# 1R - 1057

## REPORTS

## 5/14/2007

#### SUSTAINABLE STRATEGIES FOR GLOBAL LEADERS

May 14, 2007

Mr. Glenn Von Gonten Environmental Hydrologist New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico, 87505

Subject: Monitor Well Installation and Risk Evaluation Report Halliburton/Baroid Mud Plant 401 East Avenue R Lovington, Lea County, New Mexico

Dear Mr. Johnson:

Delta Environmental Consultants, Inc. (Delta) submits the enclosed Monitor Well Installation and Risk Evaluation Report outlining field activities completed in March 2007 at the site referenced above. Based on the groundwater data and risk evaluation, Halliburton Energy Services, Inc. (HESI) is requesting closure of this site.

We appreciate your prompt review of the report. Please contact either myself at 512 342-8096 or Mr. James McGinty of HESI at 281-575-4428, if you have any questions concerning the site.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

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John Barry Sr. Project Manager

CC: Larry Johnson- Environmental Engineer Chris Williams - District I Supervisor Wayne Price – Environmental Bureau Chief Patricia Caperton – Environmental Tech





#### MONITOR WELL INSTALLATION AND RISK EVALUATION REPORT

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#### HALLIBURTON/BAROID MUD PLANT 401 EAST AVENUE R LOVINGTON, LEA COUNTY, NEW MEXICO

#### **DELTA PROJECT NO. F004-004**

**Prepared for:** 

Halliburton Energy Services, Inc. 10200 Bellaire Boulevard Houston, Texas 77072

May 11, 2007

Prepared by:



Delta Environmental Consultants, Inc. 9009 Mountain Ridge Dr., Ste 110 Austin, Texas 78759 (800) 477-7411

Delta Environmental Consultants, Inc.

#### TABLE OF CONTENTS

1.0	REPORT SUMMARY	1
2.0	SITE HISTORY	1
3.0	CHEMICALS OF CONCERN INGROUNDWATER	3
4.0	MARCH 2007 GROUNDWATER ASSESSMENT	3
5.0	RISK EVALUATION	4
6.0	RECOMMENDATION	6
7.0	REMARKS AND SIGNATURES	6

#### TABLES

Table 1	Groundwater Elevation Data
Table 2	Groundwater Laboratory Analytical Results

#### **FIGURES**

Figure 1Site Map Figure 2Groundwater Elevation Map March 2007

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#### **APPENDICES**

Appendix ASoil Boring Logs/Monitor Well Construction DiagramsAppendix BGroundwater Laboratory Reports

Delta Environmental Consultants, Inc.

#### MONITOR WELL INSTALLATION AND RISK EVALUATION REPORT

#### HALLIBURTON/BAROID MUD PLANT 401 EAST AVENUE R LOVINGTON, LEA COUNTY, NEW MEXICO

#### **DELTA PROJECT NO. F004-004**

#### 1.0 REPORT SUMMARY

This report presents the results of monitor well installation and groundwater sampling activities at the site referenced above. The chemicals of concern (COCs) in the groundwater at the site were compared to the New Mexico Oil Conservation Division's (OCD's) cleanup levels, the New Mexico Water Quality Control Commission (WQCC) standards, and New Mexico Environment Department's (NMED's) risk guidelines. Also included in this text is a qualitative risk evaluation to determine the actual or potential for public and environmental exposure to hydrocarbon impact at the site.

#### 2.0 SITE HISTORY

The site is a former mud plant operated by Baroid, now owned by Halliburton Company. The mud plant has been inactive for approximately 20 years; however, the warehouse area of the site is currently in use. Site demolition activities in early 2004 indicated several potential areas of concern (AOCs) on the mud plant portion of the property, north of the warehouse. These included: an unlined pit on the north side of the property, the former mud tank containment area with one former below grade tank, several areas where apparently impacted surface soil was observed, and the former debris pile area on the north end of the property.

In April 2004, the contents of the mud tanks were removed, the mud tank containment area was razed, the tanks and debris from the site were removed, and some soil excavation (surface soil and the soil in the mud tank containment area) occurred. One (1) sample from the mud plant and one (1) soil sample from the pit area were collected during the field activities. The mud plant sample contained 6,820 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH) by EPA Method 418.1, and the sample from the pit area contained 24,200 mg/kg TPH. Analysis for Toxicity Characteristic Leaching Procedure (TCLP) semi-volatile organic compounds (SVOCs) and TCLP RCRA Metals were below laboratory detection limits. TCLP volatile organic compounds (VOCs) were either below laboratory detection limits or below the Environmental Protection Agency's (EPA's) limit for each compound. Copies of the laboratory analytical reports were previously submitted to the OCD. The sludge and soil were removed

and transported for off-site disposal at Sundance Services in Eunice, New Mexico. Excavation was not completed in the pit area at that time.

In July 2004, eight soil borings were advanced in the areas of concern. Soil sample results indicated impact near the former mud tank containment area and near the pit. Subsequently, approximately 2,800 cubic yards of soil were removed from the pit area. Soil confirmation results indicated total petroleum hydrocarbons – diesel range organics (TPH-D) concentrations ranged from <5 mg/kg to 13,000 mg/kg. Six of the eight soil confirmation samples exceeded the target level of 1,000 mg/kg TPH-D.

In September 2004, an estimated additional 3,000 cubic yards of soil were removed from the pit and former mud plant areas. Soil confirmation results indicate only one sample collected from the north wall of the mud plant excavation exceeded 1,000 mg/kg TPH-D. The samples with the two highest TPH-D results were also analyzed for benzene, toluene, ethyl benzene, and total xylenes (BTEX), polynuclear aromatic hydrocarbons (PAHs), and TCLP metals. All results were below laboratory detection limits or State standards. Copies of the laboratory analytical reports were previously submitted to the OCD.

The excavations were backfilled in November 2004 after verbal approval from the OCD. At the request of the OCD, Halliburton sampled the backfill material for TPH and chlorides. The results indicated a chloride concentration in excess of the OCD target level. Halliburton re-sampled the backfill by collecting eleven soil samples and the results indicated that the average chloride concentration of the backfill was not above the OCD target level of 250 mg/kg. The results of the backfill samples were submitted to the OCD on September 13, 2005.

In April 2004, Halliburton resubmitted the monitor well installation and risk evaluation work plan and an additional C-144 form at the request of the OCD. After further discussions with the OCD, Halliburton submitted a revised work plan and C-144 form for review and approval. The work plan was verbally approved in September 2005 after receipt of the backfill sample results.

In October 2005, three (3) monitor wells were installed on the site. One (1) monitor well was advanced in the location of the former below-grade tank in the former mud plant area. One (1) monitor well was advanced directly in the center of the former pit area. One (1) monitor well was advanced in the assumed down-gradient direction on the north side of the property. As per the approved work plan, soil samples

Delta Environmental Consultants, Inc.

were not collected. Each monitor well is 2-inch in diameter, constructed in compliance with OCD guidelines, screened across the water table and completed flush with the existing ground surface. Each well was developed by surging and bailing until fines were removed.

One (1) additional monitor well was installed as requested by the OCD at the site on March 20, 2007. Monitor well location is shown on Figure 1. The monitor well was advanced on the adjoining property to the east of the property. As per the approved work plan, soil samples were not collected. The monitor well is 2-inch in diameter, constructed in compliance with OCD guidelines, screened across the water table and completed flush with the existing ground surface. The monitor well construction diagram is included in Appendix A.

The well was developed by surging and bailing until fines were removed. Soil cuttings and purged water is currently being stored on-site in 55-gallon drums pending completion of characterization for disposal. The north-side top-of-casing elevation was surveyed relative to an arbitrary benchmark.

#### 3.0 CHEMICALS OF CONCERN IN GROUNDWATER

Historical groundwater samples from MW-1 through MW-3 have been analyzed for gasoline range organics (TPH-G), TPH-D, oil range organics (TPH-O), BTEX. The groundwater sample with the highest TPH and BTEX results, was also analyzed for PAH and RCRA Metals. Previous site sampling has indicated that groundwater concentrations were below the BTEX, RCRA metals and PAHs standards established by the NMED screening guidance. All of the COCs were below the WQCC drinking water standards. TPH was below the NMED screening levels set for TPH-O. The only COC that exceeded site target levels is TPH-D in groundwater sample MW-3 collected in October of 2005. No standards have been established for TPH-G. Historical groundwater sample analytical results are presented in Table 2.

#### 4.0 MARCH 2007 GROUNDWATER ASSESSMENT

The depth to groundwater measurements were collected using a product/water interface probe. The average depth to groundwater in March 2007 was 56.4 feet. Groundwater elevation data from the March 2007 site visit indicate that groundwater flows to the northeast in roughly the same direction as the topographic gradient. Groundwater elevation data are summarized in Table 1, and a groundwater gradient map is included as Figure 2.

After groundwater elevations stabilized, groundwater samples were collected from each monitor well according to OCD protocol and submitted for analysis of TPH-G, TPH-D and TPH-O by EPA Method 8015M and BTEX by EPA Method 8021B. MW-3 had the highest TPH concentration and was also analyzed for PAHs by EPA Method 8270.

Site sampling indicated that groundwater concentrations were below the BTEX, and PAHs standards established by the NMED screening guidance. All of the COCs were below the WQCC drinking water standards. TPH was below the NMED screening levels set for TPH-D and TPH-O. No standards have been established for TPH-G. Groundwater sample analytical results are presented in Table 2. The laboratory analytical report is included in Appendix B.

#### 5.0 RISK EVALUATION

The objective of this risk evaluation is to determine the potential threat to human health and/or the environment to COCs remaining in soil and those detected in groundwater at the site. The only COC that exceeded site target levels is TPH-D in soil sample MPSS-5 and groundwater sample MW-3 collected in October 2005. TPH is a good indicator compound used to assess the relative impact from a petroleum release, but can not be used to definitively assess risk. Petroleum hydrocarbons contain a mixture of compounds and therefore the toxicity of TPH can not be evaluated. For both of these samples BTEX, PAHs and RCRA Metals were analyzed. According to the laboratory data, none of these individual COCs exceeded OCD, NMED or WQCC target levels.

The site is currently operated as a warehouse facility. The former mud plant was located to the north of the warehouse area. Surrounding land use is industrial. Access to the property is restricted by a locked fence. Currently, there is no complete pathway of exposure to impacted soil or groundwater at the site.

Soil containing residual COCs is present on-site at a depth of 14 feet below grade. There is no off-site impact. Site workers will not come in contact with residual COCs remaining in on-site soil, since impacted surface soil was removed during excavation activities. Site construction workers are not anticipated to be exposed to the remaining hydrocarbons in soil because the soil is present below the average construction depth of 10 feet below grade. Furthermore, COCs are protective of both types of exposures because BTEX, PAHs and RCRA Metals are below the NMED risk screening standards for these exposure scenarios.

