorobiphenyl	50.0	41.9	83.7	50.0	41.0	82.0	2.1	30	14	124
Surr: 4-Terphenyl-d14	50.0	45.0	90.0	50.0	43.3	86.7	3.7	30	19	117
Surr: Nitrobenzene-d5	50.0	36.9	73.8	50.0	37.9	75.7	2.6	30	27	109

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
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TNTC - Too numerous to count

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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: Volatile Organics:Method 8260B:BTEX+MTBE **WorkOrder:** 08070010
Method: SW8260B **Lab Batch ID:** R183175

Method Blank

RunID: HA_080703B-2706010 Units: ug/L
Analysis Date: 07/04/2008 2:18 Analyst: HJL
Preparation Date: 07/04/2008 2:18 Prep By: Method SW5035

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether	ND	5.0
Toluene	ND	1.0
m,p-Xylene	ND	2.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	95.8	74-133
Surr: 4-Bromofluorobenzene	100.4	74-116
Surr: Toluene-d8	97.9	84-112

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-06A	W-2876ACE-RB-COMP3-6-3
08070010-07A	W-2876ACE-TB-6-30-08
08070010-08A	W-2876ACE-FB-6-30-08

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HA_080703B-2706008 Units: ug/L
Analysis Date: 07/04/2008 0:52 Analyst: HJL

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Benzene	50.0	49.6	99.1	50.0	46.1	92.2	7.3	23	79	124
Ethylbenzene	50.0	56.6	113	50.0	51.7	103	9.0	16	79	125
Methyl tert-butyl ether	50.0	50.4	101	50.0	47.3	94.7	6.4	23	77	125
Toluene	50.0	52.0	104	50.0	48.5	97.0	7.0	21	79	124
m,p-Xylene	100	103	103	100	94.9	94.9	8.0	20	77	132
o-Xylene	50.0	56.8	114	50.0	52.7	105	7.5	17	76	127
Xylenes,Total	150.0	159.8	106.4	150.0	147.6	98.36	7.8	20	76	130
Surr: 1,2-Dichloroethane-d4	50.0	48.2	96.4	50.0	48.0	96.0	0.3	30	74	133
Surr: 4-Bromofluorobenzene	50.0	50.2	100	50.0	50.4	101	0.3	30	74	116
Surr: Toluene-d8	50.0	49.7	99.4	50.0	49.6	99.2	0.2	30	84	112

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Volatile Organics:Method 8260B+MTBE** **WorkOrder:** **08070010**
Method: **SW8260B** **Lab Batch ID:** **R183252**

Method Blank

RunID: HA_080706A-2707484 Units: ug/Kg
Analysis Date: 07/06/2008 12:24 Analyst: HJL
Preparation Date: 07/06/2008 12:24 Prep By: Method SW5035

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-03A	S-2876ACE-COMP2a
08070010-04A	S-2876ACE-COMP3

Analyte	Result	Rep Limit
Benzene	ND	25
Ethylbenzene	ND	50
Methyl tert-butyl ether	ND	50
Toluene	ND	50
m,p-Xylene	ND	100
o-Xylene	ND	50
Xylenes,Total	ND	50
Surr: 1,2-Dichloroethane-d4	95.2	62-134
Surr: 4-Bromofluorobenzene	103.5	75-128
Surr: Toluene-d8	100.2	78-120

Methanolic Preparation Blank

RunID: HA_080706A-2707484 Units: ug/Kg
Analysis Date: 07/06/2008 12:24 Analyst: HJL
Preparation Date: 07/06/2008 12:24 Prep By: Method SW5035

Analyte	Result	Rep Limit
Benzene	ND	25
Ethylbenzene	ND	50
Methyl tert-butyl ether	ND	50
Toluene	ND	50
m,p-Xylene	ND	100
o-Xylene	ND	50
Xylenes,Total	ND	50
Surr: 1,2-Dichloroethane-d4	95.2	62-134
Surr: 4-Bromofluorobenzene	103.5	75-128
Surr: Toluene-d8	100.2	78-120

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HA_080706A-2707499 Units: ug/Kg
Analysis Date: 07/06/2008 10:58 Analyst: HJL
Preparation Date: 07/06/2008 10:58 Prep By: Method SW5035

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Benzene	2500	2700	108	2500	2640	105	2.3	21	73	136
Ethylbenzene	2500	2480	99.2	2500	2400	95.9	3.4	30	50	150

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Volatile Organics:Method 8260B+MTBE** **WorkOrder:** **08070010**
Method: **SW8260B** **Lab Batch ID:** **R183252**

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HA_080706A-2707499 Units: ug/Kg
Analysis Date: 07/06/2008 10:58 Analyst: HJL
Preparation Date: 07/06/2008 10:58 Prep By: Method SW5035

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Methyl tert-butyl ether	2500	2460	98.4	2500	2420	96.9	1.5	30	50	150
Toluene	2500	2400	95.8	2500	2340	93.8	2.2	20	65	116
m,p-Xylene	5000	4760	95.2	5000	4570	91.5	4.0	30	50	150
o-Xylene	2500	2490	99.5	2500	2390	95.7	3.9	30	50	150
Xylenes,Total	7500	7250	96.6	7500	6960	92.9	4.0	30	50	150
Surr: 1,2-Dichloroethane-d4	2500	2370	94.8	2500	2370	94.8	0.1	30	62	134
Surr: 4-Bromofluorobenzene	2500	2550	102	2500	2500	99.8	2.2	30	75	128
Surr: Toluene-d8	2500	2520	101	2500	2510	100	0.5	30	78	120

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

Sample Spiked: 08061292-03
RunID: HA_080706A-2707497 Units: ug/Kg
Analysis Date: 07/06/2008 18:07 Analyst: HJL

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	2500	2340	93.5	2500	2710	108	14.7	22	39	150
Ethylbenzene	ND	2500	1740	69.4	2500	2310	92.5	28.5	30	50	150
Methyl tert-butyl ether	ND	2500	2260	90.5	2500	2590	104	13.7	30	50	150
Toluene	ND	2500	1960	77.1	2500	2440	97.6	21.9	39	23	135
m,p-Xylene	ND	5000	3360	66.4	5000	4520	90.3	29.3	30	50	150
o-Xylene	ND	2500	1890	75.6	2500	2470	98.7	26.6	30	50	150
Xylenes,Total	ND	7500	5250	69.5	7500	6990	93.1	28.3	30	50	150
Surr: 1,2-Dichloroethane-d4	ND	2500	2650	106	2500	2670	107	0.854	30	62	134
Surr: 4-Bromofluorobenzene	ND	2500	2850	114	2500	2900	116	1.93	30	75	128
Surr: Toluene-d8	ND	2500	2830	113	2500	2880	115	1.65	30	78	120

