

**1R – 258**

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**Matthew P. Hudson**  
Remediation Project  
Manager

**Upstream Business Unit**  
Chevron Environmental  
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Houston, TX 77002  
Tel 713 372 1046  
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June 26, 2008

Mr. Glenn von Gonten  
New Mexico Oil Conservation Division  
1220 So. St. Francis Drive  
Santa Fe, New Mexico 87505

**Subject: 2007 Annual Groundwater Monitoring Reports**

Dear Glenn:

Please find enclosed one copy each of the 2007 Annual Groundwater Monitoring Reports for the following sites:

- 1R-254: G.L. Erwin "A and B" Federal NCT-2 Tank Battery, Lea County, NM
- 1R-255: J.R. Philips Tank Battery No. 2, Lea County, NM
- 1R-258: Former New Mexico State "F" Tank Battery, Lea County, NM
- 1R-289: Cooper-Jal Unit South Injection Station, Lea County, NM

Should you have any questions regarding these reports, please contact me at (713) 372-1046.

Sincerely,

Matthew P. Hudson

Enclosures

cc: Patricia Caperton, NMOCD-Hobbs (electronic copies of reports)  
Luke Markham, Conestoga-Rovers & Associates  
James Ornelas, Conestoga-Rovers & Associates  
Todd Wells, Conestoga-Rovers & Associates

IR 258



## 2007 ANNUAL GROUNDWATER MONITORING REPORT

FORMER NEW MEXICO STATE "F" TANK BATTERY

CASE NO. IR258

OGRID NO. 4323

NE/4, SE/4, SECTION 24, T-19-S, R-36-E

LATITUDE: N 32° 38' 34.9" LONGITUDE: W 103° 18' 0.49"

LEA COUNTY, NEW MEXICO

**Prepared For:**

Mr. Matt Hudson

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

Upstream Business Unit

1400 Smith Street, Room 40038

Houston, Texas 77002

**Prepared by:**  
**Conestoga-Rovers**  
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JUNE 13, 2008

REF. NO. 039122 (4)

web: <http://www.CRAworld.com>

## TABLE OF CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION.....	1
2.0 REGULATORY FRAMEWORK .....	3
3.0 GROUNDWATER SAMPLING AND ANALYSIS.....	4
3.1 POTENTIOMETRIC SURFACE ELEVATION AND GRADIENT .....	4
3.2 ANALYTICAL RESULTS.....	5
4.0 CORRECTIVE ACTION .....	6
5.0 PLANNED ACTIVITIES .....	7
6.0 SUMMARY OF FINDINGS.....	8

## LIST OF FIGURES

FIGURE 1	SITE LOCATION MAP
FIGURE 2	SITE DETAILS
FIGURE 3	GROUNDWATER GRADIENT MAP – MARCH 2007
FIGURE 4	GROUNDWATER GRADIENT MAP – JUNE 2007
FIGURE 5	GROUNDWATER GRADIENT MAP – SEPTEMBER 2007
FIGURE 6	GROUNDWATER GRADIENT MAP – DECEMBER 2007
FIGURE 7	LNAPL THICKNESS MAP – MARCH 2007
FIGURE 8	LNAPL THICKNESS MAP – JUNE 2007
FIGURE 9	LNAPL THICKNESS MAP – SEPTEMBER 2007
FIGURE 10	LNAPL THICKNESS MAP – DECEMBER 2007
FIGURE 11	GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP - MARCH 2007
FIGURE 12	GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP - JUNE 2007



FIGURE 13            GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP -  
SEPTEMBER 2007

FIGURE 14            GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP -  
DECEMBER 2007

LIST OF TABLES

TABLE I                GROUNDWATER GAUGING SUMMARY

TABLE II               GROUNDWATER ANALYTICAL SUMMARY

LIST OF APPENDICES

APPENDIX A            CERTIFIED LABORATORY REPORTS

## INTRODUCTION

This Annual Groundwater Monitoring Report presents groundwater data collected during the 2007 reporting period by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) at the former New Mexico State "F" Tank Battery (hereafter referred to as the "Site"). Groundwater gauging and sampling events were performed on March, June, September and December 2007.

The Site is located on Lea County Road 41 (Maddox Road), approximately 3.1 miles northwest of Monument, New Mexico and situated in the northeast quarter (NE/4) of the southeast quarter (SE/4), Section 24, Township 19 South, Range 36 East, Lea County, New Mexico. Site Location and Site Details maps are illustrated on FIGURES 1 and 2, respectively. Historically, Texaco Exploration and Production, Inc. (Texaco) operated the site as an oil field tank battery. An earthen emergency reserve pit was located approximately 175 feet north of the tank battery. The tank battery and reserve pit are visible in aerial photographs dated February 1949, July 1983, and June 1986. Sometime after 1986, the tank battery and associated equipment were removed from the Site. The former reserve pit was subsequently unearthed during construction of a production facility immediately south of the pit by the Amerada-Hess Corporation.

The former pit was excavated and approximately 7,400 cubic yards of soil and caliche rock were stockpiled adjacent to the excavated pit. In 1998, the Highlander Environmental Corporation (Highlander) performed a subsurface assessment at the Site. The assessment activities included collection of soil samples from the walls and floor of the excavation and from the stockpiled soil. Chemical analyses of the soil samples confirmed that concentrations of all constituents of concern were below the New Mexico Oil Conservation Division (NMOCD) recommended remediation action levels for the Site. The soil sampling activities and laboratory analyses are documented in the *Subsurface Investigation Report, New Mexico "F" State Tank Battery, Lea County, New Mexico* (Highlander, September 1998). The *Annual Groundwater Monitoring Report, New Mexico "F" State Tank Battery, Lea County, New Mexico* (Larson and Associates, Inc., 2005) indicates that the pit was closed between September 1998 and November 2003 according to closure requirements stipulated by the NMOCD in correspondence dated January 20, 1999. The floor of the excavated pit was lined with two feet of compacted clay, the stockpiled soil was returned to the excavation and the backfilled excavation was returned to natural grade.

In addition to the soil assessment activities, nine monitor wells (MW-1 through MW-9) were installed at the site between 1998 and 1999. Light non-aqueous phase liquid (LNAPL) was observed in wells MW-1 and MW-2. In November 1999, wells MW-1, MW-2 and MW-9 were plugged and abandoned and replaced with recovery wells RW-1, RW-2 and RW-3. On February 17, 2003, New Mexico Office of the State Engineer (NMOSE) approved applications (File No. L-11029, L-11030 and L-11031) submitted by Texaco to divert underground water for remediation of LNAPL. The remediation system was installed from October 2004 through February 2005 and was started on February 14, 2005. Excluding brief periods for routine maintenance, the groundwater recovery/gradient control system operated from February 14, 2005 to November 20, 2006. In November 2006, LNAPL recovery methods were re-evaluated

and the total fluids groundwater recovery/gradient control system was shut down. An LNAPL skimmer pump system was installed in RW-1 and absorbent socks were installed in RW-2 and RW-3 on November 28, 2006. This system is currently in operation at the Site. Semi-annual groundwater monitoring and weekly operation and maintenance (O&M) activities have been performed by CRA since 2005 along with annual reporting to the NMOCD for this Site. In addition, quarterly gauging activities were performed in 2007 at the Site.

## 2.0 REGULATORY FRAMEWORK

The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined by the New Mexico Water Quality Control Commission (NMWQCC) regulations. In addition, the NMWQCC regulations provide the Human Health Standards for Groundwater. The constituent of concern in affected groundwater at the Site is LNAPL in the form of crude oil. In this report, groundwater analytical results for benzene, toluene, ethylbenzene, total xylenes (BTEX) and chloride are compared to the NMWQCC standards as shown in the following table:

Analyte	NMWQCC Standard for Groundwater (mg/L)
Benzene	0.01
Toluene	0.75
Ethylbenzene	0.75
Total xylenes	0.62
Chloride	250

### 3.0 GROUNDWATER SAMPLING AND ANALYSIS

The Site is monitored with a network of six monitor wells (MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8), two offsite water wells (WW-1 and WW-2) and three recovery wells (RW-1, RW-2 and RW-3). Four quarterly monitoring and sampling events were performed during the 2007 calendar year. The first (March) & third (September) quarter 2007 events included the collection of static fluid levels and LNAPL thicknesses (if present) in the six monitor wells and the three recovery wells and the collection of a groundwater sample from a single monitor well (MW-6). The second (June) & fourth (December) quarter 2007 events included the collection of static fluid levels and LNAPL thicknesses (if present) in the six monitor wells and the three recovery wells and the collection of groundwater samples from all six monitor wells and the two offsite water wells. The LNAPL skimmer system was turned off at least 48 hours before monitoring/sampling events were conducted to allow groundwater levels to equilibrate. Static fluid levels were not collected from the two offsite water wells (WW-1 and WW-2) during the 2007 calendar year.