Water is supplied to the site by the City of Lovington. Groundwater is present at depths of 54 to 58 feet below grade. According to the New Mexico State Engineer's Office database, no water wells are currently located on or within 2,640 feet of the site. A copy of the water well search was previously submitted to the OCD. Groundwater analytical data shows that the shallow water-bearing zone meets drinking water standards. Monitor wells MW-2 and MW-4, located down gradient from MW-3 which had the highest TPH concentrations, had COC concentrations below the WQCC drinking water standards and TPH concentrations below the NMED screening levels set for TPH-D and TPH-O.

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#### 6.0 RECOMMENDATION

Based on the results of the soil excavation activities, the recent groundwater sampling and the risk evaluation, Halliburton recommends project closure. Upon OCD approval, Halliburton will plug the onsite monitor wells per New Mexico guidelines and dispose of the monitor well purge water at an approved off-site facility.

#### 7.0 REMARKS AND SIGNATURES

The interpretations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

This report was prepared by DELTA ENVIRONMENTAL CONSULTANTS, INC.

Pateto Marty

Patrick Marty Staff Scientist

Reviewed by:

Von Dorm/

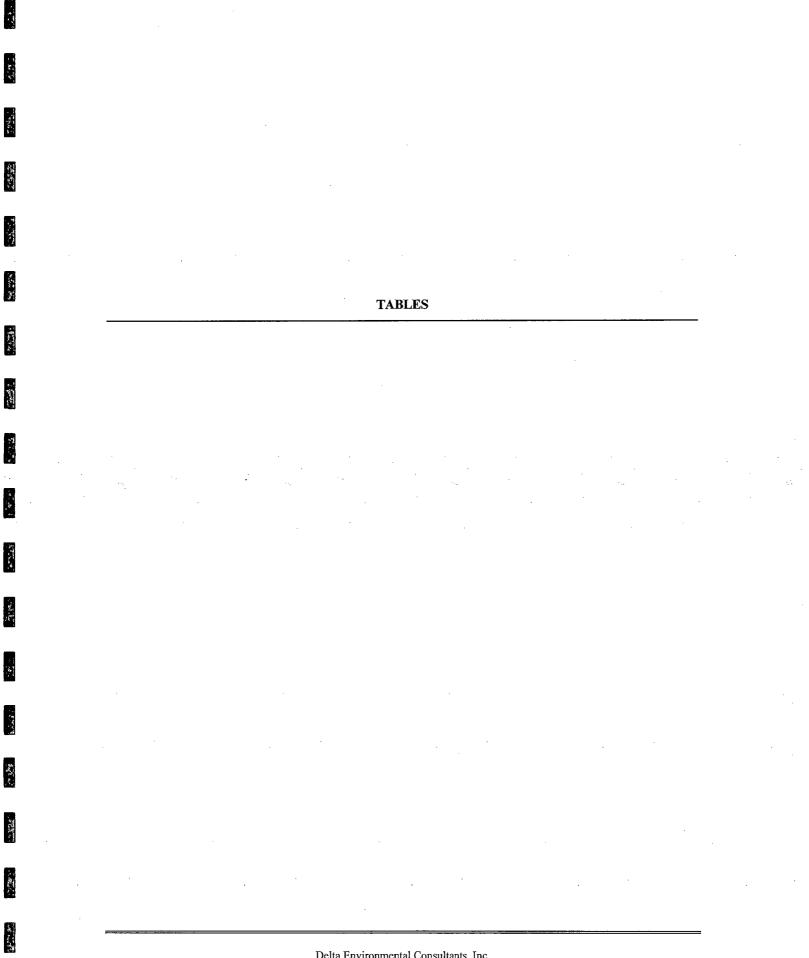
Date:

Date:

May 11, 2007

May 11, 2007

John Barry P.E. Sr. Project Manager



Delta Environmental Consultants, Inc.

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### TABLE 1 GROUNDWATER ELEVATION DATA HALLIBURTON/BAROID MUD PLANT LOVINGTON, NEW MEXICO DELTA PROJECT NO. F004-004

Sample ID	Date Collected	Top of Casing Elevation (ft)	Depth to Product (ft)	Depth to Groundwater (ft)	Corrected GW Elevation (ft)
MW-1	10/14/05	100.28	NP	54.24	46.04
	03/21/07		NP	58.28	42.00
MW-2	10/14/05	100.00	NP	54.59	45.41
	03/21/07		NP	55.30	44.70
MW-3	10/14/05	102.42	NP	57.71	44.71
	03/21/07		NP	55.00	47.42
MW-4	03/21/07	100.84	NP	57.33	43.51

Explanation:

Top of casing elevations relative to an on-site benchmark NP - Not present

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GROUNDWATER LABORATORY ANALYTICAL RESULTS HALLIBURTON/BAROID MUD PLANT DELTA PROJECT NO. F004-004 LOVINGTON, NEW MEXICO **TABLE 2** 

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		HdT	ТРН	трн			Ethyl-	Total									
	Date	GRO	DRO	ORO	Benzene	Toluene	benzene	Xylenes	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	PAHs
	Collected	(mg/r)	(mg/L)	(mg/r)	(mg/L)	(mg/L)	('''') ('''')	(mg/r)	(1) (1)	(mg/r)	(mg/L)	נווופירו	(1)8/11)	(1116)(1)	(1)8111)	ווואירו	(1)Bill
MW-1	10/14/05	0.102	0.24	<0.20	0.00102	0.000565	<0.0005	<0.0015	NA	NA	AN	NA	AN	AN	NA	NA	AN
	03/21/07	<0.05000	0.208	0.189	<0.005	<0.005	<0.005	<0.0015	NA	¥	AN	AN	NA	AN	AN	AN	AN
MW-2	10/14/05	<0.1	0.45	0.28	<0.0005	<0.0005	<0.0005	<0.0015	NA	AN	NA	AN	AN	NA	NA	NA	NA
	03/21/07	<0.05000	0.54	0.262	<0.005	<0.005	<0.005	<0.0015	AN N	٩	NA	NA	ΝA	AN	AN	AN	AN
MW-3	10/14/05	<0.1	2.2	0.6	<0.0005	<0.0005	<0.0005	<0.0015	<0.02	0.751	<0.0007	<0.01	0.00198	<0.0002	0.013	<0.0001	<0.0036*
	03/21/07	<0.05000	0.95	0.183	<0.005	<0.005	<0.005	<0.0015	AN	٩	NA	NA	NA	NA	AN	AN	0.00012
MW-4	03/21/07	<0.05000	0.278	<0.150	<0.005	<0.005	<0.005	<0.0015	AN	AN	NA	NA	AN	AN	NA	NA	AN
New Mexico W NMED TPH Scr	Mexico WQCC Levels O TPH Screening Level	H H	NE	NE 4 8	0.01 NF	0.75 NF	0.75 NF	0.62 NF	0.1 NF	+ H	0.01 NF	0.05 NF	0.05 NF	0.002 NF	0.05 NF	0.05 NE	Various NE
	TO THE REAL OF		144	1000 A.		1.1	I	11		1	11					NAME OF CONTRACT OF CONTRACT.	

Explanation:

All values are expressed in milligrams per liter (mg/L)

Non-detect results are expressed as less than the reporting limit

NA-not analyzed NE- protective concentration not established

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

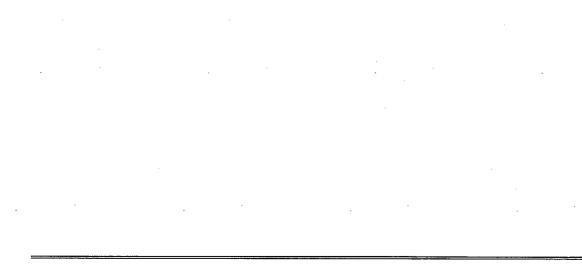
DRO - diesel range organics

ORO - oil range organics

Benzene, toluene, ethyl benzene, and total xylenes analysis by EPA Method 8021B

PAH - polynuclear aromatic hydrocarbons by EPA Method 8270C;

\* All PAH results from October 2005 sampling were below the laboratory detection limits which ranged from 0.00052 to 0.0036 mg/L All PAH all results from March 2007 sampling were below reporting limits of 0.0001 mg/L except Fluoranthene (0.00012 mg/L) New Mexico WQCC Level - New Mexico Water Quality Control Commission Regulations 20.6.2 NMAC (September 15, 2002) NMED TPH Screening Standard - New Mexico Environment Department TPH Screening Guidelines (June 3, 2003)