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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SCOTT, LA 70583
(337) 237-4775

Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: Volatile Organics:Method 8260B+MTBE **WorkOrder:** 08070010
Method: SW8260B **Lab Batch ID:** R183322

Method Blank

RunID: XB_080707A-2708915 Units: ug/Kg
Analysis Date: 07/07/2008 16:43 Analyst: HJL
Preparation Date: 07/07/2008 16:43 Prep By: Method SW5035

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-01A	S-2876ACE-COMP1
08070010-02A	S-2876ACE-COMP2

Analyte	Result	Rep Limit
Benzene	ND	12
Ethylbenzene	ND	25
Methyl tert-butyl ether	ND	25
Toluene	ND	25
m,p-Xylene	ND	50
o-Xylene	ND	25
Xylenes,Total	ND	25
Surr: 1,2-Dichloroethane-d4	94.4	62-134
Surr: 4-Bromofluorobenzene	98.9	75-128
Surr: Toluene-d8	109.0	78-120

Methanolic Preparation Blank

RunID: XB_080707A-2708915 Units: ug/Kg
Analysis Date: 07/07/2008 16:43 Analyst: HJL
Preparation Date: 07/07/2008 16:43 Prep By: Method SW5035

Analyte	Result	Rep Limit
Benzene	ND	12
Ethylbenzene	ND	25
Methyl tert-butyl ether	ND	25
Toluene	ND	25
m,p-Xylene	ND	50
o-Xylene	ND	25
Xylenes,Total	ND	25
Surr: 1,2-Dichloroethane-d4	94.4	62-134
Surr: 4-Bromofluorobenzene	98.9	75-128
Surr: Toluene-d8	109.0	78-120

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: XB_080707A-2708905 Units: ug/Kg
Analysis Date: 07/07/2008 12:39 Analyst: HJL
Preparation Date: 07/07/2008 12:39 Prep By: Method SW5035

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Benzene	1250	1190	95.4	1250	1190	95.4	0.0	21	73	136
Ethylbenzene	1250	1250	99.7	1250	1250	99.7	0.0	30	50	150

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

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LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Volatile Organics:Method 8260B+MTBE** **WorkOrder:** **08070010**
Method: **SW8260B** **Lab Batch ID:** **R183322**

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: XB_080707A-2708905 Units: ug/Kg
Analysis Date: 07/07/2008 12:39 Analyst: HJL
Preparation Date: 07/07/2008 12:39 Prep By: Method SW5035

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Methyl tert-butyl ether	1250	1220	97.3	1250	1190	95.4	2.0	30	50	150
Toluene	1250	1170	93.9	1250	1180	94.7	0.9	20	65	116
m,p-Xylene	2500	2470	98.9	2500	2520	101	1.8	30	50	150
o-Xylene	1250	1270	102	1250	1300	104	2.3	30	50	150
Xylenes,Total	3750	3740	99.9	3750	3820	102	1.9	30	50	150
Surr: 1,2-Dichloroethane-d4	1250	1240	99.0	1250	1280	102	3.4	30	62	134
Surr: 4-Bromofluorobenzene	1250	1240	99.0	1250	1230	98.6	0.4	30	75	128
Surr: Toluene-d8	1250	1270	102	1250	1310	105	3.3	30	78	120

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Quality Control Report

MATERIALS MANAGEMENT GROUP, INC.

2876ACE

Analysis: **Volatile Organics:Method 8260B+MTBE** **WorkOrder:** **08070010**
Method: **SW8260B** **Lab Batch ID:** **R183456**

Method Blank

RunID: HA_080708C-2710709 Units: ug/Kg
Analysis Date: 07/09/2008 0:20 Analyst: HJL
Preparation Date: 07/09/2008 0:20 Prep By: Method SW5035

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
08070010-05A	S-2876ACE-COMP4

Analyte	Result	Rep Limit
Benzene	ND	25
Ethylbenzene	ND	50
Methyl tert-butyl ether	ND	50
Toluene	ND	50
m,p-Xylene	ND	100
o-Xylene	ND	50
Xylenes,Total	ND	50
Surr: 1,2-Dichloroethane-d4	92.1	62-134
Surr: 4-Bromofluorobenzene	103.9	75-128
Surr: Toluene-d8	99.6	78-120

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

Sample Spiked: 08070010-05
RunID: HA_080708C-2710728 Units: ug/Kg
Analysis Date: 07/09/2008 1:17 Analyst: HJL

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	2500	2220	88.8	2500	2260	90.5	1.83	22	39	150
Ethylbenzene	ND	2500	2230	88.1	2500	2290	90.5	2.63	30	50	150
Methyl tert-butyl ether	ND	2500	2070	82.9	2500	2120	84.7	2.15	30	50	150
Toluene	ND	2500	2320	91.1	2500	2350	92.5	1.47	39	23	135
m,p-Xylene	ND	5000	4600	90.1	5000	4710	92.2	2.25	30	50	150
o-Xylene	ND	2500	2310	90.7	2500	2370	93.4	2.80	30	50	150
Xylenes,Total	ND	7500	6910	90.3	7500	7080	92.6	2.43	30	50	150
Surr: 1,2-Dichloroethane-d4	ND	2500	2450	98.0	2500	2450	97.8	0.156	30	62	134
Surr: 4-Bromofluorobenzene	ND	2500	2600	104	2500	2600	104	0.0692	30	75	128
Surr: Toluene-d8	ND	2500	2550	102	2500	2550	102	0.0412	30	78	120

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
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Sample Receipt Checklist

And

Chain of Custody

LAFAYETTE LABORATORY
500 AMBASSADOR CAFFERY PARKWAY
SCOTT, LA 70583
(337) 237-4775

Sample Receipt Checklist

Workorder:	**08070010**	Received By:	**CRM**
Date and Time Received:	**7/1/2008 9:30:00 AM**	Carrier name:	**FedEx-Std 1 Day PM**
Temperature:	**3.0°C**	Chilled by:	**Water Ice**