The first and third quarter monitoring and sampling activities were performed on March 16, 2007 and September 27, 2007. The second and fourth quarter monitoring and sampling activities were performed on June 26-27, 2007 and December 13-14, 2007. Prior to purging, static fluid levels and LNAPL thicknesses were measured from top of casing (TOC) with an electric interface probe to the nearest hundredth of a foot and recorded. Purging was considered complete when three well volumes had been removed or the wells were purged dry. Geochemical field parameters including pH, temperature and conductivity were collected during the purging/sampling process. All non-disposable groundwater sampling equipment was decontaminated with a soap (Liquinox®) and potable water wash, a potable water rinse and a final deionized water rinse to minimize potential cross-contamination between each monitor well. Subsequent to the purging process, groundwater samples were collected using clean, disposable PVC bailers. Laboratory-supplied sample containers were then filled directly from the disposable PVC bailers.

Wells that contained measurable (>0.01 foot) LNAPL were not purged or sampled. The groundwater samples were placed on ice in an insulated cooler and chilled to a temperature of approximately 4°C (40°F). The coolers were sealed for shipment and proper chain-of-custody documentation accompanied the samples to the laboratory (Pace Analytical Services, Inc. located in St. Rose, Louisiana) for analyses of BTEX by EPA Method 8021B and chlorides by EPA-approved methods. The fluids recovered and generated during the sampling events were containerized onsite in labeled drums and subsequently managed at an NMOCD-permitted salt water disposal (SWD) facility by Nabors Well Services LTD. (Nabors).

### 3.1 POTENTIOMETRIC SURFACE ELEVATION AND GRADIENT

Groundwater elevation data are presented in TABLE I. Groundwater gradient maps for each quarterly event (March, June, September and December) 2007 are presented on FIGURES 3, 4, 5 & 6 respectively. Depth to groundwater ranged from 50.22 feet to 65.69 feet below TOC on March 16, 2007; from 50.15 feet to 65.41 feet below TOC on June 26,

2007; from 50.49 feet to 66.46 feet below TOC on September 27, 2007; and from 50.92 feet to 65.85 feet below TOC on December 13, 2007. Groundwater elevations at the Site appear to be consistent with historical levels with groundwater flow to the southeast. The maximum gradient observed during the 2007 calendar year was 0.004 feet/foot.

LNAPL was not detected in the monitor wells during the 2007 monitoring period. Historically, three onsite recovery wells have contained measurable amounts of LNAPL. LNAPL was present in recovery well RW-1 at a thickness of 0.44 feet in March 2007, 0.15 feet in June 2007, 0.68 feet in September 2007 and 2.46 feet in December 2007. Although measurable LNAPL was not encountered in RW-2 and RW-3 during the June & December sampling events, residual LNAPL (sheen) was observed in both recovery wells and the wells were not sampled. LNAPL thickness maps for March, June, September and December 2007 are presented as FIGURES 7, 8, 9 and 10, respectively.

### **3.2 ANALYTICAL RESULTS**

Analytical results are summarized in TABLE II. Groundwater BTEX and chloride concentration maps for March, June, September and December 2007 are presented as FIGURES 11, 12, 13 and 14, respectively. BTEX and chloride concentrations were below the NMWQCC standards in all samples collected from the monitor wells and offsite water wells WW-1 and WW-2 during the 2007 monitoring period. Copies of the certified laboratory reports are provided in APPENDIX A.

#### 4.0 CORRECTIVE ACTION

Excluding brief periods for routine maintenance, the Xitech® LNAPL skimmer pump system in RW-1 operated continuously from January to December 2007. The best course of action for two other recovery wells (RW-2 & RW-3) was determined to be absorbent socks based on trace amounts of LNAPL presence in both wells.

Operation and maintenance (O&M) activities were performed on a weekly basis. As of January 2, 2008, approximately 347 gallons of LNAPL have been recovered since November 28, 2006 from RW-1.

## 5.0 PLANNED ACTIVITIES

The Xitech® skimmer pump system will continue to skim LNAPL from the groundwater. The recovered product will be pumped into the 225-gallon tank which is inside a secondary containment structure.

Semi-annual groundwater sampling events are scheduled to be performed during June and December 2008. Groundwater samples will be collected from all six monitor wells, the two offsite water wells (WW-1 & WW-2) and the two recovery wells (RW-2 & RW-3). Quarterly gauging and monitor well MW-6 sampling activities will be performed to monitor the groundwater gradient and the potential for offsite plume migration. In addition, weekly O&M activities will be performed to monitor the performance of the LNAPL recovery system and to periodically replace the absorbent socks in the other two recovery wells (RW-2 and RW-3).



## 6.0 SUMMARY OF FINDINGS

Based on groundwater monitoring activities performed at the Site, CRA presents the following summary:

- The Site is monitored semi-annually with a network of six monitor wells (MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8) and two offsite water wells (WW-1 and WW-2). Depth to groundwater ranged from 50.22 feet to 65.69 feet below TOC on March 16, 2007; from 50.15 feet to 65.41 feet below TOC on June 26, 2007; from 50.49 feet to 66.46 feet below TOC on September 27, 2007; and from 50.92 feet to 65.85 feet below TOC on December 13, 2007. Groundwater flow at the Site is to the southeast and the maximum gradient observed in 2007 was 0.004 feet/foot.
- LNAPL was not detected in the monitor wells during the 2007 monitoring period. LNAPL was present in recovery well RW-1 at a thickness of 0.44 feet in March 2007, 0.15 feet in June 2007, 0.68 feet in September 2007 and 2.46 feet in December 2007. Although measurable LNAPL was not encountered in RW-2 and RW-3 during the June & December sampling events, residual LNAPL (sheen) was observed in both recovery wells and the wells were not sampled.
- BTEX and chloride concentrations were below the NMWQCC standards in all samples collected from the monitor wells and offsite water wells WW-1 and WW-2 during the 2007 monitoring period.
- The Xitech® LNAPL skimmer pump system in RW-1 operated continuously from January to December 2007. As of January 2, 2008, approximately 347 gallons of LNAPL have been recovered since November 28, 2006 from RW-1.
- The 2008 semi-annual groundwater sampling events are scheduled to be performed during June and December 2008. Groundwater samples will be collected from all six monitor wells, the two offsite water wells (WW-1 & WW-2) and the two recovery wells (RW-2 & RW-3). Quarterly gauging and monitor well MW-6 sampling activities will be performed to monitor the groundwater gradient and the potential for offsite plume migration. In addition, weekly O&M activities will be performed to monitor the performance of the LNAPL recovery system and to periodically replace the absorbent socks in the other two recovery wells (RW-2 and RW-3).