FIGURES

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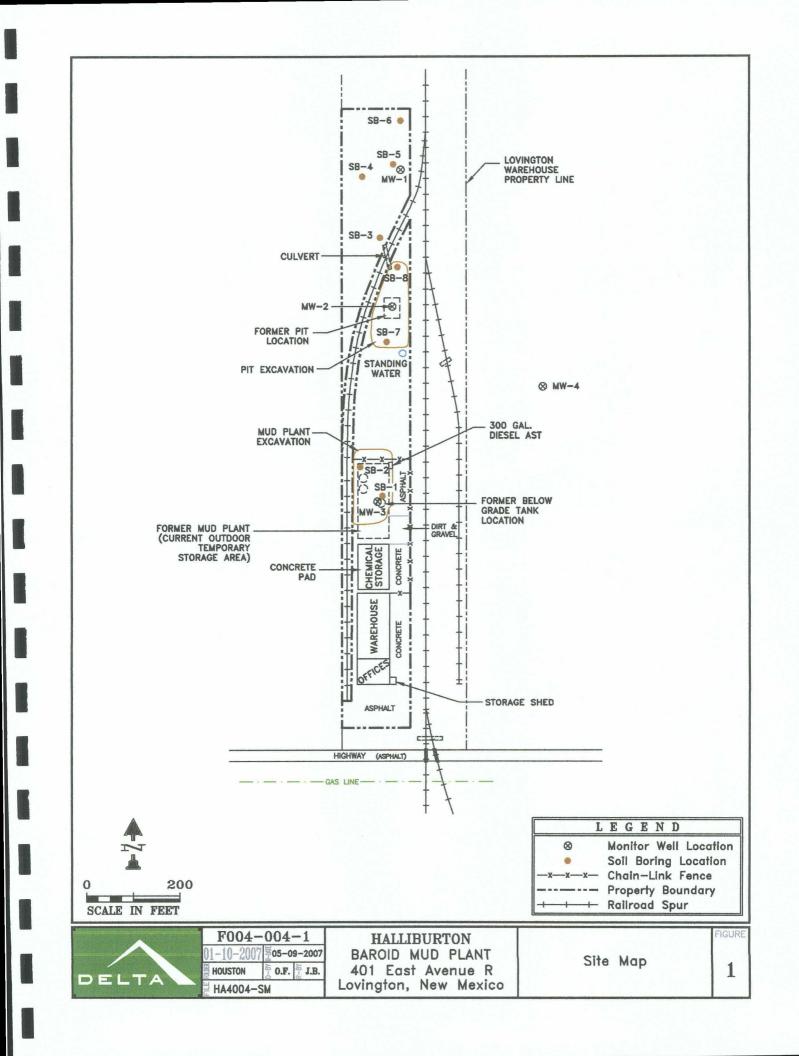
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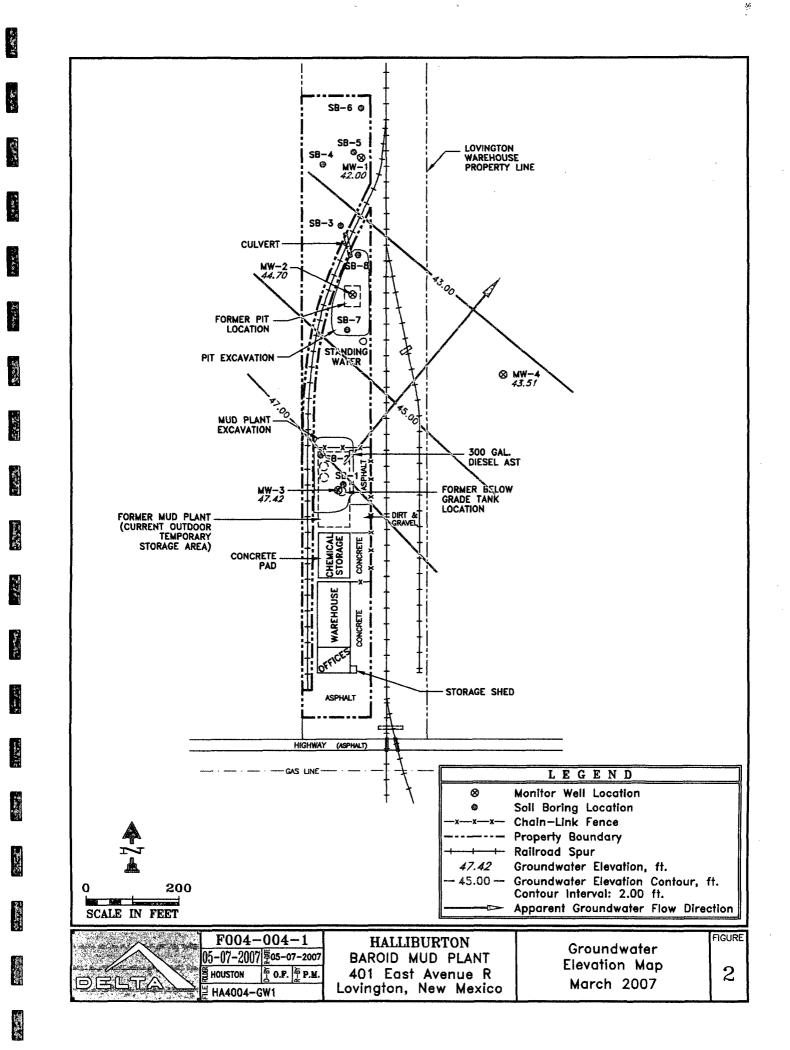
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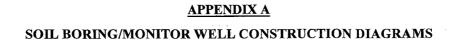
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Depth (feet) Samples	Recovery	(%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic	Depth (feet)	
				Surface grass to 0.5'       0.50'         Sandy Clay:       Brown, no hydrocarbon odor.       1.00'         Caliche:       Light gray, with gypsum, no hydro- carbon odor, fine grained.       5.00'	/		5-	- Concrete Cover
10			0.0	Tan, fine, no hydrocarbon odor.			10	
20			0.0				20	Bentonite Seal
30- 		-	0.0	30.00' Sand: Tan, very fine sand, no hydrocarbon odor.			30	2" Diameter Schedule 40 PVC Well Casing
40		-	0.0	40.00' Light tan, very fine sand, no hydrocarbon odor.			40	
50			0.0	Slight moisture at 55'.	4		50 	- 20/40 Sand Pack
60 65 7			0.0_	60.00' Tan, fine grained sand, no hydrocarbon odor, slight moisture.				2" Dlameter 0.0 Machine Slot Schedule 40 Flush Joint PVC Well Screen
70			0.0 Note	Ţ = initial Water Level : THIS LOG SHOULD NOT BE USED SEPARATELY F	RC	M 1	70	2" PVC Plug
De				F004-004-1         HALLIBURTON           05-07-2007 至05-07-2007         BAROID MUD PLAN           当 HOUSTON 空 0.F. 原 P.M.         401 East Avenue           当 HA4004-MW4         Lovington, New Mexi	T R		Soil Log and Construction MW-4	t Well

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#### GROUNDWATER LABORATORY REPORTS

Pace Analytical® New Orleans Laboratory

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F Saint Rose, LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02008

April 13, 2007

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James Hodges Delta Environmental-Houston 3701 Briarpark Drive Suite 300 Houston, TX 77042

RE: Project: 2067804 RE: Project ID: Lovington Site

Dear James Hodges:

Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Willin RS hachelf

Randy Shackelford



#### **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, execpt in full, without the written consent of Pace Analytical Services, Inc.

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Pace Analytical New Orleans Laboratory

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### Report of Laboratory Analysis Project Number: 2067804





## Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client: Delta Environmental-Houston

Project: Lovington Site

Project No.: 2067804

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Sample ID	Lab ID	Matrix	Collecti Date/Ti	· · · ·	Received Date/Tin	
MW-1	20508993	Water	03/21/2007	12:00	03/22/2007	10:00
MW-2	20508994	Water	03/21/2007	11:30	03/22/2007	10:00
MW-3	20508995	Water	03/21/2007	11:00	03/22/2007	10:00
MW-4	20508997	Water	03/21/2007	10:30	03/22/2007	10:00
SOIL DRUMS	20508998	Soil	03/21/2007	12:30	03/22/2007	10:00

4/13/2007 13:41:41

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Pace	Analytical <sup>**</sup> Here Selector Fail		Narrative	Pace Analytical Service 1000 Riverbend Blvd. St. Rose , LA Phone: 504.44 Fax: 504.44 LELAP #
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	Narrative detail for GC s	emi-volatilves analyses:		
	The method blank and L Pentacosane was within	CS for TPH batch 83816 yielded poor re limits in all of the associated samples.	ecoveries for pentacosane, one of the two All other QC was acceptable.	surrogates used.
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			New Orleans Labor Louisiana Dept. of Arkansas Dept. of Louisiana Dept. of Florida Dept. of He Kansas Dept. of He U.S. Dent. of Arci	4/13/2007 13:42:1 atory Certifications Environmental Quality (LELAP) - 02006 invironmental Quality - 88-0681 Health and Hospitals / Drinking Water - LA060 alth (NELAC) - E87595 alth Environment - E-10266 ulture Foreign Soil Permit - S-47270

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#### **Project Narrative**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2067804</u>
Sample Receipt Condition: All samples were received in accordance with EPA protocol.
Holding Times: All holding times were met.
Blanks: All blank results were below reporting limits.
Laboratory Control Samples: LCS recoveries outside of QC limits are qualified in the Report of Quality Control section.
Matrix Spikes and Duplicates: MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.
Surrogates: All surrogate recoveries were within QC limits.
Regulatory, Permit or Client Specified Limits: Results were found that exceeded regulatory, permit or client specified limits:

-• • 20/2004

Method EPA 8015 Mod Ext sample 20508993 Diesel Range Organics (C10-28) result .208mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508994 Diesel Range Organics (C10-28) result .54mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508995 Diesel Range Organics (C10-28) result .95mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508997 Diesel Range Organics (C10-28) result .278mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508993 Oil Range Organics (>C28-40) result .189mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508994 Oil Range Organics (>C28-40) result .262mg/L is greater than .15mg/L limit Method EPA 8015 Mod Ext sample 20508995 Oil Range Organics (>C28-40) result .183mg/L is greater than .15mg/L limit

4/13/2007 13:42:14

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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#### **Project Narrative**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

#### Project: 2067804

Analytical Method	Batch	Sample used for QC	· · · · · · · · · · · · · · · · · · ·
EPA 8015 Mod Ext	83816	Project sample MW-1	
EPA 8015 Mod Ext	84154	Batch sample from another client	
EPA 8021	83914	Batch sample from another client	
EPA 8015 Mod Pur	83915	Project sample MW-1	
EPA 8021	83932	Project sample SOIL DRUMS	
EPA 8015 Mod Pur	83933	Project sample SOIL DRUMS	
EPA 6010	83789	Batch sample from another client	
EPA 6010	84559	Project sample MW-3	
EPA 7471	83790	Batch sample from another client	
EPA 7470	84590	Project sample MW-3	
EPA 8270	83838	Project sample MW-1	

Project sample means a sample from this project was used.

Client sample means a sample from the same client but in a different project was used. Batch sample means a sample from the a different client was used.

Art3/2007 13:42:17 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87395 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Report	of Lab	oratory	Analysis

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

1	len firlenes lah nalary	· · · · · · · · · · · · · · · · · · ·			Fax: 504.469.0555 LELAP # 02006
		Client:	Delta Env	ironmental-Houston	<u>n</u>
Client ID:	<u>MW-3</u>	Site:	None		
Project:	Lovington Site	Project No.:	<u>2067804</u>	Sample Qu:	
Lab ID:	<u>20508995</u>	Matrix:	Water	% Moisture:	<u>n/a</u>
Description:	None	Prep Level:	Water	Batch:	<u>83838</u>
Method:	8270 SVOAs SIM Water	Units:	<u>ug/L</u>	Target List:	827S WL20
		Collected:	03/21/07	Received:	03/22/07
Prep Factor:	1	Prepared:	03/24/07	Analyzed:	<u>04/03/07 21:01</u> JAM (1)

				Reporting	Reg.
CAS Number	Parameter	Dilution	Result	Qu Limit	Limit
83-32-9	Acenaphthene	1	ND	0.100	ti. to Reading
208-96-8	Acenaphthylene	1	ND	0.100	
120-12-7	Anthracene	1	ND	0.100	
56-55-3	Benzo(a)anthracene	1	ND	0.100	
205-99-2	Benzo(b)fluoranthene	1	ND	0.100	
207-08-9	Benzo(k)fluoranthene	1	ND	0.100	
191-24-2	Benzo(g,h,i)perylene	. 1	ND .	0.100	
50-32-8	Benzo(a)pyrene	1	ND	0.100	
218-01-9	Chrysene	i	ND	0.100	
53-70-3	Dibenz(a,h)anthracene	1	ND	0.100	
206-44-0	Fluoranthene	1	0.120	0.100	
86-73-7	Fluorene	. 1	ND	0.100	•
193-39-5	Indeno(1,2,3-cd)pyrene	1	ND	0.100	
91-57-6	2-Methylnaphthalene	1	ND	0.100	
91-20-3	Naphthalene	1	ND	0.100	
85-01-8	Phenanthrene	1	ND	0.100	
129-00-0	Pyrene	1	ND	0.100	

17 compound(s) reported

Pace Analytical"

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit.

Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:20

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 08-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (INELAC) - E37595 Kansas Dept. of Health L.Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	Repor	t of Laborato	ry Anal	ysis		Pace	1000 River	<b>al Services, Inc.</b> rbend Blvd. Suite F t. Rose , LA 70087
ace Analy	(ICA) New Sciences Folgeralory							one: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
		• •	Client:	Delta Env	vironi	mental-Housto	<u>on</u>	
Client ID:	<u>MW-1</u>		Site:	None				
<b>Project:</b>	Lovington Site	Pr	oject No.:	<u>2067804</u>		Sample Qu:		
Lab ID:	<u>20508993</u>		Matrix:	Water		% Moisture:	<u>n/a</u>	
Description:	None	P	rep Level:	Water		Batch:	<u>83816</u>	
Method:	8015 TPH Extractables Water		Units:	<u>mg/L</u>		Target List:	TPH V	WL20
			Collected:	<u>03/21/07</u>		Received:	03/22/0	<u>)7</u>
Prep Factor:	<u>1</u>		Prepared:	03/24/07		Analyzed:	<u>04/03/0</u>	07 <u>19:50</u> <u>SPP1 (1</u>
	_	<b>N</b> 11 -1			_		orting	Reg.
CAS Number	Parameter	Dilution	Resu		Qu		mit	Limit
	Diesel Range Organics (C10-28)	1		0.208			0.150	0.150
	Oil Range Organics (>C28-40)	1		0.189			0.150	0.150

2 compound(s) reported

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	Report of Laborate	ory Analys	sis		Analytical Services, Ir. 1000 Riverbend Blvd. Suite St. Rose , LA 7006
ace Analytical New Sulease Laboration					Phone: 504.469.03 Fax: 504.469.05 LELAP # 020
		Client: De	elta Enviro	onmental-Housto	<u>n</u>
Client ID: <u>MW-1</u>		Site: No	one		
Project: Lovington Site	P	roject No.: <u>20</u>	<u>067804</u>	Sample Qu:	
Lab ID: 20508993		Matrix: <u>W</u>	/ater	% Moisture:	<u>n/a</u>
Description: None	]	Prep Level: <u>W</u>	/ater	Batch:	<u>83915</u>
Method: 8015 TPH Gasoline Wa	er	Units: m	ng/L	Target List:	TPHG WL20
		Collected: 03	<u>3/21/07</u>	Received:	03/22/07
Prep Factor: <u>1</u>		Prepared: 03	3/28/07	Analyzed:	<u>03/28/07</u> 07:03 DET
CAS Number Parameter	Dilution	Result	Qu	Repo 1 Lit	U U
Gasoline Range Organics(C6-1	0) 1	N	1D	······································	0.0500 0.150

ND denotes Not Detected at or above the adjusted reporting limit.
OF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.
Regulatory limit denotes an actual regulatory limit or a client-requested notification limit.
nalysis performed in (1) New Orleans (2) Batan Bauga (3) Bossier City (4) Houston or (0) subcontract or field

4/13/2007 13:42:23

4/13/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555

112	A Selenses I advadary				1000 11 colored a	Fax: 504.469.0555 LELAP # 02006
			Client:	Delta Environ	mental-Houstor	<u>1</u>
Client ID: 1	<u>MW-1</u>	<u>.</u>	Site:	None		
Project: I	Lovington Site		Project No.:	<u>2067804</u>	Sample Qu:	
Lab ID: 2	20508993		Matrix:	Water	% Moisture:	<u>n/a</u>
Description: 1	None		Prep Level:	Water	Batch:	<u>83914</u>
Method: §	3021 VOAs Water	· · ·	Units:	<u>ug/L</u>	Target List:	8021 WL20
		ана <u>с</u>	Collected:	03/21/07	Received:	03/22/07
Prep Factor: ]	<u>L</u>		Prepared:	03/28/07	Analyzed:	03/28/07 07:03 DET (1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
	m&p-Xylene	1	ND		10.0	
95-47-6	o-Xylene	1	ND		5.00	
5 compound(s) repo	rted					

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

Al (3/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health [LELAC] - E87595 Kansas Dept. of Health LENVironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

12	Report of ]	Laborato	ry Analy	ysis			1000 Riverber	Services, Inc. ad Blvd. Suite F ose , LA 70087
Pace Analytic	äl Silean tahnalon						Fax	: 504.469.0333 : 504.469.0555 .ELAP # 02006
			Client:	Delta Env	vironm	ental-Houstor	<u>1</u>	
Client ID: M	<u>W-2</u>		Site:	None				
Project: Lo	ovington Site	Pr	oject No.:	2067804		Sample Qu:		
Lab ID: <u>20</u>	<u>508994</u>		Matrix:	Water	0	⁄6 Moisture:	<u>n/a</u>	
Description: No	one	Pı	ep Level:	Water		Batch:	<u>83816</u>	
<b>Method:</b> <u>80</u>	15 TPH Extractables Water		Units:	mg/L		Target List:	TPH WI	.20
		(	Collected:	<u>03/21/07</u>		Received:	03/22/07	
Prep Factor: <u>1</u>		]	Prepared:	<u>03/24/07</u>		Analyzed:	<u>04/03/07</u>	21:06 SPP1 (1)
						Repor	ting	Reg.
CAS Number Para	ameter	Dilution	Resul	t	Qu	Lin	uit	Limit
Dies	sel Range Organics (C10-28)	1	•	0.540		(	0.150	0.150
Oil	Range Organics (>C28-40)	1		0.262			0.150	0.150

2 compound(s) reported

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	Report of Laborat	ory Anal	ysis			1000 Riverbe	<b>Services, Inc</b> and Blvd. Suite I Rose , LA 70087
ACE ANALYICAI New Sciences Faltonialmy							e: 504.469.033 x: 504.469.055 LELAP # 02000
		Client:	Delta Env	viron	mental-Housto	<u>n</u>	
Client ID: <u>MW-2</u>		Site:	None				
Project: Lovington Site	· ]	Project No.:	<u>2067804</u>		Sample Qu:		
Lab ID: <u>20508994</u>		Matrix:	<u>Water</u>		% Moisture:	<u>n/a</u>	
Description: None		Prep Level:	Water		Batch:	<u>83915</u>	
Method: 8015 TPH Gasoline	Water	Units:	mg/L		Target List:	<u>TPHG</u> V	<u>VL20</u>
		Collected:	03/21/07		Received:	03/22/07	
Prep Factor: <u>1</u>		Prepared:	03/28/07		Analyzed:	03/28/07	07:28 DET (
CAS Number Parameter	Dilution	Rest	ılt	Qu	Repo	0	Reg. Limit
Gasoline Range Organics(	(C6-10) 1		ND			0.0500	0.150

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4/13/2007 13:42:23

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

<b>Report of Laboratory Analysi</b>	Report	of L	aboratory	Ana	lysis
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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

1 - Sector and a sector sector	i v	v	St. Rose , LA 70087
Pace Analytical "		·	Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
	Client:	Delta Environmental-Houst	<u>on</u>
Client ID: <u>MW-2</u>	Site:	None	
Project: Lovington Site	Project No.:	<u>2067804</u> Sample Qu:	:
Lab ID: 20508994	Matrix:	<u>Water</u> % Moisture:	: <u>n/a</u>
Description: None	Prep Level:	Water Batch:	: <u>83914</u>
Method: <u>8021 VOAs Water</u>	Units:	ug/L Target List:	: <u>8021 WL20</u>
	Collected:	<u>03/21/07</u> Received:	: <u>03/22/07</u>
Prep Factor: <u>1</u>	Prepared:	<u>03/28/07</u> Analyzed:	: <u>03/28/07</u> 07:28 <u>Det (1)</u>

						Reporting	Reg.	
CAS Number	Parameter	Dil	ution	Result	Qu	Limit	Limit	
71-43-2	Benzene	· ····	1	ND		5.00		
100-41-4	Ethylbenzene		1	ND		5.00		
108-88-3	Toluene		1	ND		5.00		
	m&p-Xylene		1	ND		10.0		
95-47-6	o-Xylene		1	ND		5.00		
5 compound(s) repo	rted							

4/13/2007 13:42:23

4/13/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	1	<b>Report of L</b>	aboratory	y Anal	ysis			1000 Riverb	Services, Inc end Blvd. Suite F Rose , LA 70087
ace Analy	tical ten Sulenne Latenatary								ne: 504.469.0333 ax: 504.469.0555 LELAP # 02006
				Client:	<u>Delta En</u>	viron	nental-Housto	<u>n</u>	
Client ID:	<u>MW-3</u>			Site:	<u>None</u>				
<b>Project:</b>	Lovington Site		Proj	ect No.:	<u>2067804</u>		Sample Qu:		
Lab ID:	20508995			Matrix:	Water		% Moisture:	<u>n/a</u>	
Description:	None		Pre	p Level:	Water		Batch:	<u>83816</u>	
Method:	8015 TPH Extractab	les Water		Units:	<u>mg/L</u>		Target List:	TPH W	<u>L20</u>
		·	Co	ollected:	<u>03/21/07</u>	-	Received:	03/22/07	
Prep Factor:	1		Pr	epared:	03/24/07	-	Analyzed:	<u>04/03/07</u>	21:32 SPP1 ()
CAS Number	Parameter		Dilution	Resu	lt	Ou	Repo	0	Reg. Limit
	Diesel Range Organics (Cl	0-28)	1		0.950	~~~		0.150	0.150
	Oil Range Organics (>C28	-40)	1		0.183			0.150	0.150

ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/s denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