1.	**Shipping container/cooler in good condition?**	Yes	☑	No	☐	Not Present ☐
2.	**Custody seals intact on shippping container/cooler?**	Yes	☑	No	☐	Not Present ☐
3.	**Custody seals intact on sample bottles?**	Yes	☐	No	☐	Not Present ☑
4.	**Chain of custody present?**	Yes	☑	No	☐	
5.	**Chain of custody signed when relinquished and received?**	Yes	☑	No	☐	
6.	**Chain of custody agrees with sample labels?**	Yes	☑	No	☐	
7.	**Samples in proper container/bottle?**	Yes	☑	No	☐	
8.	**Sample containers intact?**	Yes	☑	No	☐	
9.	**Sufficient sample volume for indicated test?**	Yes	☑	No	☐	
10.	**All samples received within holding time?**	Yes	☑	No	☐	
11.	**Container/Temp Blank temperature in compliance?**	Yes	☑	No	☐	
12.	**Water - VOA vials have zero headspace?**	Yes	☑	No	☐	VOA Vials Not Present ☐
13.	**Water - Preservation checked upon receipt (except VOA*)?**	Yes	☐	No	☐	Not Applicable ☑

***VOA Preservation Checked After Sample Analysis**

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No. 0807 0010 — 267648 — page 1 of 1

Client Name: Materials Management Group Inc.
Address: 3520 General DeGaulle Dr. #3010, N.O.LA
Phone/Fax: (504) 368-0568 / (504) 368-8403
Client Contact: Karly Gibbs Email: karlygibbs@mmgnola.com
Project Name/No.: PIIESA-Michoud Canal-GIWW / 2876ACE
Site Name:
Site Location:
Invoice To: Mimi Lo Ph: (504) 368-0568

matrix: W=water S=soil O=oil SL=sludge X=other
bottle: P=plastic A=amber glass G=glass V=vial X=other
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other
pres.: 1=HCl 2=HNO3 3=H2SO4 X=other

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	TPH-G (8015B)	BTEX/MTBE (5035, 8260)	TPH-D, O (8015B)	PAHs (8270)	RCRA metals (6010, 7400)	SPLP Metals * HOLD * (1312)				
S-2876ACE-Comp 1	6-30-08	08:30	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X				6
S-2876ACE-Comp 2		09:00	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X				6
S-2876ACE-Comp 2a		09:00	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X				6
S-2876ACE-Comp 3		09:20	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X				6
S-2876ACE-Comp 4		10:00	X		S	X,G,G	X,4,8		16	X	X	X	X	X	X				16
W-2876ACE-RB-Comp3-6-30-08		9:25		X	W	P; G A; V	X; V 1	2	9	X	X	X	X	X					9
W-2876ACE-TB-6-30-08		10:20		X	W	G	40	1	3	X	X								3
W-2876ACE-FB-6-30-08		10:15		X	W	G	40	1	4	X	X								4

RUSH

Client/Consultant Remarks: 5 d/s
RM 94 (BW) RCRA metals
RMA 11 (12) TPH D PAH
WSJ 19 (12) SPLP
(RM 78 (9)) Encores

Laboratory remarks: CS on Cooler
(YS 72 (8)) (RSC-9 (11)) (7) (3C)

Intact? Y N
Ice? Y N
Temp: 3.0c

Requested TAT
Contract ☐ 72hr ~~Standard~~ (31)
24hr ☐ Standard ☐
48hr ☐ Call
Other ☒ (713) 880-8002

Special Reporting Requirements Results: Fax ☐ Email ☐ PDF ☐
Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

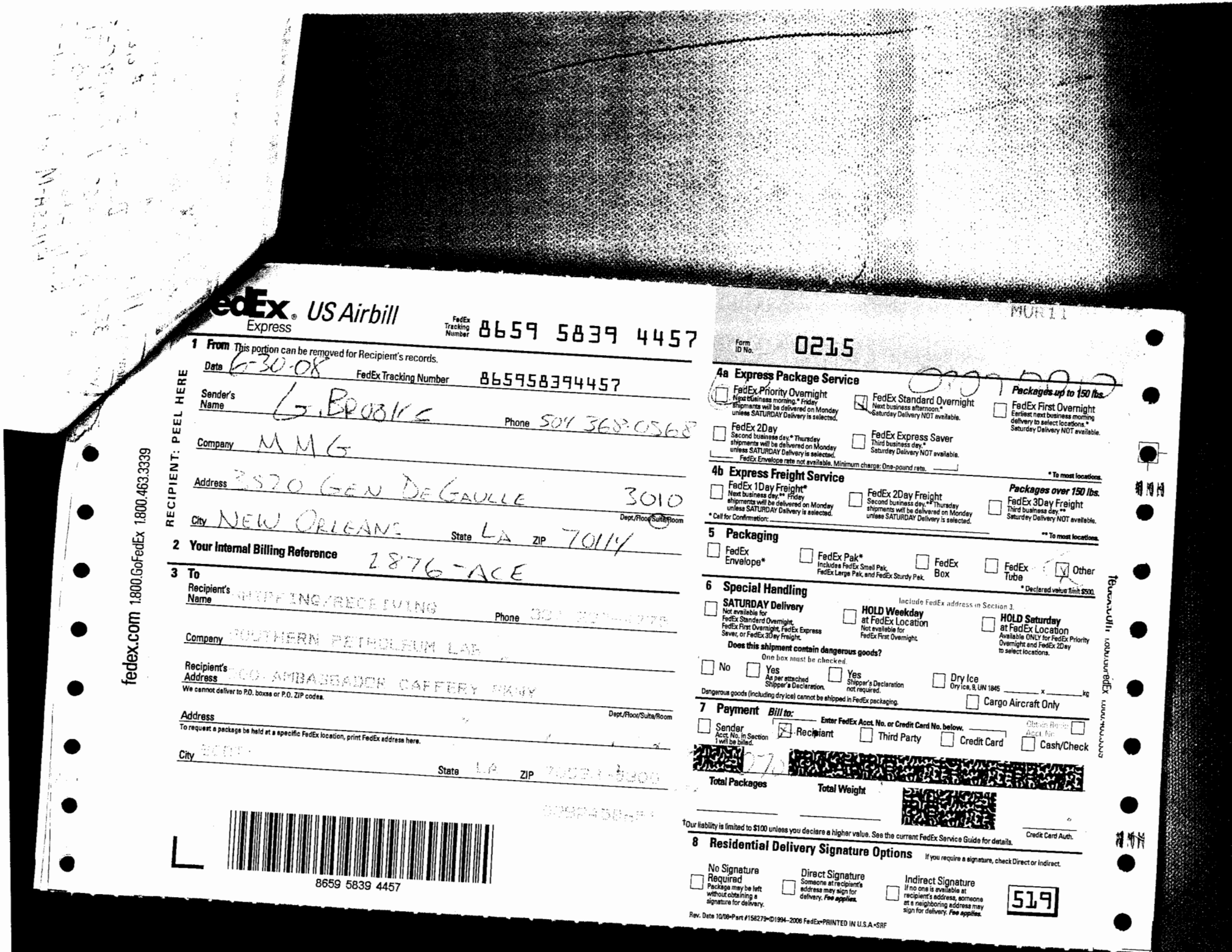
PM review (initial):

	date	time	
1. Relinquished by Sampler:	6-30-08	12:00	2. Received by: FedEx
3. Relinquished by: FedEx	7/1/8	9:00	4. Received by:
5. Relinquished by:	7/1/8	9:30	6. Received by Laboratory:

☐ 8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

☐ 500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

☐ 459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777



FedEx Express US Airbill

FedEx Tracking Number 8659 5839 4457

Form ID No. 0215

MUR11

RECIPIENT: PEEL HERE

1 From This portion can be removed for Recipient's records.

Date 6-30-08 FedEx Tracking Number 865958394457

Sender's Name G. BROUSE Phone 504 368-0568

Company MMG

Address 3520 GEN DE GAULLE 3010

Dept./Floor/Suite/Room

City NEW ORLEANS State LA ZIP 70114

2 Your Internal Billing Reference 2876-ACE

3 To

Recipient's Name SHIPPING/RECEIVING Phone 337-262-0278

Company SOUTHERN PETROLEUM LAB

Recipient's Address 300 AMBASSADOR CAFFERY PKWY

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

Address Dept./Floor/Suite/Room

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

City SCOTT State LA ZIP 70583-8300

8659 5839 4457

4a Express Package Service — Packages up to 150 lbs.

- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service — Packages over 150 lbs.

- FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- FedEx Envelope*
- FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- FedEx Box
- FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- 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.

- 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.

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

Obtain Recipient Acct. No.

Total Packages [redacted] Total Weight [redacted]

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

Credit Card Auth.

8 Residential Delivery Signature Options — If you require a signature, check Direct or Indirect.

- No Signature Required — Package may be left without obtaining a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

519

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fedex.com 1.800.GoFedEx 1.800.463.3339

FedEx 1.800.GoFedEx

Appendix C: Field Logs

DATE 6-30-2008

DAY | S | M | T | W | TH | F | S |

A-E DAILY QUALITY CONTROL REPORT

WEATHER

Bright Sun	Clear	Overcast	Rain	Snow
Temp: To 32	32-35	50-70	70-85	85 up
Still	Moder	High	Report No.	
Dry	Moder	Humid		

COE PROJECT MANAGER Haekyung Kim
PROJECT Michoud Canal – GIWW PIIESA

JOB NO. 2876-ACE
CONTRACT NO DACW29-03-D-0014, Task Order 47

SUB-CONTRACTOR ON SITE

WHE Walker Hill Environmental

EQUIPMENT ON SITE

(MMG) Ford, F-350 ; Nissan Titan ; Hand Tools ; GPS ; Camera ;
(WHE) Drill Rig

WORK PERFORMED (INCLUDING SAMPLING):

* Drill 12 Holes (Direct Push) to 3 ft BGS
* Create Composite Samples of every 3 Holes

Comp1 B1, B2, B3
Comp2 B4, B5, B6
Comp3 B7, B8, B9
Comp4 B10, B11, B12

SHEET ___ OF ___

(Continuation Sheet)

PROJECT PII ESA - Michaud Canal - GIWW REPORT NO. _____

JOB NO 2876 ACE DATE 6-30-2008

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Triple Wash for drill "shoe"

HEALTH AND SAFETY LEVELS AND ACTIVITIES

Level D Hard Hat, Steel Toe, Ear Plugs, Eyewear, Gloves

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

NONE

SPECIAL NOTES

Hold Harmless Letter Needed

TOMORROW'S EXPECTATIONS:

SHEET 2 OF 2

BY W. Thompson TITLE Geologist

Location New Orleans, LA Date 6-30-08

Project / Client PIIESA - Michoud Canal - GIWW

2876 ACE

07:00 (MMG) Materials Management Group arrives onsite.

MMG Team; Sampling

(G.B.)	Gary Brooks	Technician
(R.P.)	Randy Pumilia	Technician
(W.T.)	Wendell Thompson	Geologist

07:06 Cloudy; mist-rain; 73°F; calm wind; humid

07:09 MMG Equipment

Ford - F350	4x4
Nissan Titan	Truck
Sony	Camera
Suzuki	ATV
Garmin	GPS

07:20 (WHE) Walker Hill Environmental arrives onsite.