All of Which is Respectfully Submitted,  
Conestoga – Rovers & Associates



Todd Wells  
Project Manager



Thomas C. Larson  
Operations Manager

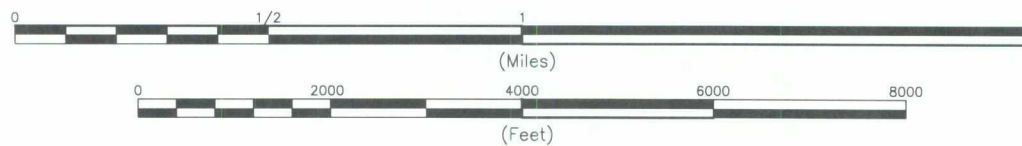
# MONUMENT NORTH QUADRANGLE NEW MEXICO

LAT= 32° 38' 34.59" N  
LONG= 103° 18' 4.74" W

PHOTOREVISED 1985



USGS MAP SERIES 1:24,000



CONTOUR INTERVAL 10 FEET



NORTH

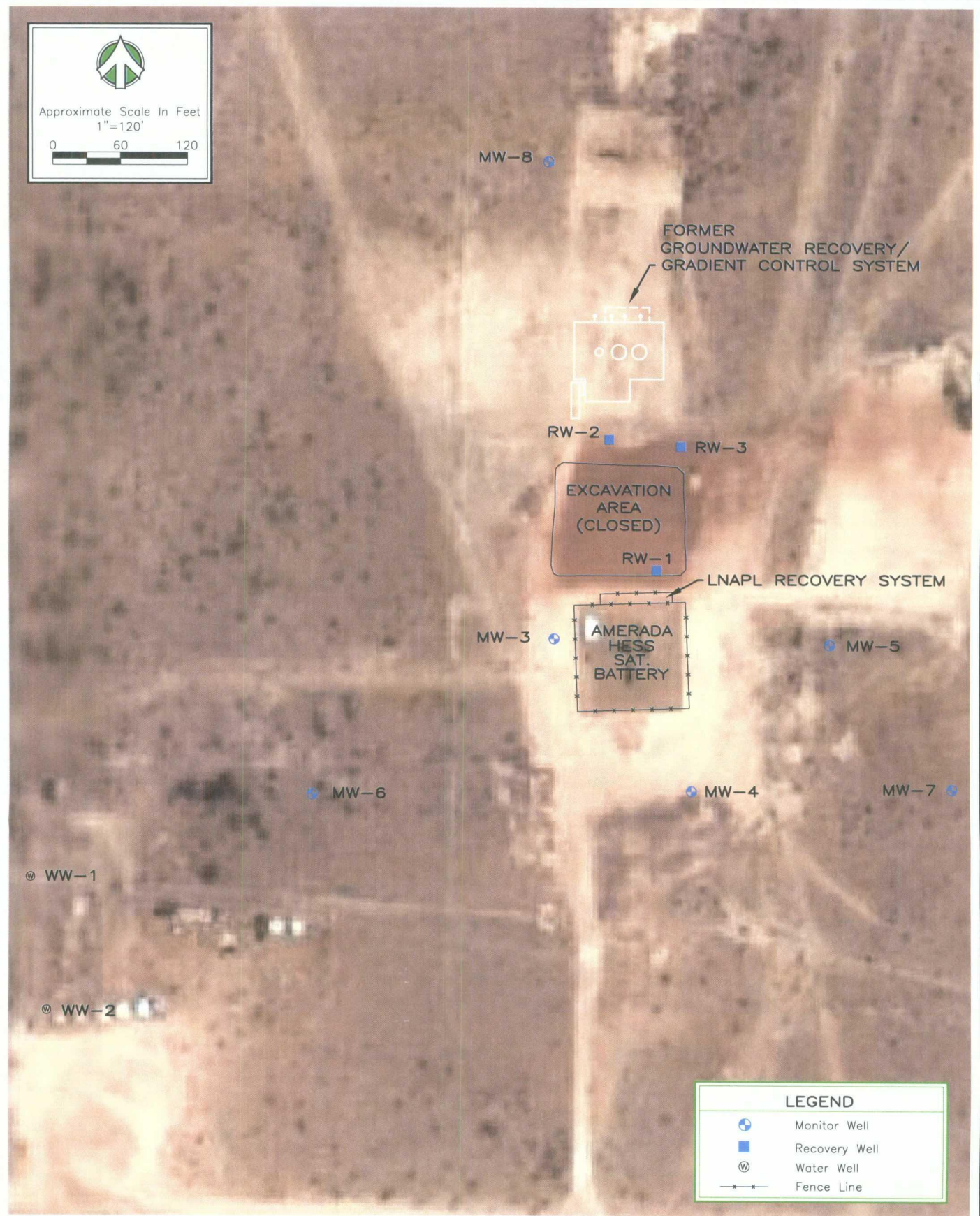
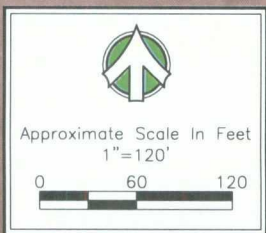


**SITE LOCATION MAP**  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
1





LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line

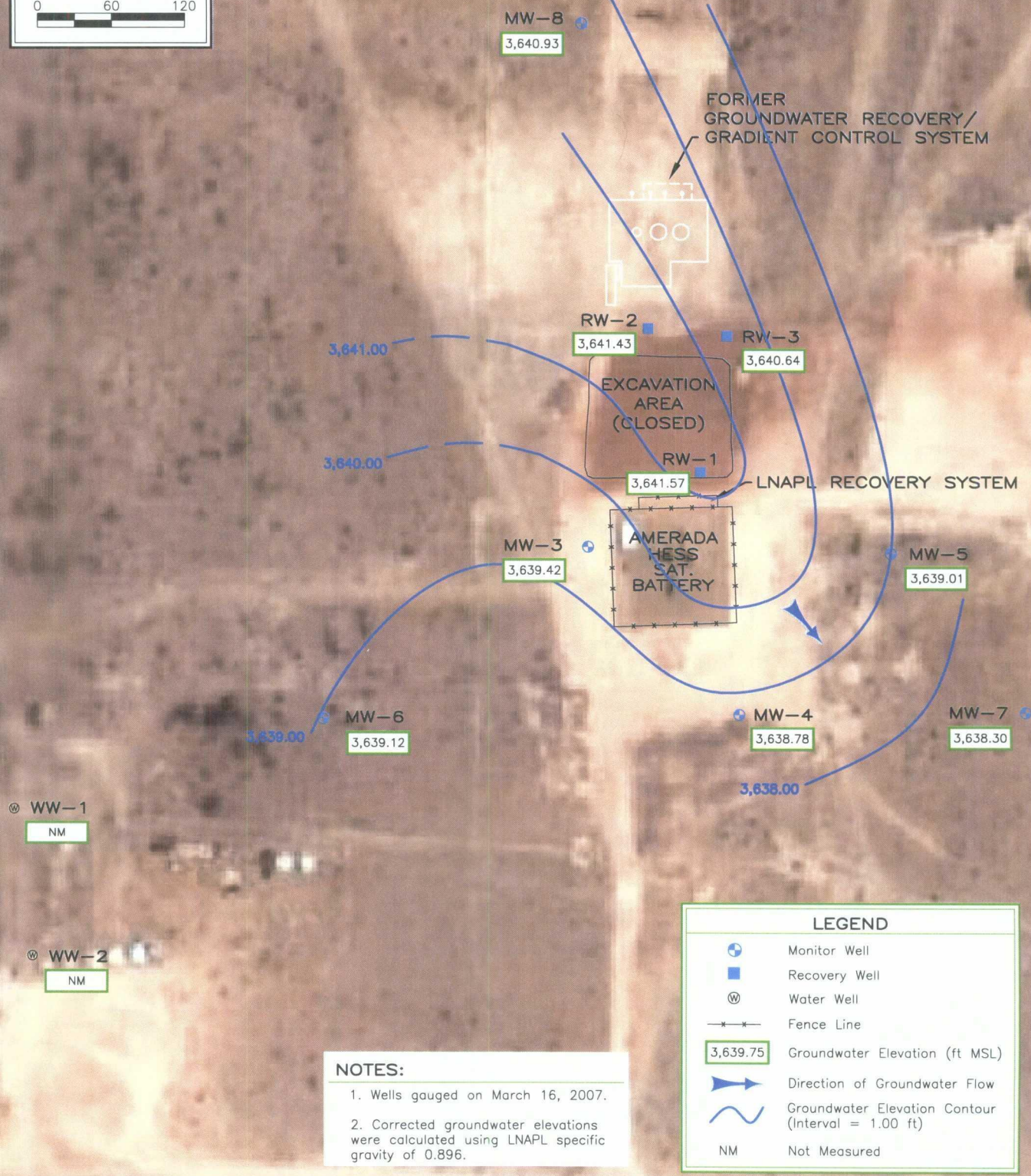
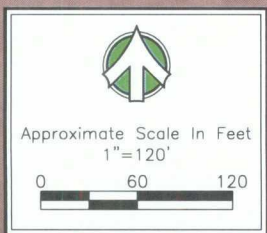
039122 2007 SLR 03032008



SITE DETAILS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT LEA COUNTY, NEW MEXICO