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Vew Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dinkling Water - LA060023 Florida Dept. of Health (NELAC) - E87995 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2.		Report of Laboratory Analysis			<b>Pace Analytical Services, Inc.</b> 1000 Riverbend Blvd. Suite F St. Rose , LA 70087			
Pace Analy	tical ten sutenes taxinalny							one: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
			Client:	<u>Delta En</u>	viron	mental-Houston	<u>1</u>	
Client ID:	<u>MW-3</u>		Site:	<u>None</u>				
Project:	Lovington Site	F	Project No.:	<u>2067804</u>		Sample Qu:		
Lab ID:	<u>20508995</u>		Matrix:	Water		% Moisture:	<u>n/a</u>	
Description:	None	]	Prep Level:	Water		Batch:	<u>83915</u>	
Method:	8015 TPH Gasoline Wa	er	Units:	mg/L		Target List:	TPHG	WL20
			Collected:	<u>03/21/07</u>		Received:	03/22/0	7
Prep Factor:	<u>1</u>		Prepared:	03/28/07		Analyzed:	03/28/0	7 07:54 DET (1)
CAS Number	Parameter	Dilution	Resu	ılt	Qu	Repo	-	Reg. Limit
	Gasoline Range Organics(C6-1	0) 1		ND			0.0500	0.150

1 compound(s) reported

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:23 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Report of	Laboratory	Analysis
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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

The former of the second se	St. Rose , LA 70087	
Hace Analytical New Suleases Lateratory	Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006	
	Client: Delta Environmental-Houston	
Client ID: <u>MW-3</u>	Site: None	
Project: Lovington Site	Project No.: 2067804 Sample Qu:	
Lab ID: 20508995	Matrix: <u>Water</u> % Moisture: <u>n/a</u>	
Description: None	Prep Level: <u>Water</u> Batch: <u>83914</u>	
Method: 8021 VOAs Water	Units: <u>ug/L</u> Target List: <u>8021 WL20</u>	
	<b>Collected:</b> <u>03/21/07</u> <b>Received:</b> <u>03/22/07</u>	
Prep Factor: <u>1</u>	Prepared: <u>03/28/07</u> Analyzed: <u>03/28/07</u> <u>07:54</u> <u>DET (1)</u>	

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
	m&p-Xylene	1	ND		10.0	
95-47-6	o-Xylene	1	ND		5.00	
5 compound(s) repo	rted					

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New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) -:E87995 Kansas Dept. of Health L.Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2.	2		Report of Laboratory Analysis				Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087			
Pace Analy	lical New Suleans Laboratory						-	• •	one: 504.469.0333 Fax: 504.469.0555 LELAP # 02006	
		· · ·		Client:	Delta Env	ironn	nental-Housto	<u>n</u>		
Client ID:	<u>MW-4</u>			Site:	None					
Project:	Lovington Site		Р	roject No.:	<u>2067804</u>		Sample Qu:			
Lab ID:	20508997			Matrix:	<u>Water</u>		% Moisture:	<u>n/a</u>		
<b>Description</b> :	None		P	rep Level:	Water		Batch:	<u>83816</u>		
Method:	8015 TPH Extractables	Water		Units:	<u>mg/L</u>		Target List:	TPH Y	WL20	
		•		Collected:	03/21/07		Received:	03/22/0	<u>)7</u>	
Prep Factor:	1			Prepared:	03/24/07		Analyzed:	<u>04/03/(</u>	07 21:57 SPP1 (1	
CAS Number	Parameter	· · · · · ·	Dilution	Resu	lt	Qu	Repo Lii	rting nit	Reg. Limit	
	Diesel Range Organics (C10-2	28)	. 1		0.278			0.150	0.150	

0.278 Diesel Range Organics (C10-28) 1 Oil Range Organics (>C28-40) ND 0.150 1 2 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

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Vew Orleans Laboratory Certifications : Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 08-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

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2	R	eport of Laboratory Analysis				Pace Analytical Services, Inc 1000 Riverbend Blvd. Suite St. Rose , LA 7008			
Face Analy	tical New Sulmans Labraciany							one: 504.469.033 Fax: 504.469.055 LELAP # 0200	
			Client:	Delta Env	viron	mental-Housto	n		
Client ID:	<u>MW-4</u>		Site:	None					
Project:	Lovington Site	1	Project No.:	<u>2067804</u>		Sample Qu:			
Lab ID:	<u>20508997</u>		Matrix:	Water		% Moisture:	<u>n/a</u>		
Description:	None		Prep Level:	<u>Water</u>		Batch:	<u>83915</u>		
Method:	8015 TPH Gasoline Water		Units:	mg/L		Target List:	<u>TPHG</u>	WL20	
			Collected:	03/21/07		Received:	03/22/0	<u>)7</u>	
Prep Factor:	<u>1</u>		Prepared:	03/28/07		Analyzed:	03/28/0	07 08:20 DET (	
CAS Number	Parameter	Dilution	Rest	ılt	Qu	-	orting mit	Reg. Limit	
	Gasoline Range Organics(C6-10)	1		ND			0.0500	0.150	
1 compound(s) report	ed								

ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:24

4/13/2007 13:42:24 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

	St. Ro	se , LA 70087
Hace Analytical New Internet adverting	Fax:	504.469.0333 504.469.0555 ELAP # 02006
	Client: Delta Environmental-Houston	
Client ID: <u>MW-4</u>	Site: None	
Project: Lovington Site	Project No.: <u>2067804</u> Sample Qu:	
Lab ID: <u>20508997</u>	Matrix: <u>Water</u> % Moisture: <u>n/a</u>	
Description: None	Prep Level: <u>Water</u> Batch: <u>83914</u>	
Method: 8021 VOAs Water	Units: <u>ug/L</u> Target List: <u>8021 WL2</u>	<u>.0</u>
	<b>Collected:</b> <u>03/21/07</u> <b>Received:</b> <u>03/22/07</u>	
Prep Factor: <u>1</u>	Prepared: <u>03/28/07</u> Analyzed: <u>03/28/07</u> 0	8:20 DET (1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
	m&p-Xylene	1	ND		10.0	
95-47-6	o-Xylene	1	ND		5.00	
5 compound(s) repo	rted					

4/13/2007 13:42:24

4/13/2007 13:42:24 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Heaith and Hospitals / Drinking Water - LA060023 Florida Dept. of Heaith (NELAC) - E87595 Kansas Dept. of Heaith Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2		Report of Laborat	tory Anal	ysis			1000 Riverben	<b>ervices, Inc.</b> d Blvd. Suite F ose , LA 70087
Pace Analy	lical les interes taimatary						Fax:	504.469.0333 504.469.0555 ELAP # 02006
			Client:	<u>Delta En</u>	viront	nental-Houstor	<u>1</u>	
Client ID:	SOIL DRUMS		Site:	None				
Project:	Lovington Site		Project No.:	<u>2067804</u>		Sample Qu:		
Lab ID:	20508998		Matrix:	<u>Soil</u>		% Moisture:	<u>0 Not Corr</u>	ected
Description:	None		Prep Level:	<u>Soil</u>	-	Batch:	<u>84154</u>	
Method:	8015 TPH Extractables	s Soil	Units:	<u>mg/kg</u>		Target List:	TPH SL2	<u>0</u>
		·	Collected:	03/21/07		Received:	03/22/07	
Prep Factor:	<u>1</u>		Prepared:	<u>04/04/07</u>		Analyzed:	<u>04/04/07</u> <u>2</u>	20:22 SPP1 (1)
						Repor	0	Reg.
CAS Number	Parameter	Dilution	Resu	ult	Qu	Lin	uit	Limit
	Diesel Range Organics (C10-	28)	1	ND		10	0.0	65.0
	Oil Range Organics (>C28-40	0)	1	ND		51	0.0	180.

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (INELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

4/13/2007 13:42:24

page 20 of 49

2.	Report o	Report of Laboratory Analysis					Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087			
Pace Analyti	Cál A Sciences Laboratary						Fa	e: 504.469.033 k: 504.469.055 LELAP # 0200		
			Client:	<u>Delta Er</u>	nviror	mental-Houston	<u>1</u>			
Client ID: S	OIL DRUMS		Site:	<u>None</u>						
Project: <u>L</u>	ovington Site	Pr	oject No.:	<u>2067804</u>	<u>1</u>	Sample Qu:				
Lab ID: <u>2</u>	0508998		Matrix:	<u>Soil</u>		% Moisture:	0 Not Cor	rected		
Description: <u>N</u>	lone	Pr	ep Level:	<u>Soil</u>		Batch:	<u>83933</u>			
Method: 8	015 TPH Gasoline Med Soil		Units:	<u>mg/kg</u>		Target List:	<u>TPHGM</u>	<u>SL20</u>		
			Collected:	<u>03/21/0</u>	<u>7</u>	Received:	03/22/07	•		
Prep Factor: <u>1</u>		J	Prepared:	03/23/0	7_	Analyzed:	03/28/07	16:51 DET (		
						Repo	0	Reg.		
CAS Number Pa	rameter soline Range Organics(C6-10)	Dilution	Resu		Qu	Lin	2.50	Limit 65.0		

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/s denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Report of L	aboratory	Analysis
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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

M		-			St. Rose , LA 70087
_Pace Analy	tical Les luteans l'altinatory				Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
		Client:	<u>Delta Envi</u>	ronmental-Housto	n
Client ID:	SOIL DRUMS	Site:	None		
Project:	Lovington Site	Project No.:	<u>2067804</u>	Sample Qu:	
Lab ID:	20508998	Matrix:	<u>Soil</u>	% Moisture:	0 Not Corrected
Description:	None	Prep Level:	<u>Soil</u>	Batch:	<u>83932</u>
Method:	8021 VOAs Med Soil	Units:	ug/kg	Target List:	8021M SL20
		Collected:	03/21/07	Received:	03/22/07
<b>Prep Factor:</b>	<u>1</u>	Prepared:	03/23/07	Analyzed:	03/28/07 16:51 DET (1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
			Kesun	Qu		
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
	m&p-Xylene	1	ND		50.0	
95-47-6	o-Xylene	1	ND		25.0	
5 compound(s) repo	rted					

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87995 Kansas Dept. of Health LErwironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit denotes an actual regulatory limit or a client-requested notification limit. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

**Report of Laboratory Analysis** 

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW-3</u>	Client: Delta Environmental-Houston
Project: Lovington Site	Site: None
Lab ID: 20508995	<b>Project No.:</b> <u>2067804</u>
Description: None	Matrix: <u>Water</u> %Moisture: <u>n/a</u>
	<b>Collected:</b> <u>03/21/07</u> <b>Received:</b> <u>03/22/07</u>