(D.H)	Dennis Herrera	Foreman
(J.K.)	Joshua King	Tech

07:28 WHE Equipment

Ford F-350	4x4
Geoprobe	6620DT

Location New Orleans, LA Date 6-30-08

Project / Client PIIESA - Michoud Canal - GIWW

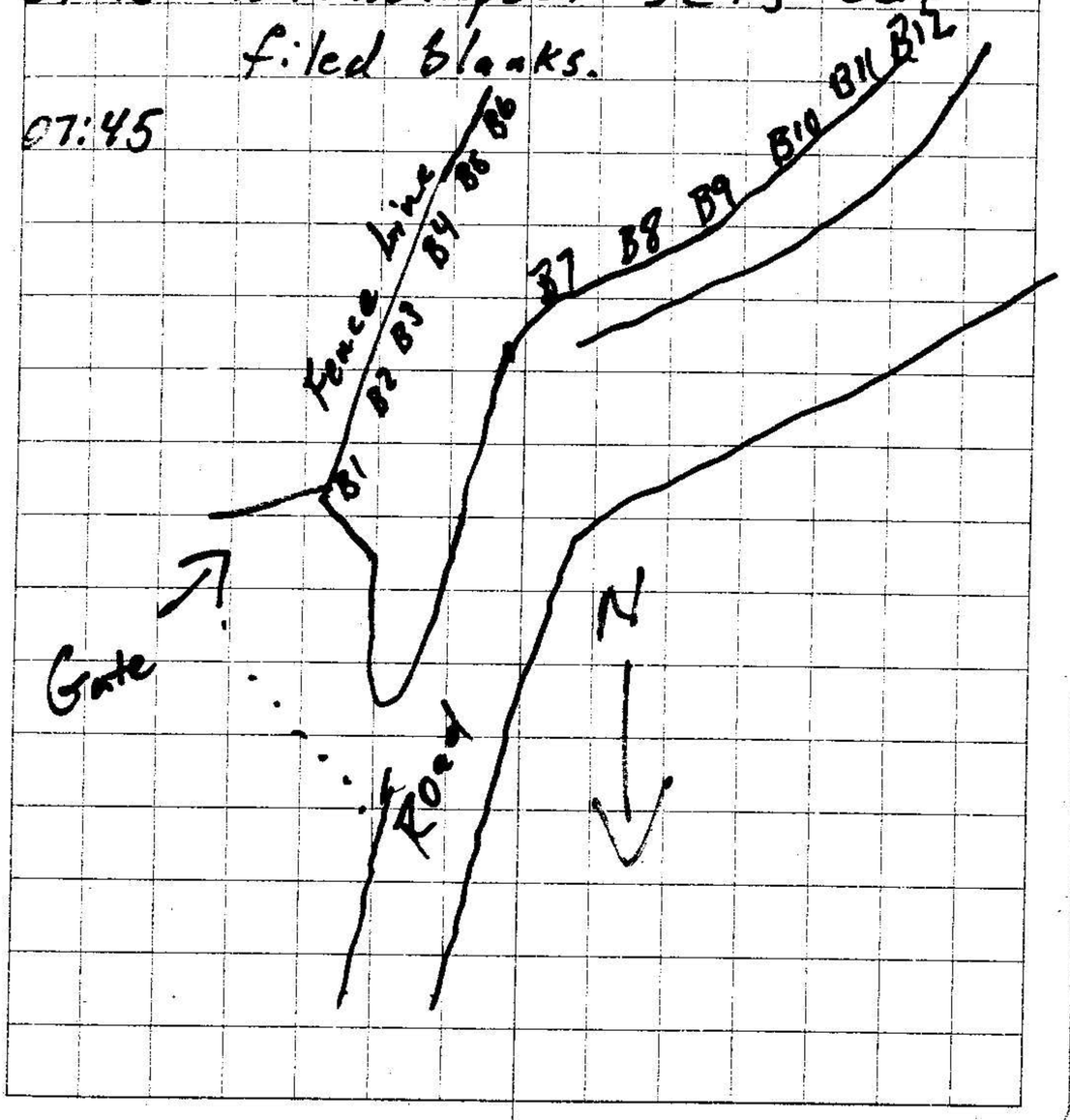
2876 ACE

07:30 W. Thompson conducts the tailgate safety meeting.

07:35 MMG prepares sample table & WHE prepares the drill rig

07:43 W. Thompson sets out filed blanks.

07:45



Location New Orleans LA Date 6-30-08

Project / Client PIESA Michoud - Canal - GINN

2876ACE

07:48 MMG & WHE begin drilling and sampling.

07:51 Twelve boreholes will expressed to 3' bgs. Samples will be created by composite of three discrete locations.

Comp 1; B1, B2, & B3
Comp 2; B4, B5, & B6
Comp 3; B7, B8, & B9
Comp 4; B10, B11, & B12

07:59 S-2876ACE-COMP1

B1 N	30	01	06.3
W	89	54	02.3
B2 N	30	01	05.5
W	89	54	01.9
B3 N	30	04	04.7
W	89	51	01.5

09:30 Samples

1	8oz	TPH D, O, PAH
3	Encores	TPH-G BTEX, MTBE
1	4oz	RCRA metals

Location New Orleans LA Date 6-30-08

Project / Client PIESA Michoud Canal - GINN

2876ACE

~~08:36~~	1 4oz	Hold for SPLP
08:36	S-2876ACE-COMP2	
	S-2876ACE-COMP2a	
	B4 N	30 01 04.0
	W	89 54 01.1
	B5 N	30 01 03.2
	W	89 54 00.7
	B6 N	30 01 02.5
	W	89 54 00.2

09:00 Samples

1	8oz	TPH-D, O, PAH
3	Encores	TPH-G, BTEX/MTBE
1	4oz	RCRA metals
1	4oz	Hold for SPLP
1	8oz	TPH-D, O, PAH
3	Encores	TPH-G, BTEX/MTBE
1	4oz	RCRA metals
1	4oz	Hold for SPLP

09:08 Work stops while W. Thompson talks to Wayne Fillingame of Acersy. Telephone #:

Location New Orleans Date 6-30-08

Project / Client PIESA - Michoud Canal - GIWW

287GACE

(504) 254-2135 ; Mobile ;
(228) 383-4285, Wayne is
concerned about MMG & WHE
using the road (Intracostal Dr)
on his property.

09:15 W. Thompson contacts Dr. Kim
at the USACE to inform
her of the need for a Hold
Harmless letter.

09:17 Work continues

09:19 S-2876ACE-COMP3

B7	N	30 01	03.6
	W	89 51	05.7
B8	N	30 01	03.5
	W	89 54	06.7
B9	N	30 01	03.1
	W	89 54	07.4

09:20 Samples

1 8oz	TPH D,O, PAHs
3 Encores	TPH-G, BTEX/MTBE
1 4oz	RCRA Metals
1 4oz	Hold for SPLP

Location New Orleans Date 6-30-08

Project / Client PIESA - Michoud Canal - GIWW

287GACE

09:25 ~~B7~~ W-2876ACE-RB-COMP3-6-30-08

4	40ml	TPH G, BTEX/MTBE
3	60ml	TPH D, O
1	1L	PAHs
1	500ml	RCRA Metals

Reagent Blank collected after B9

09:30 S-2876ACE-COMP4

3X Vol for MS/MSD

B10	~~B7~~	N	30 01	01.8
		W	89 54	10.5
B11	~~B8~~	N	30 01	01.6
		W	89 54	11.5
B12	~~B9~~	N	30 01	01.2
		W	89 54	12.4

10:00 Samples

MS/MSD	3 8oz	TPH D,O, PAHs
MS/MSD	9 Encores	TPH-G, BTEX/MTBE
MS/MSD	3 4oz	RCRA Metals
	1 4oz	Hold for SPLP