JOB No. 039122
FIGURE 2





039122 2007 SLR 030408

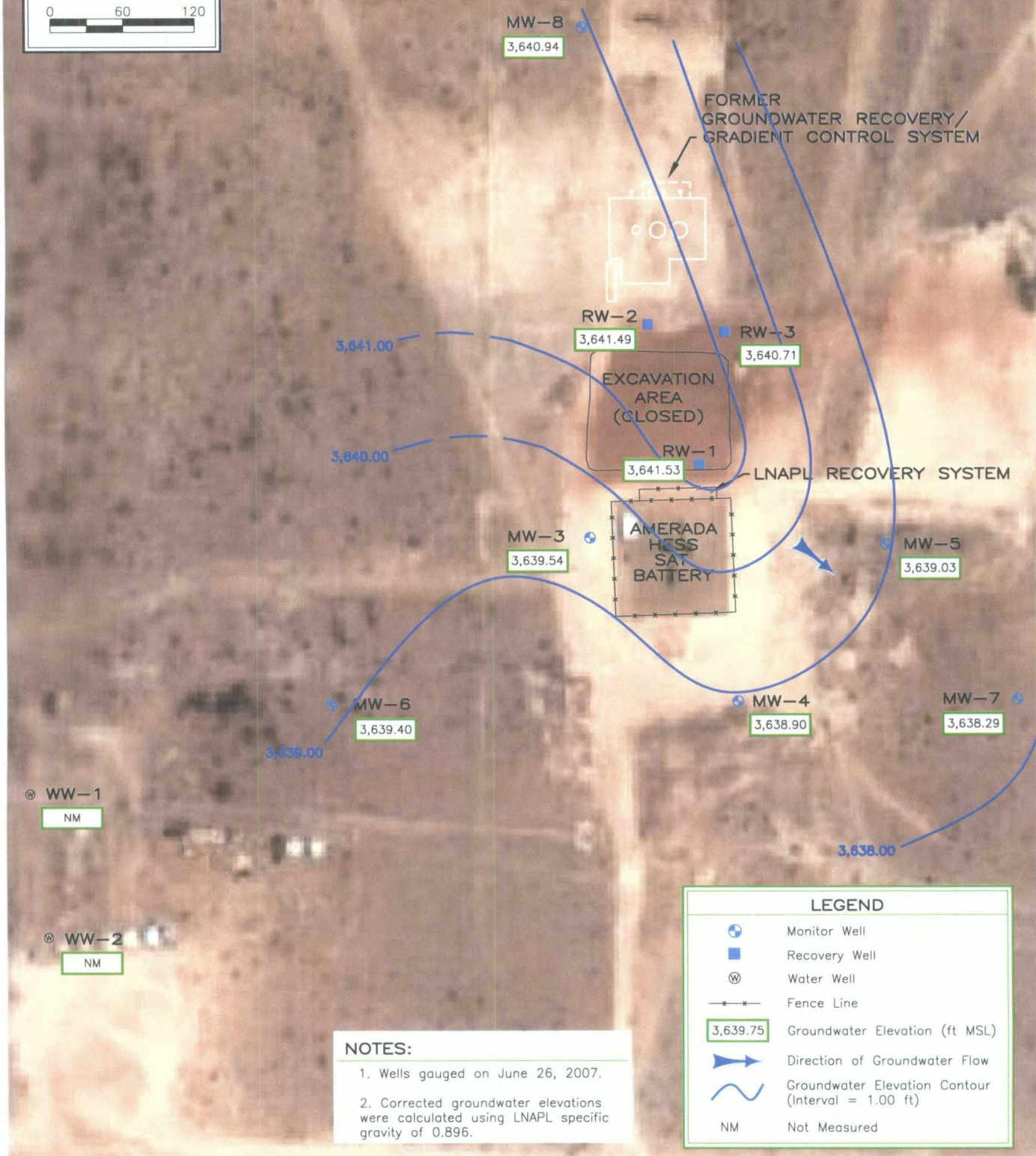
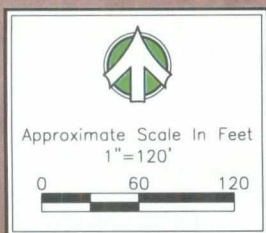


GROUNDWATER GRADIENT MAP - MARCH 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
3





039122 2007 SLR 030408

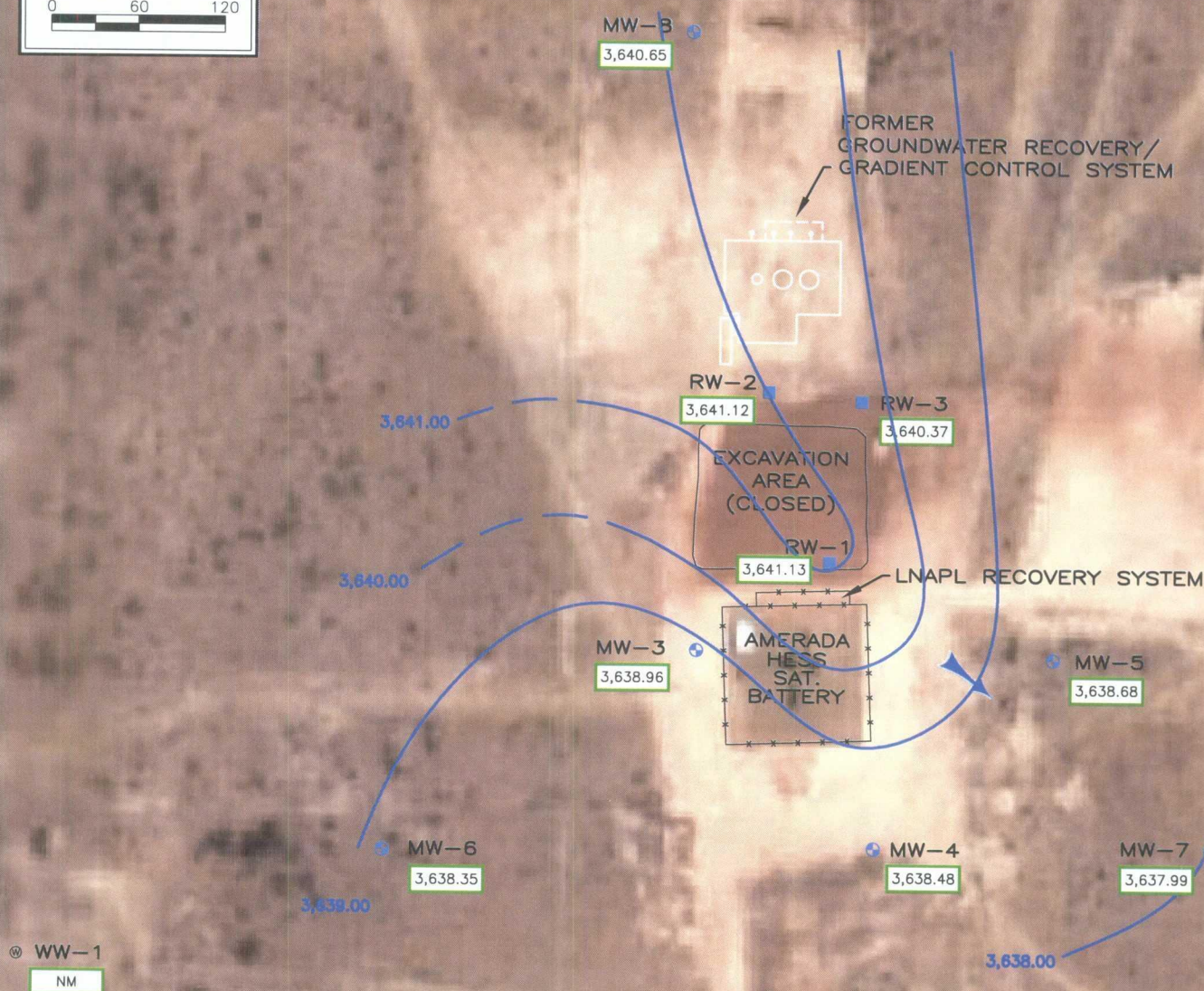
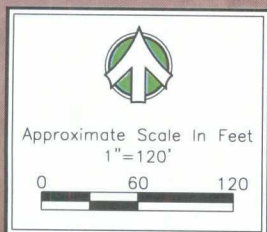


GROUNDWATER GRADIENT MAP - JUNE 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
4





#### NOTES:

1. Wells gauged on September 27, 2007.
2. Corrected groundwater elevations were calculated using LNAPL specific gravity of 0.896.

LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	Groundwater Elevation (ft MSL)
	Direction of Groundwater Flow
	Groundwater Elevation Contour (Interval = 1.00 ft)
NM	Not Measured

039122 2007 SLR 030408

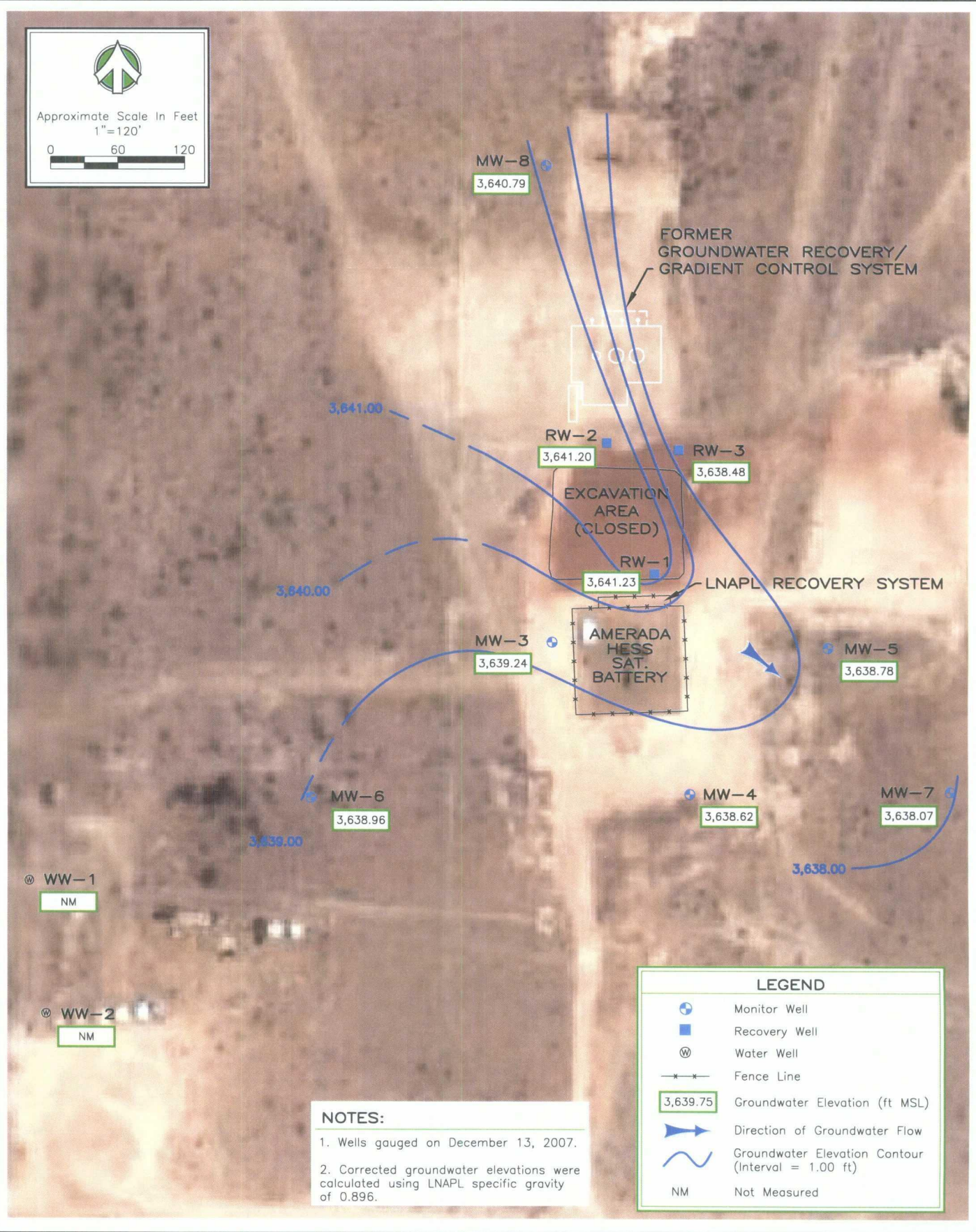
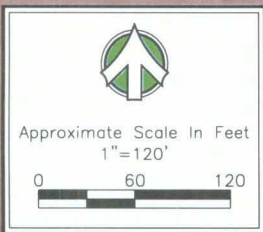


GROUNDWATER GRADIENT MAP - SEPTEMBER 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
5





039122 2007 SLR 030408

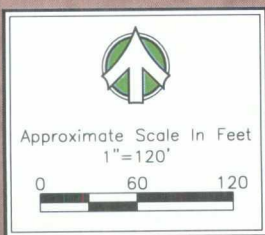


GROUNDWATER GRADIENT MAP – DECEMBER 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
6





MW-8  
0.00

FORMER  
GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2  
0.00

RW-3  
0.00

EXCAVATION  
AREA  
(CLOSED)

RW-1  
0.44

LNAPL RECOVERY SYSTEM

MW-3  
0.00

MW-5  
0.00

AMERADA  
HESS  
SAT.  
BATTERY

MW-6  
0.00

MW-4  
0.00

MW-7  
0.00

WW-1  
NM

WW-2  
NM



039122 2007 SLR 030308



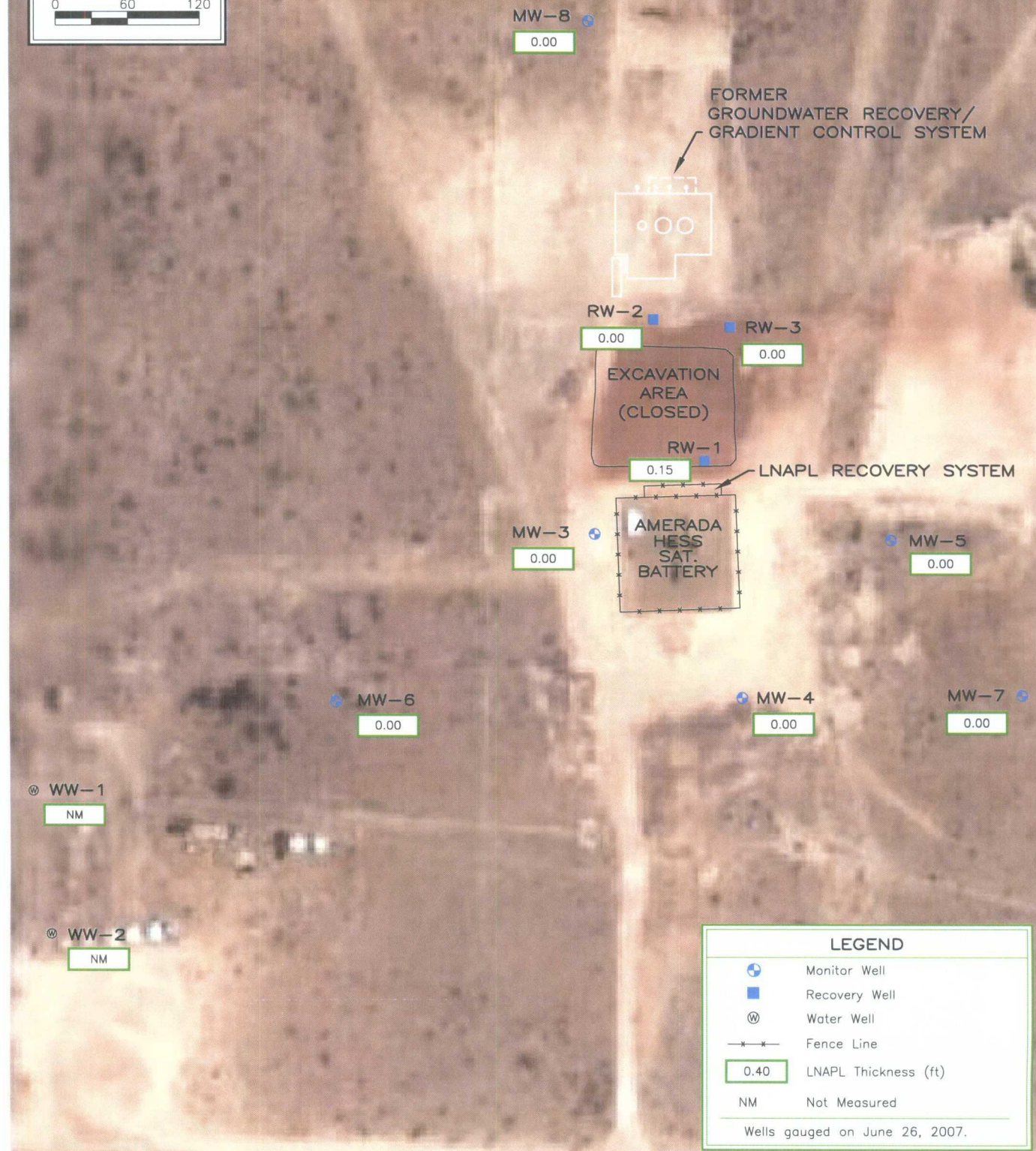
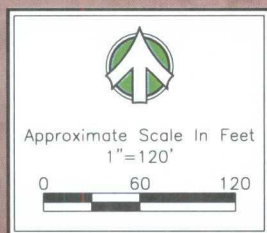
LNAPL THICKNESS MAP — MARCH 2007