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Arsenic, Dissolved	EPA 6010	84559	1	ND	•	ug/L	10.0	12-Apr-07	12-Apr-07 15:56 K	LJR (1)
Barium, Dissolved	EPA 6010	84559	1	ND		ug/L	200.	12-Apr-07	12-Apr-07 15:56 K	JR (1)
Cadmium, Dissolved	EPA 6010	84559	1	ND		ug/L	5.00	12-Apr-07	12-Apr-07 15:56 K	JR (1)
Chromium, Dissolved	EPA 6010	84559	1	ND		ug/L	10.0	12-Apr-07	12-Apr-07 15:56 K	JR (1)
Lead, Dissolved	EPA 6010	84559	ì	ND		ug/L	5.00	12-Apr-07	12-Apr-07 15:56 k	(JR (1)
Mercury, Dissolved	EPA 7470	84590	1	ND		ug/L	0.200	13-Apr-07	13-Apr-07 08:57 M	HB1 (1)
Selenium, Dissolved	EPA 6010	84559	1	ND		ug/L	35.0	12-Apr-07	12-Apr-07 15:56 F	(JR (1)
Silver, Dissolved	EPA 6010	84559	1	ND		ug/L	10.0	12-Apr-07	12-Apr-07 15:56 H	(JR (1)
8 parameter(s) report	ed									

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of final sample. PF denotes sample Prep Factor which accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (1a) pH less than 2.0 or greater than 12.5 is hazardous for corresivity. (1b) Flash point less than 140 degrees F is hazardous for ignitibility. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:27

New Orleans Laboratory Certifications 4/13/2007 13:42:27 Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

**Report of Laboratory Analysis** Face Analytical" New Talears Laboratory

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: SOIL DRUMS	Client: Delta Enviro	nmental-Houston
Project: Lovington Site	Site: None	
Lab ID: <u>20508998</u>	<b>Project No.:</b> <u>2067804</u>	
Description: <u>None</u>	Matrix: Soil	%Moisture: 0 Not Corrected
	<b>Collected:</b> <u>03/21/07</u>	<b>Received:</b> <u>03/22/07</u>

							Reporting			Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis	Limi
Arsenic	EPA 6010	83789	1	4.76		mg/kg	0.877	24-Mar-07	03-Apr-07 20:20	KJR (1)
Barium	EPA 6010	83789	1	229.		mg/kg	17.5	24-Mar-07	03-Apr-07 20:20	KJR (1)
Cadmium	EPA 6010	83789	1	ND		mg/kg	0.439	24-Mar-07	03-Apr-07 20:20	KJR (1)
Chromium	EPA 6010	83789	1	2.45		mg/kg	0.877	24-Mar-07	03-Apr-07 20:20	KJR (1)
Lead	EPA 6010	83789	1	ND		mg/kg	0.439	24-Mar-07	03-Apr-07 20:20	KJR (1)
Mercury	EPA 7471	83790	1	ND		mg/kg	0.0188	25-Mar-07	25-Mar-07 11:45	MHB1 (1)
Selenium	EPA 6010	83789	1	18.9		mg/kg	3.07	24-Mar-07	03-Apr-07 20:20	KJR (1)
Silver	EPA 6010	83789	1	ND		mg/kg	0.877	24-Mar-07	03-Apr-07 20:20	KJR (1)
8 parameter(s) repo	orted									

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ND denotes Not Detected at or above the adjusted reporting limit. DF denotes Dilution Factor of final sample. PF denotes sample Prep Factor which accounts for a non-routine sample size. Reporting Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

(1a) pH less than 2.0 or greater than 12.5 is hazardous for corrosivity.
(1b) Flash point less than 140 degrees F is hazardous for ignitibility.
Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:27

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

<b>Method:</b> <u>EPA 8270</u>	<u>)</u>				Proje	ect: 2067	<u>804</u>	LCS	: <u>2050</u>	<u>9511</u>	<u>4/3/200</u>	07 <u>12:39</u> :	<u>00 PM</u>	<u>1</u>
					Bat	ch: <u>8383</u>	<u>8</u>	MS	: <u>2050</u>	<u>9518</u>	<u>4/3/200</u>	07 1:07:0	<u>0 PM</u>	
					Un	its: <u>ug/L</u>		Origi	nal for	MS: 2	2050899	3 Client	t Samp	le
Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	-	Limits MS/MSD	Max RPD	Qu
Acenaphthene	2	1.22	61	4	0.00	2.08	2.26	52	57	. 8	49 - 111	16 - 140	20	
Acenaphthylene	2	1.1	55	4	0.00	2.04	2.2	51	55	8	39 - 107	30 - 113	20	
Anthracene	2	1.12	56	4	0.00	2.08	2.4	52	60	14	29 - 115	12 - 126	20	
Benzo(a)anthracene	2	1.21	61	4	0.00	2.04	- 2.52	51	63	21 *	45 - 107	10 - 125	20	
Benzo(b)fluoranthene	2	1.32	66	4	0.00	2.22	2.58	56	65	15	47 - 113	10 - 138	20	
Benzo(k)fluoranthene	2	1.37	69	4	0.00	2.2	2.58	55	65	16	41 - 121	10 - 134	20	
Benzo(g,h,i)perylene	2	1.52	76	4	0.00	2.48	2.82	62	71	13	40 - 111	10 - 126	20	
Benzo(a)pyrene	2	1.25	63	4	0.00	2.38	2.74	60	69	14	25 - 116	10 - 124	20	
Chrysene	2	1.21	61	4	0.00	2.28	2.46	57	62	8	44 - 117	10 - 131	20	
Dibenz(a,h)anthracene	2	1.46	73	4	0.00	2.46	2.82	62	71	14	32 - 119	10 - 126	20	
Fluoranthene	2	1.41	71	4	0.00	2.4	2.88	60	72	18	43 - 120	25 - 129	20	
Fluorene	2	1.24	62	4	0.00	2.1	2.38	53	60	12	49 - 116	30 - 137	20	
Indeno(1,2,3-cd)pyrene	2	1.45	73	4	0.00	2.4	2.78	60	70	15	37 - 120	10 - 133	20	
2-Methylnaphthalene	2	1.22	61	· 4	0.00	2.22	2.48	56	62	. 11	50 - 150	50 - 150	20	
Naphthalene	2	1.26	63	4	0.00	2.14	2.32	54	58	8	49 - 112	21 - 146	20	
Phenanthrene	2	1.27	64	. 4	0.00	2.12	2.48	53	62	16	46 - 111	11 - 142	20	
Pyrene	2	1.21	61	4	0.00	1.98	2.36	50	59	18	43 - 111	20 - 119	20	

17 compound(s) reported

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:30 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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## **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Lab ID	Type and	Sur 1	Sur 2	Sur 3	Sur 4	Sur 5	Sur 6	Sur 7	Sur 8
	Qualifiers	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec
20508995	Sample	59	52	55					
20509510	BLANK	52	43	48					
20509511	LCS	48	57	47					
20509518	MS	50	52	57					
20509519	MSD	50	42	57					
	QC limits:	36-108	10-120	25-118					

Sur 3: Terphenyl-d14 (S)

\* denotes surrogate recovery outside of QC limits.

<sup>a</sup> denotes surrogate recovery outside of QL limits.
 D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
 A Lab ID consisting of a batch number with a S suffix is a method blank.
 A Lab ID continues the surface state of the surface state state

A/13/2007 13:42:33 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



Leached:

**Report of Method Blank** 

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

#### Lab ID: 20509510

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Description: 8270 SVOAs SIM Water

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Method: EPA 8270

Prep Factor: 1

Project No.: 2067804

Batch: 83838

Units: ug/L

Prepared: 24-Mar-07

Analyzed: 04/03/07 12:11 JAM (1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	
83-32-9	Acenaphthene	1	ND	·	0.100	
208-96-8	Acenaphthylene	. 1	ND		0.100	
120-12-7	Anthracene	1	ND		0.100	
56-55-3	Benzo(a)anthracene	1	ND		0.100	
205-99-2	Benzo(b)fluoranthene	1	ND		0.100	
207-08-9	Benzo(k)fluoranthene	1	ND		0.100	
191-24-2	Benzo(g,h,i)perylene	1	ND		0.100	
50-32-8	Benzo(a)pyrene	1	ND		0.100	
218-01-9	Chrysene	1	ND		0.100	
53-70-3	Dibenz(a,h)anthracene	1	ND		0.100	
206-44-0	Fluoranthene	· 1	ND		0.100	
86-73-7	Fluorene	· 1	ND	- ,	0.100	۰.
193-39-5	Indeno(1,2,3-cd)pyrene	. 1	ND		0.100	
90-12-0	1-Methylnaphthalene	1	ND		0.100	
91-57-6	2-Methylnaphthalene	. 1	ND		0.100	
91-20-3	Naphthalene	1	ND		0.100	
85-01-8	Phenanthrene	1	ND		0.100	
129-00-0	Pyrene	t	ND		0.100	

ND denotes Not Detected at or above the reporting limit.

DF denotes Dilution Factor.

RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health [Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: EPA 801	<u>15 Mod E</u>	<u>xt</u>			Proje	ect: <u>2067</u>	<u>804</u>	LCS	: <u>2050</u>	9413	4/3/20	07 5:44:0	<u>0 PM</u>	
					Bat	tch: <u>8381</u>	<u>6</u>	MS	: <u>2050</u>	<u>9534</u>	<u>4/3/20</u>	07 8:16:0	<u>0 PM</u>	
					Un	its: <u>mg/L</u>	<u>.</u>	Origin	nal for	MS:	205089	93 Client	t Samp	ole
Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC LCS	Limits MS/MSD	Max RPD	Qu
Diesel Range Organics (C1 1 compound(s) reported	0.4	0.4081	102	0.4	0.21	0.407	0.3336	50	32	20	40 - 14	3 10 - 171	20	

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:39

4/13/2007 13:42:39 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: EPA 801	5 Mod E	xt			Proje	ect: <u>2067</u>	<u>804</u>	LCS	: <u>2051</u>	<u>0968</u>	<u>4/4/2007 7:56:0</u>	<u>0 PM</u>	
					Bat	ch: <u>8415</u>	<u>4</u>	MS	: <u>2051</u>	<u>0969</u>	<u>4/4/2007 10:04:</u>	<u>00 PM</u>	<u>1</u>
					Un	its: <u>mg/k</u>	g	Origin	al for	MS: 2	20509172 Batch	Samp	le
	LCS	LCS	LCS	MS	Sample	MS	MSD	MS	MSD	MSD	QC Limits	Max	Qu
Parameter Name	Spike	Found	%Rec	Spike	Found	Found	Found	%Rec	%Rec	RPD	LCS MS/MSD	RPD	

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:39

4/13/20// 13/22:39 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Heaith and Hospitals / Drinking Water - LA060023 Florida Dept. of Heaith (NELAC) - E87595 Kansas Dept. of Heaith LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