Location New Orleans Date 6-30-08

Project / Client PII ESA - Michoud Canal - GIWW

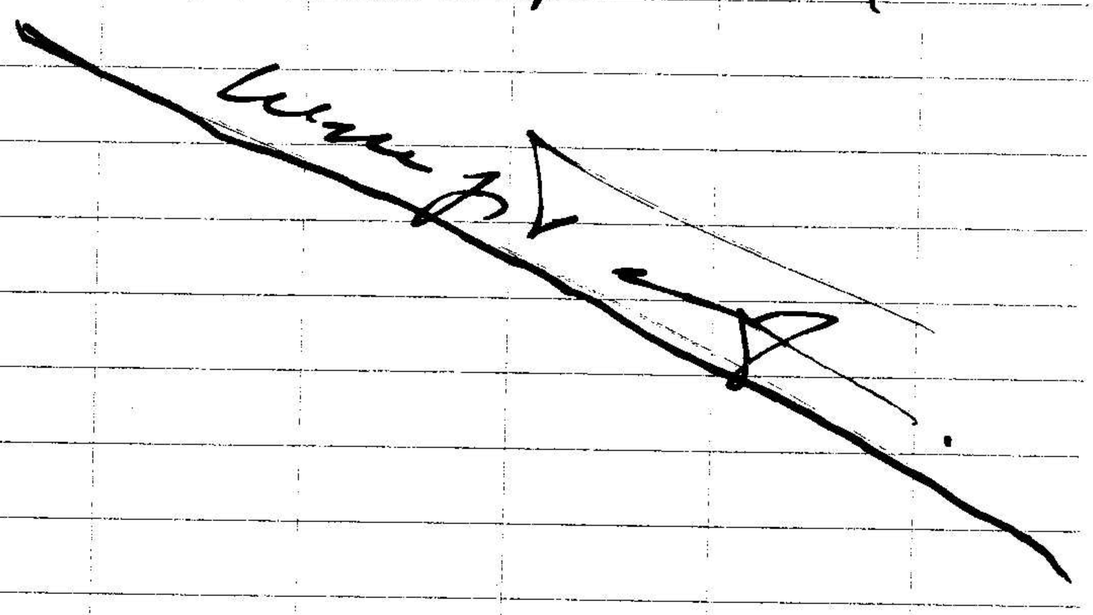
2876ACE

10:15 G. Brooks prepares the Field Blanks for transport
W-2876ACE-FB-6-30-08
4 40ml TPH-6 BTEX-MTBE

10:20 R. Pumilia prepares the Trip Blanks and sample cooler for transportation
W-2876ACE-TB-6-30-08
3 40ml TPH-6 BTEX-MTBE

10:43 WHE Departs

10:45 One cooler with samples are set for delivery to SPL Lab
Delivered By R. Pumilia



Location New Orleans Date 6-30-08

Project / Client PII ESA - Michoud Canal - GIWW

2876ACE

12:10 These notes are compiled from the material description sheets taken in the field.

B1:
0'-1.5' Sandy brown, no inclusions, moist, no odor
1.5'-3' Sandy Grey Clay, no inclusions, moist, no odor.

B2:
0'-1' Void no material
1'-3' Sandy Grey Clay, no inclusions, moist, no odor.

B3
0'-2.5' Red-Brown Sand, no inclusions, moist, no odor.
2.5'-3' Grey Sandy Clay, no inclusions, moist, no odor.

Location New Orleans Date 6-30-08

Project / Client PILESA Michoud Canal - GIWW

2876ACE

B4:

0'-2.5' Red-Brown well sorted. fine Sand, no inclusions moist, no odor

2.5'-3' Grey Sandy Clay, fine sand, no inclusions moist, no odor

B5:

0'-1.75' Brown Sandy Clay, fine sand, no inclusions Well sorted, moist, no odor

1.75'-3' Void no material

B6:

0'-1' Void no material

1'-2' Brown sandy Clay, very fine sand, no incls, well sorted, moist, no odor

2'-3' Grey sandy Clay, fine sand, no inclusions, moist, no odor.

Location New Orleans Date 6-30-08

Project / Client PILESA Michoud Canal - GIWW

2876ACE

B7:

0'-0.5' Grey sand, fine, well sorted, no inclusions, moist, no odor.

0.5'-3' Grey Clay, fine sand, no inclusions, moist, no odor.

B8:

0'-3' Grey sandy Clay, fine sand, well sorted, no inclusions, moist, no odor.

B9

0'-3' Grey sandy clay, fine sand, well sorted, no inclusions, moist, no odor.

B10, B11, B12

0'-3' Grey sandy clay fine sand, well sorted, no inclusions, moist, no odor

B1 N 30 01 06.3
W 089 54 02.3

B2 N 30 01 05.5
W 089 54 01.9

B3 N 30 01 04.7
W 089 54 01.5

B4 N 30 01 04.0
W 089 54 01.1

B5 N 30 01 03.2
W 089 54 00.7

B6 N 30 01 02.5
W 089.54 00.2

B7 N 30 01 03.6
W 089 54 05.7

B8 N 30 01 03.5
W 089 54 06.7

B9 N 30 01 03.1
W 089 54 07.4

B~~10~~ ~~N 30 01 02.7~~ 30 01 01.6
11 ~~W 089 54 08.3~~ 089 54 11.5

B~~11~~ ~~N 30 01 02.2~~ 30 01 01.2
12 ~~W 089 54 09.4~~ 089 54 12.4

B~~12~~
10 N 30 01 01.8
W 089 54 10.5

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No. **267648**

page 1 of 1

Client Name: Materials Management Group Inc.
Address: 3520 General DeGaulle Dr. #3010, N.O. LA
Phone/Fax: (504) 365-0569 / (504) 365-5403
Client Contact: Karly Gibbs Email: karly.gibbs@mmgnola.com
Project Name/No.: PHESA-Michoud Canal-GIWW / 2876ACE
Site Name:
Site Location:
Invoice To: Mimi Lo Ph: (504) 365-0569

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=oil X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	Requested Analysis: TPH-G (8015B)	BTEX/MTBE (8021, 8260)	TPH-D (8015B)	PAHs (8270)	RCRA metals (6010, 7470)	SPLP Metals (1312) * HOLD *			
S-2876ACE-Comp 1	6-30-08	08:30	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X			
S-2876ACE-Comp 2		09:00	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X			
S-2876ACE-Comp 2a		09:00	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X			
S-2876ACE-Comp 3		09:20	X		S	X,G,G	X,4,8		6	X	X	X	X	X	X			
S-2876ACE-Comp 4		10:00	X		S	X,G,G	X,4,8		16	X	X	X	X	X	X			
W-2876ACE-RB-Comp3-6-30-08		9:25		X	W	P;G A;V	X;V 1	2	9	X	X	X	X	X				
W-2876ACE-TB-6-30-08		10:20		X	W	G	40	1	3	X	X							
W-2876ACE-FB-6-30-08		10:15		X	W	G	40	1	4	X	X							