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

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FIGURE  
7





039122 2007 SLR 030308



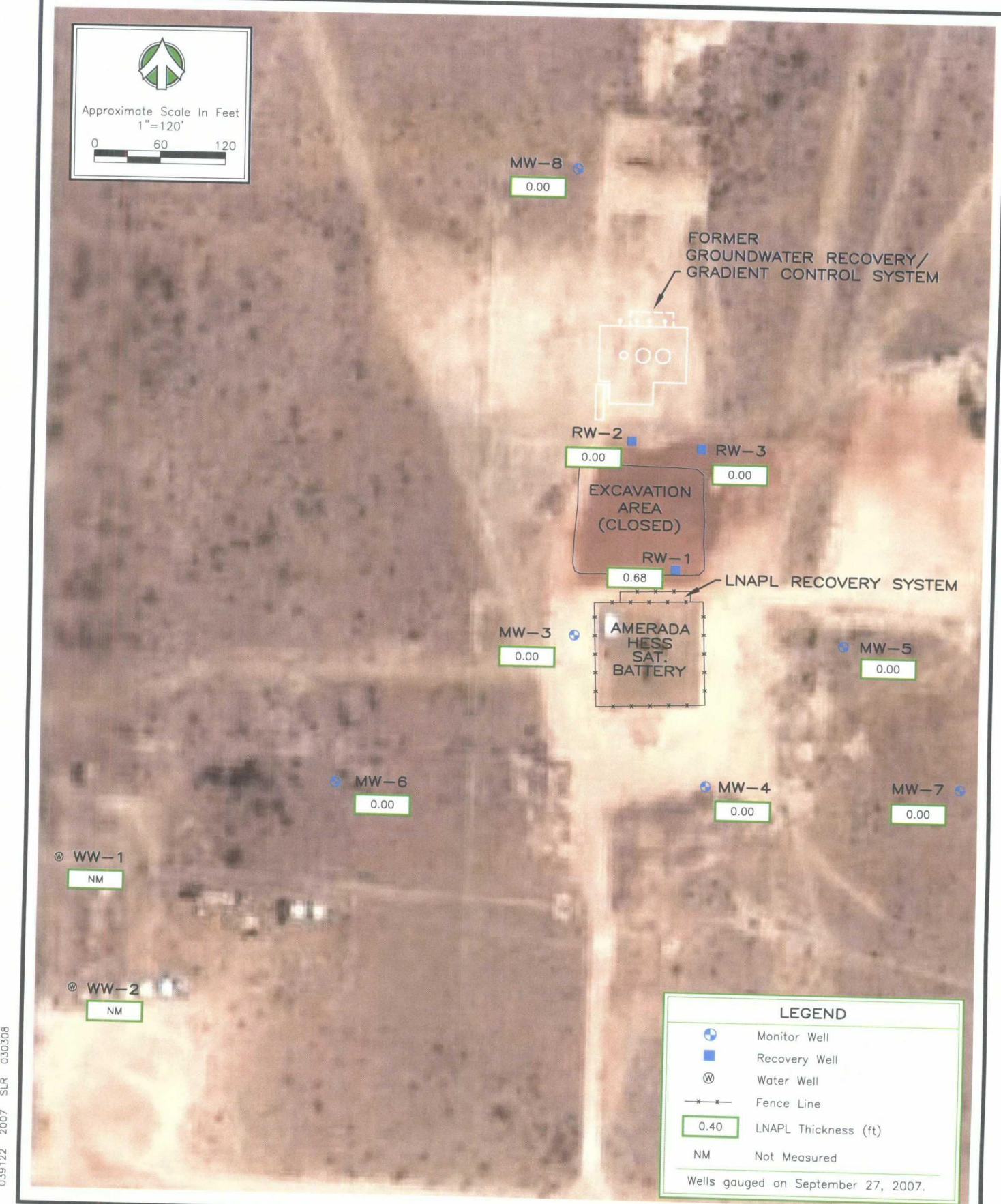
LNAPL THICKNESS MAP — JUNE 2007

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
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FIGURE  
8





LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	LNAPL Thickness (ft)
NM	Not Measured
Wells gauged on September 27, 2007.	

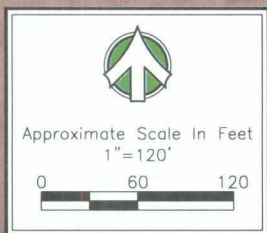
039122 2007 SLR 030308



LNAPL THICKNESS MAP — SEPTEMBER 2007  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

JOB No.  
 039122  
 FIGURE  
 9





MW-8  
0.00

FORMER  
GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2  
0.00

RW-3  
0.00

EXCAVATION  
AREA  
(CLOSED)

RW-1  
2.46

LNAPL RECOVERY SYSTEM

MW-3  
0.00

MW-5  
0.00

AMERADA  
HESS  
SAT.  
BATTERY

MW-6  
0.00

MW-4  
0.00

MW-7  
0.00

WW-1  
NM

WW-2  
NM



039122 2007 SLR 030308

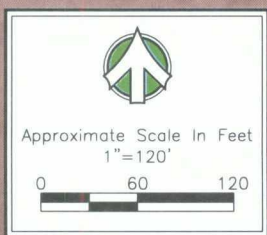


LNAPL THICKNESS MAP — DECEMBER 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
10





MW-8  
NS

FORMER  
GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2  
NS

RW-3  
NS

EXCAVATION  
AREA  
(CLOSED)

RW-1  
NS

LNAPL RECOVERY SYSTEM

MW-3  
NS

AMERADA  
HESS  
SAT.  
BATTERY

MW-5  
NS

MW-6

MW-6	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	92.2

WW-1  
NS

WW-2  
NS

MW-4  
NS

MW-7  
NS

#### NOTES:

1. Groundwater samples were collected on March 16, 2007.
2. BTEX analysis by EPA Method 8021B and Chloride analysis by EPA Method 325.2.

#### LEGEND

	Monitor Well
	Recovery Well
	Water Well
	Fence Line
NS	Not Sampled
B	Benzene Concentration (mg/L)
T	Toluene Concentration (mg/L)
E	Ethylbenzene Concentration (mg/L)
X	Xylenes Concentration (mg/L)
Chloride	Chloride Concentration (mg/L)

039122 2007 SLR 030308



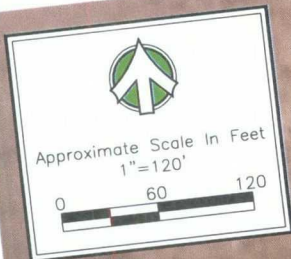
GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-MARCH 2007

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
11





MW-8

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	79

MW-8

FORMER  
GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2 NS RW-3 NS

EXCAVATION  
AREA  
(CLOSED)

RW-1 NS LNAPL RECOVERY SYSTEM

MW-3

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	31

MW-3

AMERADA  
HESS  
SAT.  
BATTERY

MW-5

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	67

MW-5

MW-6

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	110

MW-6

MW-4

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	39

MW-4

MW-7

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	110

MW-7

WW-1

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	52

WW-1

WW-2

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	46

WW-2

**NOTES:**

1. Groundwater samples were collected on June 27, 2007.
2. BTEX analysis by EPA Method 8021B and Chloride analysis by EPA Method 300.0.

**LEGEND**

	Monitor Well
	Recovery Well
	Water Well
	Fence Line
NS	Not Sampled
B	Benzene Concentration (mg/L)
T	Toluene Concentration (mg/L)
E	Ethylbenzene Concentration (mg/L)
X	Xylenes Concentration (mg/L)
Chloride	Chloride Concentration (mg/L)