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## **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: <u>EPA 801</u>	5 Mod P	<u>ur</u>			Proje	ect: <u>2067</u>	<u>804</u>	LCS	: <u>2050</u>	<u>9743</u>	3/28/2007 9:12:	<u>00 AM</u>
					Bat	<b>ch:</b> <u>8391</u>	<u>5</u>	MS	: <u>2050</u>	<u>9744</u>	<u>3/28/2007 9:37:</u>	<u>00 AM</u>
					Un	its: <u>mg/L</u>	<u> </u>	Origiı	nal for	MS: 2	20508993 Client	Sample
Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec.	MSD RPD	QC Limits LCS MS/MSD	Max Q RPD
Gasoline Range Organics(C 1 compound(s) reported	0.5	0.5232	105	0.5	0.03	0.4867	0.4854	· 91	91	0	69 - 152 40 - 153	20

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:40

4/13/2007 13:42:40 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Havitonmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: EPA 801	5 Mod P	ur			Proj	ect: <u>2067</u>	804	LCS	: <u>2050</u>	<u>9865</u>	3/28/2007 10:2	<u>4:00 PM</u>
					Bat	ch: <u>8393</u>	<u>3</u>	MS	: <u>2050</u>	<u>9936</u>	3/28/2007 10:5	<u>0:00 PM</u>
					Un	its: <u>mg/k</u>	g	Origin	nal for	MS: 2	20508998 Clien	t Sample
	LCS	LCS	LCS	MS	Sample	MS	MSD	MS	MSD	MSD	QC Limits	Max Q
Parameter Name	Spike	Found	%Rec	Spike	Found	Found	Found	%Rec	%Rec	RPD	LCS MS/MSD	RPD
Gasoline Range Organics(C	25	27.85	111	25	1.72	25.54	26.36	95	99	3	70 - 146 20 - 156	20

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:40

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health [LELAC] - E87595 Kansas Dept. of Health Linvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: EPA 802	1				Proj	ect: <u>2067</u>	<u>804</u>	LCS	: <u>2050</u>	<u>9739</u>	3/28/2007 12:35	5:00 AM
					Bat	<b>ch:</b> <u>8391</u>	<u>4</u>	MS	: <u>2050</u>	<u>9740</u>	3/28/2007 1:52:	<u>00 AM</u>
					Un	its: <u>ug/L</u>		Origin	al for	MS: 2	20509004 Batch	Sample
Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS MS/MSD	Max Qu RPD
Benzene	20	19.16	96	20	0.09	17.79	19.58	89	. 98	10	72 - 133 51 - 147	20
Ethylbenzene	20	18.86	94	20	0.10	17.34	18.79	86	93	8	75 - 136 55 - 145	20
Toluene	20	19.13	96	20	0.75	18.79	20.31	90	98	8	77 - 132 57 - 143	20
m&p-Xylene	40	37.32	93	40	0.22	34.13	36.79	85	91	8	79 - 136 79 - 130	20
o-Xylene	20	18.63	93	20	0.16	17.51	18.9	87	94	8	79 - 136 79 - 130	20
5 compound(s) reported												

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:40 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health (NELAC) - E7595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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## **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Method: <u>EPA 802</u>	1				Proj	ect: <u>2067</u>	<u>804</u>	LCS	: <u>2050</u>	9863	3/28/2007 4:26:	<u>00 PM</u>
					Bat	ch: <u>8393</u>	2	MS	: <u>2050</u>	<u>9932</u>	<u>3/28/2007 5:17:</u>	<u>00 PM</u>
					Un	its: <u>ug/k</u> g	Z	Origi	nal for	MS: 2	20508998 Client	Sample
Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits LCS MS/MSD	Max Qu RPD
Benzene	800	531	66	800	4.20	510.5	493.7	63	61	3	65 - 137 39 - 144	20
Ethylbenzene	800	752.5	94	800	2.34	728	728.5	91	91	0	73 - 138 44 - 151	20
Toluene	800	642	80	800	4.72	619.5	612.5	77	76	1	74 - 135 47 - 145	20
m&p-Xylene	1600	1488	93	1600	6.23	1438	1442	90	90	. 0	74 - 144 48 - 152	20
o-Xylene	800	779	97	800	2.66	752.5	756	94	94	0	76 - 138 48 - 152	20
5 compound(s) reported												

\* denotes recovery outside of QC limits.

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:40

4/13/2007 13:42:40 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Heaith and Hospitals / Drinking Water - LA060023 Florida Dept. of Heaith (NELAC) - E87595 Kansas Dept. of Heaith LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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### **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504,469,0333 Fax: 504,469.0555 LELAP # 02006

Batch: 83816 Report: 2067804 Lab ID Sur 4 Sur 5 Sur 6 Sur 7 Sur 8 Sur 1 Sur 3 Type and Sur 2 Qualifiers %Rec %Rec %Rec %Rec %Rec %Rec %Rec %Rec 20508993 Sample 25 74 20508994 Sample 34 82 20508995 Sample 51 87 20508997 75 Sample 30 20509412 BLANK 10 \* 77 11 \* 20509413 LCS 80 20509534 MS 48 73 20509535 MSD 52 75 QC limits: 14-169 36-142

> Sur 1: n-Pentacosane (S) Sur 2: o-Terphenyl (S)

\* denotes surrogate recovery outside of QC limits. D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion. A Lab D consisting of a batch number with a B suffix is a method blank. A Lab D consisting of a batch number with a S suffix is an LCS. A Lab D with a MS suffix is a matrix spike. A Lab D with a MSD suffix is a matrix spike duplicate.

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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### **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

<b>Report:</b> <u>20</u>	67804	Batch: <u>839</u>	14						
Lab ID	Type and	Sur 1	Sur 2	Sur 3	Sur 4	Sur 5	Sur 6	Sur 7	Sur 8
	Qualifiers	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec
20508993	Sample	68							
20508994	Sample	68							
20508995	Sample	68							
20508997	Sample	69							
20509738	BLANK	105							
20509739	LCS	101							
20509740	MS	92							
20509741	MSD	92							
20510175	BLANK	105					,		
20510374	BLANK	86							
20510375	LCS	89							
Q	C limits:	58-143							

Sur 1: 4-Bromofluorobenzene (S)

\* denotes surrogate recovery outside of QC limits. D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion. A Lab ID consisting of a batch number with a B suffix is a method blank. A Lab ID consisting of a batch number with a S suffix is an LCS. A Lab ID with a MS suffix is a matrix spike. A Lab ID with a MSD suffix is a matrix spike.

4/13/2007 13:42:43 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health LENvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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## **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Lab ID	Type and	Sur 1		Sur 3	Sur 4	Sur 5	Sur 6	Sur 7	Sur 8
	Qualifiers	%Rec		%Rec	%Rec	%Rec	%Rec	%Rec	%Rec
20508993	Sample	70							
20508994	Sample	69							
20508995	Sample	68							
20508997	Sample	70							
20509742	BLANK	107							
20509743	LCS	94							
20509744	MS	94				•			
20509745	MSD	94							
	MSD  QC limits:	58-143					<u> </u>		

Sur 1: 4-Bromofluorobenzene (S)

\* denotes surrogate recovery outside of QC limits. D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion. A Lab ID consisting of a batch number with a B suffix is a method blank. A Lab ID consisting of a batch number with a S suffix is an LCS. A Lab ID with a MS suffix is a matrix spike. A Lab ID with a MSD suffix is a matrix spike duplicate.

Af13/2007 13:42:43 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87395 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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## **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Lab ID	Type and	Sur 1	Sur 2	Sur 3	Sur 4 %Rec	Sur 5	Sur 6	Sur 7	Sur 8
	Qualifiers	%Rec	%Rec	%Rec		%Rec	%Rec	%Rec	%Rec
20508998	Sample	91							
20509862	BLANK	94							
20509863	LCS	101	•						
20509932	MS	98							
20509933	MSD	102							
20509934	BLANK	94							
20509935	LCS	101							
(	C limits:	32-157				- <u> </u>			

\* denotes surrogate recovery outside of QC limits. D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion. A Lab ID consisting of a batch number with a B suffix is a method blank. A Lab ID consisting of a batch number with a S suffix is an LCS. A Lab ID with a MS suffix is a matrix spike. A Lab ID with a MSD suffix is a matrix spike duplicate.

Vew Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (INELAC) - E87595 Kansas Dept. of Health LErvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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## **Report of Batch Surrogate Recovery**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

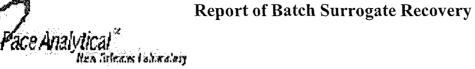
Lab ID	Type and	Sur 1	Sur 2	Sur 3	Sur 4	Sur 5	Sur 6	Sur 7	Sur 8
	Qualifiers	%Rec							
20508998	Sample	93							
20509864	BLANK	. 95							
20509865	LCS	109						• .	
20509936	MS	98							
20509937	MSD ·	98							

Sur 1: 4-Bromofluorobenzene (S)

\* denotes surrogate recovery outside of QC limits. D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion. A Lab D consisting of a batch number with a B suffix is a method blank. A Lab D consisting of a batch number with a S suffix is an LCS. A Lab D with a MS suffix is a matrix spike.

A Lab ID with a MSD suffix is a matrix spike duplicate.

New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Lab ID	Type and	Sur 1	Sur 2	Sur 3	Sur 4	Sur 5	Sur 6	Sur 7	Sur 8
Qu	Qualifiers	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec
20508998	Sample	83	80						
20509172	OQS	. 96	79						
20510967	BLANK	92	90			•			
20510968	LCS	73	75						
20510969	MS	101	91						
20510970	MSD	102	93						
0	OC limits:	22-165	42-146						

Sur 1: n-Pentacosane (S) Sur 2: o-Terphenyl (S)

\* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab D consisting of a batch number with a B suffix is a method blank.
A Lab D consisting of a batch number with a S suffix is an LCS.
A Lab D to consisting of a matrix spike.
A Lab D to with a MSD suffix is a matrix spike duplicate.

4/13/2007 13:42:43 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dirinking Water - LA060023 Florida Dept. of Health (NELAC) - E37595 Kansas Dept. of Health L, Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

CAS Number	Parameter		Dilution	Result	Qu	Reporting Limit	
Prep Factor: <u>1</u>		Leached:	Prep	ared: <u>24-Ma</u>	ar-07	Analyzed: <u>04/03/07</u> <u>17:19</u> <u>SPP1</u>	
Method: E	PA 8015 Mod Ex	<u>t</u>	B	atch: <u>83816</u>	ĺ	Units: <u>mg/L</u>	
Description: <u>T</u>	PH Extractables V	ater BLK LCS	<b>Project No.:</b> <u>2067804</u>				
Lab ID: <u>2(</u>	509412						

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ND denotes Not Detected at or above the reporting limit.

DF denotes Dilution Factor.