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp:

Requested TAT

Contract ☐ 72hr ☒
24hr ☐ Standard ☐
48hr ☐ Call
Other ☒ (713) 990-9002

Special Reporting Requirements Results: Fax ☐ Email ☐ PDF ☐
Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler:	date 6-30-08	time 12:00	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date	time	6. Received by Laboratory:

☐ 8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

☐ 500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

☐ 459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

Table 1: Sample Table

Sample Name	Date Collected	Required Analysis (Method)	Containers	Holding Time/Preservation*	Comments
S-2876ACE-Comp1	6.30.8 8:30	TPH-G, BTEX/MTBE TPH-D, O, PAHs RCRA metals	3 Encores 1 X 8 oz jar 1 X 4 oz jar	48 hrs/Cool to 4°C 14 d/Cool to 4°C 180 d (Hg 45 d)/Cool to 4°C	
S-2876ACE-Comp2	6.30.8 9:00	TPH-G, BTEX/MTBE TPH-D, O, PAHs RCRA metals	3 Encores 1 X 8 oz jar 1 X 4 oz jar	48 hrs/Cool to 4°C 14 d/Cool to 4°C 180 d (Hg 45 d)/Cool to 4°C	
S-2876ACE-Comp2a	6.30.8 9:00	TPH-G, BTEX/MTBE TPH-D, O, PAHs RCRA metals	3 Encores 1 X 8 oz jar 1 X 4 oz jar	48 hrs/Cool to 4°C 14 d/Cool to 4°C 180 d (Hg 45 d)/Cool to 4°C	Split
S-2876ACE-Comp3	6.30.8 9:20	TPH-G, BTEX/MTBE TPH-D, O, PAHs RCRA metals	3 Encores 1 X 8 oz jar 1 X 4 oz jar	48 hrs/Cool to 4°C 14 d/Cool to 4°C 180 d (Hg 45 d)/Cool to 4°C	
S-2876ACE-Comp4	6.30.8 10:00	TPH-G, BTEX/MTBE TPH-D, O, PAHs RCRA metals	3 Encores 1 X 8 oz jar 1 X 4 oz jar	48 hrs/Cool to 4°C 14 d/Cool to 4°C 180 d (Hg 45 d)/Cool to 4°C	MS/MSD
W-2876ACE-RB-Comp3 ~~date~~ 6.30.08	6.30.8 9:25	TPH-G, BTEX/MTBE TPH-D, O PAHs RCRA metals	4 X 40 ml vials 3 X 60 ml vials 1 X 1 L amber 1 X 500 ml plastic	14 days/HCl & Cool to 4°C 7 days/Cool to 4°C 7 days/Cool to 4°C 180 days/HNO_3 & Cool to 4°C	
W-2876ACE -TB ~~date~~ 6.30.08	10:20	TPH-G, BTEX/MTBE	3 X 40 ml vials	14 d/ HCl & Cool to 4°C	
W-2876ACE -FB ~~date~~ 6.30.08	10:15	TPH-G, BTEX/MTBE	4 X 40 ml vials	14 d/ HCl & Cool to 4°C	

Note: One extra 4 oz jar will be necessary for each soil sample for potential SPLP analysis.

500 Ambassador Caffery Parkway
Scott, LA 70583-8544
TEL: (337) 237-4775
FAX: (337) 237-8005

Bottle Order 24524

06/24/08 10:43

SHIPPED TO:

Company: MATERIALS MANAGEMENT GROUP
Contact: WENDELL THOMPSON
Address: 3520 GENERAL DEGAULLE
SUITE 3010
NEW ORLEANS, LA 70114
Phone: (504) 368-0568

Submitted by: Jackson, Amy K.

Ship Date: **6/24/2008**
VIA: **FedEx-Eco 2nd Day PM**
Due Date: **6/26/2008**

Quote ID: 30
Project Name: 2876 ACE
End User:
Project Location: NEW ORLEANS, LA
Special COC:
PO#(if applicable):

- [x] Custody seals
- [x] Temperature Blank
- [x] Trip Blank

Bottle Type	Test	Bottle Code	QTY
☑ 5 gram encor sampler		ENCOR5G	21
	RECAP Gasoline Range Organics		
	Volatile Organics : Method 8260B		
☑ 1-LTR AMB GLS unpres		1LAMGU	2
	Semivolatile Organic PAH by EPA 8270C		
☑ 8-oz GLS unpres		8OZGU	7
	RECAP Diesel Range Organics by Method 8015B		
	RECAP Oil Range Organics		
	RECAP PAH by EPA 8270C		
☑ 3x60 mL AMB VOA vial unpres		60mlAU-set(3)	1
	RECAP Diesel Range Organics by Method 8015B		
	RECAP Oil Range Organics		
☑ 4x44 mL VOA vial 1:1 HCl to pH <2-pres		VOAHCL-set(4)	1
	RECAP Gasoline Range Organics		
	Volatile Organics:Method 8260B:BTEX+MTBE		
☑ 4-oz GLS unpres		4OZGU	7
	Total Metals by Method 6010B - solid		
☐ 500mL PLS 1:1 HNO3 to pH<2-pres		500mlP/HNO3	1
	Total Metals by Method 6010B		
☐ 1 GALLON DI WATER		DIWATER	1
☐ 3x40ml			

Questions? Please Call SPL (337) 237-4775 and ask for your client service representative.

Filled by .. Tracy Albert
Date/Time: 6-24-08 1300

Courier ...:
Freight # :

Pre-Mobilization Comfirmation Checklist

To Whom it May Concern:

Walker-Hill Environmental, Inc. requests that each customer complete the following and fax to (601) 736-6006.