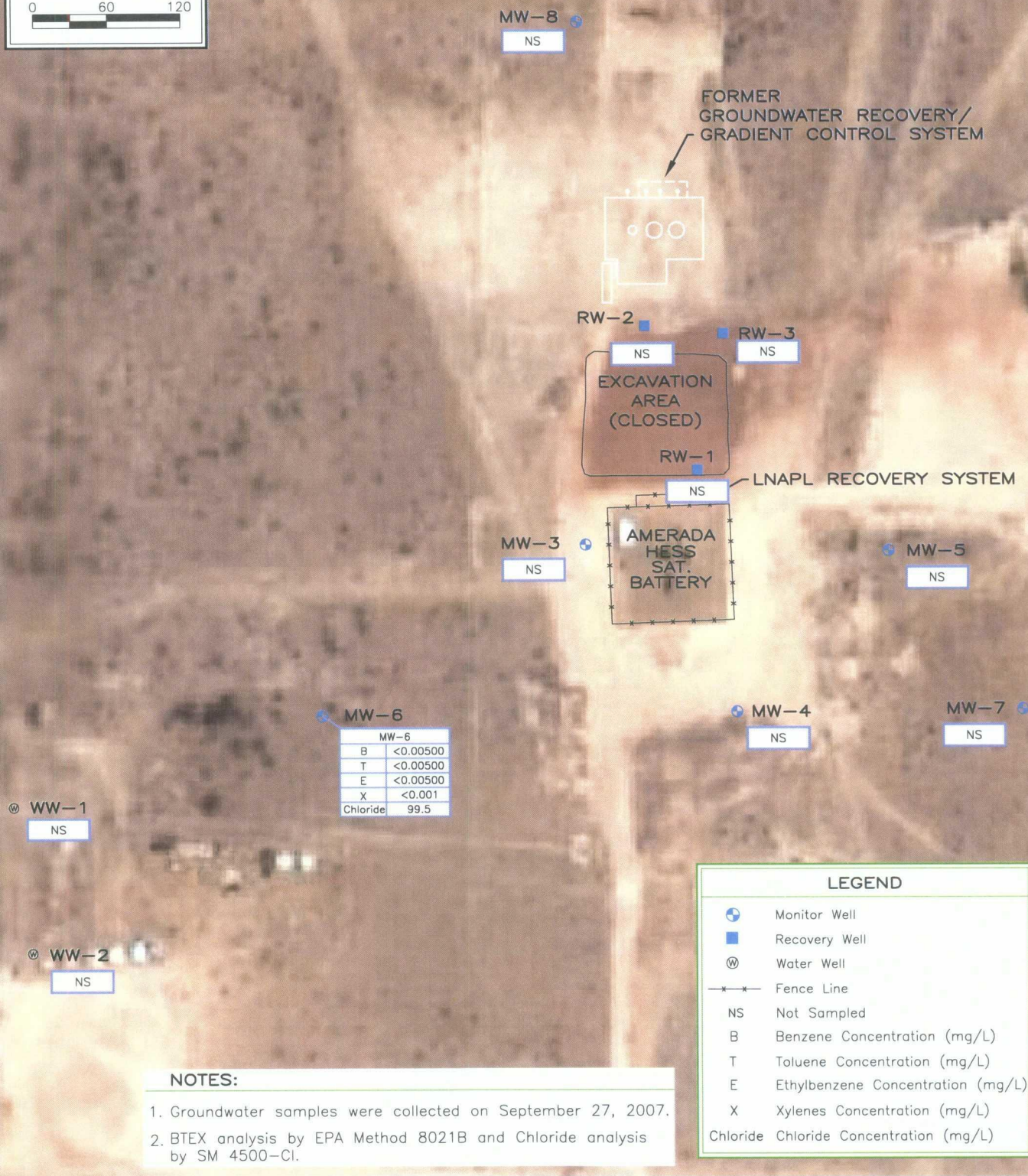
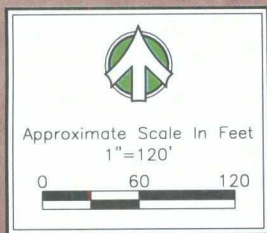
GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-JUNE 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122  
FIGURE  
12



039122 2007 SLR 030308





039122 2007 SLR 030308

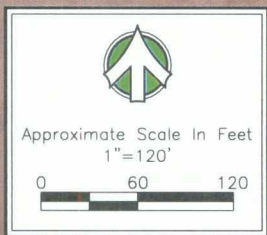


GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-SEPT 2007  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
13





MW-8

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	82.9

FORMER  
GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2  
NS

RW-3  
NS

EXCAVATION  
AREA  
(CLOSED)

RW-1  
NS

LNAPL RECOVERY SYSTEM

MW-3

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	30.9

MW-5

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	101

MW-6

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	99.2

MW-4

B	0.000968
T	<0.00500
E	<0.00500
X	0.00254
Chloride	63.1

MW-7

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	135

WW-1

B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	59.8

WW-2

B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	83.1

#### NOTES:

1. Groundwater samples were collected on December 14, 2007.
2. BTEX analysis by EPA Method 8021B and Chloride analysis by SM 4500-Cl.

LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
NS	Not Sampled
B	Benzene Concentration (mg/L)
T	Toluene Concentration (mg/L)
E	Ethylbenzene Concentration (mg/L)
X	Xylenes Concentration (mg/L)
Chloride	Chloride Concentration (mg/L)

039122 2007 SLR 030308



GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-DEC 2007

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
LEA COUNTY, NEW MEXICO

JOB No.  
039122

FIGURE  
14

**TABLE I**  
**GROUNDWATER GAUGING SUMMARY**  
**CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY**  
**FORMER NEW MEXICO "F" STATE TANK BATTERY**  
**LEA COUNTY, NEW MEXICO**

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
MW-3 3696.85	7/28/98	59.53	---	---	3637.32	70.15	55 - 75
	6/25/99	59.06	---	---	3637.79	---	---
	2/16/01	59.53	---	---	3637.32	---	---
	6/11/02	59.18	---	---	3637.67	---	---
	11/26/02	59.54	---	---	3637.31	---	---
	6/5/03	59.45	---	---	3637.40	---	---
	12/3/03	59.47	---	---	3637.38	---	---
	7/1/04	59.24	---	---	3637.61	---	---
	12/20/04	58.83	---	---	3638.02	---	---
	6/6/05	58.53	---	---	3638.32	---	---
	12/12/05	57.83	---	---	3639.02	---	---
	1/25/06	57.85	---	---	3639.00	---	---
	5/1/06	57.59	---	---	3639.26	---	---
	6/26/06	57.66	---	---	3639.19	---	---
	12/18/06	57.54	---	---	3639.31	---	---
	3/16/07	57.43	---	---	3639.42	---	---
MW-4 3699.50	6/26/07	57.31	---	---	3639.54	---	---
	9/27/07	57.89	---	---	3638.96	---	---
	12/13/07	57.61	---	---	3639.24	---	---
	7/28/98	69.72	---	---	3629.78	68.74	55 - 75
	6/25/99	62.31	---	---	3637.19	---	---
	2/16/01	62.52	---	---	3636.98	---	---
	6/11/02	62.39	---	---	3637.11	---	---
	11/26/02	62.76	---	---	3636.74	---	---
	6/5/03	62.71	---	---	3636.79	---	---
	12/3/03	62.67	---	---	3636.83	---	---
	7/1/04	62.43	---	---	3637.07	---	---
	12/20/04	62.02	---	---	3637.48	---	---
	6/6/05	61.67	---	---	3637.83	---	---
	12/12/05	61.11	---	---	3638.39	---	---
	1/25/06	61.11	---	---	3638.39	---	---
	5/1/06	60.89	---	---	3638.61	---	---
	6/26/06	60.93	---	---	3638.57	---	---
	12/18/06	60.79	---	---	3638.71	---	---
	3/16/07	60.72	---	---	3638.78	---	---
	6/26/07	60.60	---	---	3638.90	---	---
	9/27/07	61.02	---	---	3638.48	---	---
	12/13/07	60.88	---	---	3638.62	---	---



TABLE I  
GROUNDWATER GAUGING SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
MW-5 3693.52	7/28/98	56.53	---	---	3636.99	66.80	48 - 68
	3/23/99	56.30	---	---	3637.22	---	---
	6/25/99	56.21	---	---	3637.31	---	---
	2/16/01	56.31	---	---	3637.21	---	---
	6/11/02	56.29	---	---	3637.23	---	---
	11/26/02	56.13	---	---	3637.39	---	---
	6/5/03	56.53	---	---	3636.99	---	---
	12/3/03	56.57	---	---	3636.95	---	---
	7/1/04	54.34	---	---	3639.18	---	---
	12/20/04	55.86	---	---	3637.66	---	---
	6/6/05	55.60	---	---	3637.92	---	---
	12/12/05	55.04	---	---	3638.48	---	---
	1/25/06	55.07	---	---	3638.45	---	---
	5/1/06	54.87	---	---	3638.65	---	---
	6/26/06	54.86	---	---	3638.66	---	---
	12/18/06	54.61	---	---	3638.91	---	---
	3/16/07	54.51	---	---	3639.01	---	---
	6/26/07	54.49	---	---	3639.03	---	---
	9/27/07	54.84	---	---	3638.68	---	---
	12/13/07	54.74	---	---	3638.78	---	---
MW-6 3704.81	7/28/98	67.86	---	---	3636.95	78.25	56 - 76
	6/25/99	67.25	---	---	3637.56	---	---
	2/16/01	67.45	---	---	3637.36	---	---
	6/11/02	67.19	---	---	3637.62	---	---
	11/26/02	67.09	---	---	3637.72	---	---
	6/5/03	67.57	---	---	3637.24	---	---
	12/3/03	67.61	---	---	3637.20	---	---
	7/1/04	67.43	---	---	3637.38	---	---
	12/20/04	67.55	---	---	3637.26	---	---
	6/6/05	66.41	---	---	3638.40	---	---
	12/12/05	65.80	---	---	3639.01	---	---
	1/25/06	65.88	---	---	3638.93	---	---
	5/1/06	65.57	---	---	3639.24	---	---
	6/26/06	65.82	---	---	3638.99	---	---
	12/18/06	65.67	---	---	3639.14	---	---
	3/16/07	65.69	---	---	3639.12	---	---
	6/26/07	65.41	---	---	3639.40	---	---
	9/27/07	66.46	---	---	3638.35	---	---
	12/13/07	65.85	---	---	3638.96	---	---