RL denotes Saudots Pictoria RL denotes Saudot Pictoria Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:46 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	Report of	of Method B	lank			Services, Inc nd Blvd. Suite F ose , LA 70087
Pace Analytical <sup>®</sup> New Science Fall	teralary				Fax	: 504.469.0333 : 504.469.0555 .ELAP # 02006
Lab ID: <u>20509742</u>	<u> </u>					
Description: <u>TPH GRO W</u>	ater, Blank	Project	t No.: <u>2067804</u>	<u>1</u>		
<b>Method:</b> <u>EPA 8015 M</u>	lod Pur	В	atch: <u>83915</u>		Units: <u>mg/L</u>	
Prep Factor: <u>1</u>	Leached:	Prep	ared: <u>28-Mar-</u>	<u>.07</u>	Analyzed: <u>03/28/07</u> 05:	<u>19 DET (1)</u>
CAS Number Parameter		Dilution	Result	Qu	Reporting Limit	
Gasoline Ra	nge Organics(C6-10)	1	ND		0.0500	

l compound(s) reported

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ND denotes Not Detected at or above the reporting limit. DF denotes Dilution Factor. RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:46 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Report of	Method	Blank
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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Analyzed: 03/28/07 16:01 DET (1)

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

#### Lab ID: 20509862

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Description: 8021 VOAs Med Soil	<b>Project No.:</b> <u>2067804</u>	
Method: <u>EPA 8021</u>	Batch: <u>83932</u>	Units: <u>ug/kg</u>

Leached:

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		25.0
100-41-4	Ethylbenzene	· 1	ND		25.0
1634-04-4	Methyl-tert-butyl ether	1	ND		25.0
108-88-3	Toluene	1	ND		25.0
	m&p-Xylene	1	ND		50.0
95-47-6	o-Xylene	1	ND		25.0

Prepared: 23-Mar-07

6 compound(s) reported

ND denotes Not Detected at or above the reporting limit.

ND achotes Not Detected at or above the reporting limit. DF denotes Dilution Factor. RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

Vew Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality & 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (INELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

2	<b>L</b>	f Method Blanl	K		<b>ical Services, Inc.</b> verbend Blvd. Suite F St. Rose , LA 70087
Pace Analytical"	ralwiy				Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
Lab ID: <u>20509864</u>					
Description: <u>8015 TPH Gas</u>	oline Med Soil	Project No.:	2067804		
Method: EPA 8015 Mo	<u>d Pur</u>	Batch:	<u>83933</u>	Units: mg/kg	
Prep Factor: <u>1</u>	Leached:	Prepared:	<u>23-Mar-07</u>	Analyzed: <u>03/28/07</u>	7 16:01 DET (1)
CAS Number Parameter		Dilution R	esult Qu	Reporting Limit	
Gasoline Ran	ge Organics(C6-10)	. 1 1	ND	2.50	

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Gasoline Range Organics(C6-10)

1 compound(s) reported

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ND denotes Not Detected at or above the reporting limit. DF denotes Dilution Factor. RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:46 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Heaith and Hospitals / Drinking Water - LA060023 Florida Dept. of Heaith (NELAC) - E87595 Kansas Dept. of Heaith LErwironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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### **Report of Method Blank**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

#### Lab ID: 20509934

Description: 8021 VOAs Med Soil

Project No.: 2067804

Method: EPA 8021

Batch: 83932

Units: ug/kg

Prep Factor: <u>1</u>	Leache	d: Prepa	ared: <u>23-Ma</u>	ar <u>-07</u> An	Analyzed: <u>03/28/07</u> <u>16:01</u> DET (1	
CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	
71-43-2	Benzene	1	ND		25.0	
100-41-4	Ethylbenzene	. 1	ND		25.0	
1634-04-4	Methyl-tert-butyl ether	1	ND		25.0	
108-88-3	Toluene	1	ND		25.0	
	m&p-Xylene	1	ND		50.0	
95-47-6	o-Xylene	1	ND		25.0	

6 compound(s) reported

ND denotes Not Detected at or above the reporting limit. DF denotes Dilution Factor.

RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

Art3/2007 13:42:46 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

#### Lab ID: 20510175

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Description: 8021 VOAs Water Blank

New Internet admaratory

Project No.: 2067804

Method: EPA 8021

Prep Factor: 1

Batch: 83914

Units: ug/L

Leached:

Prepared: 28-Mar-07

Analyzed: 03/28/07 05:19 DET (1)

					Reporting	
CAS Number	Parameter	Dilution	Result	Qu	Limit	
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	. 1	ND		0.500	
1634-04-4	Methyl-tert-butyl ether	1	ND		0.500	
108-88-3	Toluene	. 1	ND		0.500	
	m&p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		0.500	

6 compound(s) reported

ND denotes for Detected at of above the reporting mate DF denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:47 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

6)	20 S . M	Report of N	Aethod Blank	Pa	<b>ace Analytical Services, Inc.</b> 1000 Riverbend Blvd. Suite F St. Rose , LA 70087	
Pace Analy	liCal en lulcass l'alematery					Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006
Lab ID:	20510967					
<b>Description:</b>	8015 TPH Extractables	<u>Soil</u>	Project No.:	<u>2067804</u>		
Method:	EPA 8015 Mod Ext		Batch:	<u>84154</u>	Units:	<u>mg/kg</u>
Prep Factor:	1	Leached:	Prepared:	<u>04-Apr-07</u>	Analyzed:	<u>04/04/07</u> <u>19:31</u> <u>SPP1 (1)</u>
CAS Numb	er Parameter		Dilution Re	esult	R Ou	eporting Limit

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2 compound(s) reported

Diesel Range Organics (C10-28)

Oil Range Organics (>C28-40)

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ND denotes Not Detected at or above the reporting limit. DF denotes Dilution Factor. RL denotes sample Reporting Limit. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

4/13/2007 13:42:47 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health LEnvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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# **Report of Quality Control**

Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: 2067804

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found		MSD %Rec	MSD RPD	QC LCS	Limits MS/MSD	Max RPD	Qu
Arsenic	83789	ND	1.00	mg/kg	100	9 <sup>.</sup>	94	114.3	0.00	96.55	102.7	85	90	6	71 - 13	1 46 - 137	20	
Barium	83789	ND	20.0	mg/kg	100	100.4	100	114.3	143.80	249.3	306	92	142	20	68 - 13	1 33 - 156	20	
Cadmium	83789	ND	0.500	mg/kg	100	93.95	94	114.3	0.06	97.84	103.3	86	90.	5	69 - 12	8 31 - 154	20	
Chromium	83789	ND	1.00	mg/kg	100	93.81	.94	114.3	20.89	127.4	131.9	93	97	3	70 - 12	7 34 - 165	20	
Lead	83789	ND	0.500	mg/kg	100	96.72	97	114.3	37.09	150.3	155.9	99	104	4	68 - 13	3 31 - 156	20	
Selenium	83789	ND	3.50	mg/kg	100	91.26	91	114.3	19.76	121.9	129.8	89	96	6	66 - 12	6 41 - 129	20	
Silver	83789	ND	1.00	mg/kg	50	48.47	97	57.15	0.00	54.1	56.71	95	99	5	25 - 16	3 10 - 154	20	
Mercury	83790	ND	0.0200	mg/kg	0.1	0.1047	105	0.1081	0.02	0.1351	0.1507	108	119	11	80 - 12	0 75 - 125	20	
Arsenic, Disso	84559	ND	10.0	ug/L	1000	924.5	92	1000	0.00	852	872.6	85	87	2	72 - 11	6 60 - 123	20	
Barium, Disso	84559	ND	200.	ug/L	1000	979	98	1000	103.30	932.8	960	83	86	3	77 - 11	5 42 - 126	20	
Cadmium, Dis	84559	ND	5.00	ug/L	1000	917.1	92	1000	0.13	790.2	819	79	82	4	77 - 11	6 28 - 151	20	
Chromium, Di	84559	ND	10.0	ug/L	1000	911.6	91	1000	0.00	781.8	807.8	78	81	3	76 - 11	7 55 - 121	20	
Lead, Dissolve	84559	ND	5.00	ug/L	1000	941.3	94	1000	0.56	786.2	816.9	. 79	82	4	75 - 11	8 51 - 119	20	
Selenium, Dis	84559	ND	35.0	ug/L	1000	946	95	1000	3.15	867.5	904.8	86	90	4	74 - 11	6 55 - 127	20	
Silver, Dissolv	84559	ND	10.0	ug/L	500	490	98	500	1.50	434.8	451.3	87	90	4	64 - 12	7 10 - 152	20	
Mercury, Diss	84590	ND	0.200	ug/L	1	0.986	99	1	0.04	0.8663	0.8624	83	83	0	80 - 12	0 75 - 125	20	

\* denotes recovery outside of QC limits.

ARL denotes Adjusted Reporting Limit , corrected for sample size, dilution and moisture content as applicable. MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

4/13/2007 13:42:49

4/13/2007 13:42:49 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



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Pace Analytical Services, Inc. 1000 Riverbend Blvd. Suite F St. Rose , LA 70087

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

## Project: <u>2067804</u>

		QC Qualifiers	-
Qualifier	Qualifier Description	· · · · · · · · · · · · · · · · · · ·	_
Q1	The matrix spike recoveries are poor. recovery.	. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample	
•			
	· · ·		•
		4/13/2007 13:42:52	
		New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Environmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (Environment - E-10266 Kansas Dept. of Agriculture Foreign Soil Permit - S-47270	

The Chain of Course of the Level of the Course of the Cour	Document bleted accurately.		ATER DRINKING WATER		NI ROTHER NM					Side Pace Project Number	Lab 1.D	20508998	h55	566	997	398				SAMPLE CONDITION	N/A	Re Re R C M	N/X	N/A N/A N/A	êmp in <sup>o</sup> C teceived isealed Cooler isanples rtact
Section B Required Project Information: Required Project Informati	Analytical Request AENT. All relevant fields must be comp	7	S		OH OSC	. Eliterad (V/N)	Requested			H S2O3 Ionsr	Met N <sup>95</sup> N <sup>90</sup> HCl	X     XVV			W W W							U. 10cc 3220			
Section B Required Project Information: Required Project Information: Required Project Information: Report Project Number: Project Number: Pro	The Chain-of-Custody is a LEGAL DOCUMI	imation	ames Hates	V "	Pace Quote Reference:	5	Pace Profile	Si NO	E TEI CF OF			11 0021	11/30	00//	1 N esoi	2					11021tar 32007	0 1000 mg			
		Section B Required Project Inform	DAMES M Copy To:		Purchase Order No.: Forth	Project Name: HCS - Lo Vin < 1	then the of a character		<pre>cot</pre>	чобъ хиятам ваяра=	G G	$\mathcal{F}$				$\mathcal{O}$				ß	CM.		Parson 1	Most Hartel	hai