> Have utilities been located: Yes or No If so, Confirmation #_____ no
> What type of utilty clearance tools will be required: ____ hand probe
> Is the site surface area in : Concrete , Asphalt or Soil soil
> Is there a source of water onsite for our use: Yes or No no
> Will WHE, Inc. need to provide drums or other containers for IDW: Yes or No no
> What is the ~distance from location to staging area for soil cuttings: _____ 10ft
> What is the maximium depth bgs WHE, Inc. needs to be prepared to go: _____ 3ft
> Is the site in a "high" traffic area: Yes or No no
> Is there electricity onsite for our use: Yes or No no
> Have overhead utilities been observed within 30 ft. of drilling locations: Yes or No no
> What is the anticipated screen length: _____ none
> What level of PPE will be required to work on this site: D , C , B or A D
> What type of safety training other than OSHA 40 hr. is required: _____ none
> What type of surface completions will be required: Above grade , Flush mount or N/A N/A

Customer Signature: _____
Date: 6-21-08

Thank you for informing WHE, Inc. with this information to help better serve you on this project.
If we can be of further assistance please call at (601) 736-3500.

Sincerely,
Walker-Hill Environmental, Inc.

Eric Meitzler
Project Manager

Walker- Hill Environmental, Inc.
P.O. Box 1147 - Foxworth, MS 39483
Ph: (601) 736-3500 - Fax: (601) 736-6006

Appendix D: Photographs

Photograph #1
Materials Management Group and Walker Hill Environmental prepare for drilling and sampling at the Michoud Canal - GIWW

Photograph # 2
MMG sets out field blanks in the Comp1 – Comp2 area

Photograph #3
Comp1 – Comp2 field area

Photograph # 4
WHE samples B1

Photograph #5
WHE removes sampling liner from sampler at B2 interval 0'-3'

Photograph #6
WHE backfills hole at B2 with media sand chips

Photograph #7
Clay material from B7

Photograph # 8
Composite sample at B1, B2, and B3

Photograph #9
Composite sample of B10, B11, and B12

Photograph # 10
MMG technician decontaminates drill shoe using Alconox

Photograph #11
MMG collects Reagent Blank after Composite2 sampling and shoe decontamination

Photograph # 12
WHE decontaminates drill rig before departure

Appendix E: Final Safety Report

SAFETY INSPECTION FORM

Materials Management Group, Inc.	
SUBJECT: INSTRUCTIONS, PROCEDURES & DRAWINGS: HEALTH & SAFETY	**Page:** 1 of 1 **Document:** qa/qm/oper/h&s/sftyrep

PROJECT NUMBER: 2876-ACE DATE: 6-30-2008

CUSTOMER: USACE TIME FROM: 07:00 TO: _____

JOB LOCATION: Michoud Canal – GIWW, New Orleans, LA

SUPERVISOR: W. Thompson FOREMAN/LEADMAN: W. Thompson

GENERAL JOB DESCRIPTION: PIIESA

EMPLOYEES: Wendell Thompson
Gary Brooks
Randal Pumilia

SAFETY CONDITIONS: _____

WEATHER: Overcast - Rain ; 70-85 °F ; Still ; Humid

MONITORING & SAMPLING (attach results)

INSTRUMENTATION USED:

LEVEL OF PROTECTION (special conditions) Level D

PROBLEMS/UNUSUAL SITUATIONS

CORRESPONDENCE

SIGNATURE: _____ SIGNATURE: _____
(Project Supervisor/Foreman/Leadman) (HSO Dept.)

ORIGINAL DATE: September 4, 1997		**REV#: DATE:**
GENERATED BY: JEM	**REVIEWED BY: Jane Morgan; signature on file**	**APPROVED BY: Jane Morgan; signature on file**

SAFETY INSPECTION FORM

Materials Management Group, Inc.	
SUBJECT: INSTRUCTIONS, PROCEDURES & DRAWINGS: HEALTH & SAFETY	**Page:** 1 of 1 **Document:** qa/qm/oper/h&s/sftyrep

ORIGINAL DATE: September 4, 1997		**REV#: DATE:**
GENERATED BY: JEM	**REVIEWED BY: Jane Morgan; signature on file**	**APPROVED BY: Jane Morgan; signature on file**

Tailgate Safety Meeting

Date: 6-30-2008 Time: 07:30 File #: 2876ACE

Site Location: Michoud Canal - GIWW

Type of Work: PIIESA Field Work

Site Manager: Wendell Thompson Site Phone: (504) 715-7849

Safety Topics:

☒ **Emergency Shut-Off** ☒ **Exclusion Zone** ☒ **Smoking Area**

☒ Proper Excavation Attire (no loose clothing, no jewelry, tight leather gloves)

☐ Weekly Topic: _____

Hazards:

☒ Slips/Trips/Falls ☐ Thermal Stress ☒ Biological ☐ Electrical

☒ Lifting ☐ Acoustical ☐ Severe Weather ☐ Radiological

☐ Shearing Metal ☒ Rotating Equipment ☒ Crushing or Pinching

☒ Heavy Equipment ☐ Fire/Explosion/Hot Work* ☐ Excavation* ☐ Confined Space*

☒ Chemical Exposure

☒ From site: Petroleum Hydrocarbons, Metals, PAHs, VOC's

☐ From work procedures: _____

☒ Absorption ☒ Inhalation ☒ Ingestion ☒ MSDS located in field files

☐ Other: _____

PPE: Level ☐ A ☐ B ☐ C ☒ D

☐ Full Face ☐ 1/2 Face

☐ Hepa ☐ Organic ☐ Combination: _____

☐ Cascade Air ☐ SCBA ☐ Air Pump

☒ Steel Toe ☐ Rubber Steel Toe ☒ Leather Gloves ☒ Cotton Dot

☒ Ear Plugs ☐ Hard Hat ☒ Face Shield/Goggles/Glasses

☐ Surgical Gloves ☒ Nitrile ☐ PVC Gloves

☐ Tyvek ☐ Saranex ☐ Other : _____

Monitoring:

☐ OVM/OVA ☐ LEL/O2 ☐ Draeger : _____

☐ Personnel ☐ Area

☐ Other: _____

Emergency Facility: ☒ Map Attached

Name: Medical Center of Louisiana Phone: (504) 903-3000

Address: 2021 Perdido St., N.O. LA

* Permit Required

Attendees Signature required on other side of this form

Meeting Conducted By: W. Thompson

Plan of the Day:

Sample 12 Holes to
3' BGS

Composite Sample

B1, B2, B3 Comp1

B4, B5, B6 Comp 2

B7, B8, B9 Comp 3

B10, B11, B12 Comp 4

Printed Name	Signature
Wendell Thompson	
Dennis Herrera	
Joshua L King	
Randy Pomilia	
GARY BROOKS	

EMERGENCY TELEPHONE NUMBERS:

Job #: 2876ACE
Location: ND. LA

Date: 6-30-08
Supervisor's Initials: [illegible]