TABLE I  
GROUNDWATER GAUGING SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
MW-7 3694.58	7/28/98	58.08	---	---	3636.50	68.88	49 - 69
	6/25/99	57.96	---	---	3636.62	---	---
	2/16/01	58.09	---	---	3636.49	---	---
	6/11/02	58.07	---	---	3636.51	---	---
	11/26/02	57.92	---	---	3636.66	---	---
	6/5/03	58.29	---	---	3636.29	---	---
	12/3/03	58.33	---	---	3636.25	---	---
	7/1/04	58.11	---	---	3636.47	---	---
	12/20/04	57.62	---	---	3636.96	---	---
	6/6/05	57.28	---	---	3637.30	---	---
	12/12/05	56.84	---	---	3637.74	---	---
	1/25/06	56.86	---	---	3637.72	---	---
	5/1/06	56.69	---	---	3637.89	---	---
	6/26/06	56.66	---	---	3637.92	---	---
	12/18/06	56.40	---	---	3638.18	---	---
	3/16/07	56.28	---	---	3638.30	---	---
	6/26/07	56.29	---	---	3638.29	---	---
	9/27/07	56.59	---	---	3637.99	---	---
	12/13/07	56.51	---	---	3638.07	---	---
MW-8 3695.61	7/28/98	56.84	---	---	3638.77	66.91	46 - 66
	6/25/99	56.56	---	---	3639.05	---	---
	2/16/01	56.49	---	---	3639.12	---	---
	6/11/02	56.56	---	---	3639.05	---	---
	11/26/02	56.88	---	---	3638.73	---	---
	6/5/03	56.89	---	---	3638.72	---	---
	12/3/03	56.91	---	---	3638.70	---	---
	7/1/04	56.70	---	---	3638.91	---	---
	12/20/04	56.23	---	---	3639.38	---	---
	6/6/05	55.86	---	---	3639.75	---	---
	12/12/05	55.29	---	---	3640.32	---	---
	1/25/06	55.30	---	---	3640.31	---	---
	5/1/06	55.03	---	---	3640.58	---	---
	6/26/06	54.96	---	---	3640.65	---	---
	12/18/06	54.80	---	---	3640.81	---	---
	3/16/07	54.68	---	---	3640.93	---	---
	6/26/07	54.67	---	---	3640.94	---	---
	9/27/07	54.95	---	---	3640.66	---	---
	12/13/07	54.82	---	---	3640.79	---	---

TABLE I  
GROUNDWATER GAUGING SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
RW-1 3699.92	11/3/99	62.17	---	---	3637.75	71.60	55 - 75
	2/16/01	62.37	62.33	0.04	3637.59	---	---
	6/11/02	62.26	61.86	0.40	3638.01	---	---
	11/26/02	62.60	62.07	0.53	3637.79	---	---
	6/5/03	63.00	62.84	0.16	3637.06	---	---
	12/3/03	63.26	62.61	0.65	3637.23	---	---
	7/1/04	63.10	62.33	0.77	3637.50	---	---
	12/20/04	61.80	60.96	0.84	3638.86	---	---
	3/1/05	Start-up groundwater extraction system			---	---	---
	1/25/06	61.44	58.67	2.77	3640.92	---	---
	5/1/06	61.56	58.38	3.18	3641.16	---	---
	6/26/06	61.59	58.43	3.16	3641.11	---	---
	11/21/06	59.87	58.72	1.15	3641.06	---	---
	11/28/06	60.96	58.32	2.64	3641.28	---	---
	12/4/06	60.35	58.30	2.05	3641.37	---	---
	12/15/06	58.75	58.48	0.27	3641.41	---	---
	12/18/06	58.78	58.55	0.23	3641.34	---	---
	1/5/07	60.54	58.19	2.35	3641.49	---	---
	2/2/07	59.00	58.51	0.49	3641.36	---	---
	2/9/07	58.52	58.36	0.16	3641.54	---	---
	2/23/07	58.62	58.25	0.37	3641.63	---	---
	3/2/07	59.78	58.18	1.60	3641.58	---	---
	3/8/07	58.55	58.23	0.32	3641.66	---	---
	3/16/07	58.74	58.30	0.44	3641.57	---	---
	3/23/07	58.81	58.31	0.50	3641.56	---	---
	3/28/07	58.48	58.24	0.24	3641.66	---	---
	4/4/07	58.69	58.48	0.21	3641.42	---	---
	5/23/07	58.95	58.48	0.47	3641.39	---	---
	6/20/07	59.09	58.50	0.59	3641.36	---	---
	6/26/07	58.52	58.37	0.15	3641.53	---	---
	7/2/07	58.69	58.29	0.40	3641.59	---	---
	9/13/07	60.18	58.66	1.52	3641.10	---	---
	9/17/07	59.18	58.65	0.53	3641.22	---	---
	9/27/07	59.40	58.72	0.68	3641.13	---	---
	11/16/07	58.52	58.35	0.17	3641.55	---	---
	12/13/07	60.90	58.44	2.46	3641.23	---	---

TABLE I  
GROUNDWATER GAUGING SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
RW-2 3692.12	10/14/99	53.28	---	---	3638.84	67.55	47 - 67
	11/3/99	53.95	---	---	3638.17	---	---
	2/16/01	54.01	---	---	3638.11	---	---
	6/11/02	54.01	53.98	0.03	3638.14	---	---
	11/26/02	54.28	54.07	0.21	3638.02	---	---
	6/5/03	53.24	53.23	0.01	3638.89	---	---
	12/3/03	54.51	54.38	0.13	3637.72	---	---
	7/1/04	54.51	54.12	0.39	3637.95	---	---
	12/20/04	53.69	53.52	0.17	3638.58	---	---
	3/1/05	Start-up groundwater extraction system				---	---
	1/25/06	51.55	51.14	0.41	3640.93	---	---
	5/1/06	51.34	50.91	0.43	3641.16	---	---
	6/26/06	51.02	50.94	0.08	3641.17	---	---
	12/18/06	51.15	50.75	0.40	3641.32	---	---
	1/12/07	50.89	50.63	0.26	3641.46	---	---
	1/15/07	50.20	---	---	3641.92	---	---
	2/2/07	50.72	---	---	3641.40	---	---
	2/9/07	50.60	---	---	3641.52	---	---
	2/23/07	50.54	---	---	3641.58	---	---
	3/2/07	50.60	---	---	3641.52	---	---
	3/8/07	50.61	---	---	3641.51	---	---
	3/16/07	50.69	---	---	3641.43	---	---
	3/23/07	50.67	---	---	3641.45	---	---
	3/28/07	50.54	---	---	3641.58	---	---
	4/4/07	50.66	---	---	3641.46	---	---
	4/12/07	50.62	---	---	3641.50	---	---
	4/19/07	50.61	---	---	3641.51	---	---
	4/25/07	50.80	---	---	3641.32	---	---
	5/1/07	50.80	---	---	3641.32	---	---
	5/8/07	50.73	---	---	3641.39	---	---
	5/23/07	50.74	---	---	3641.38	---	---
	5/29/07	50.70	---	---	3641.42	---	---
	6/5/07	50.68	---	---	3641.44	---	---
	6/14/07	50.66	---	---	3641.46	---	---
	6/20/07	50.72	---	---	3641.40	---	---
	6/26/07	50.63	---	---	3641.49	---	---
	7/2/07	50.59	---	---	3641.53	---	---
	7/13/07	50.60	---	---	3641.52	---	---
	7/20/07	50.61	---	---	3641.51	---	---
	7/27/07	50.65	---	---	3641.47	---	---
	8/14/07	50.83	---	---	3641.29	---	---

TABLE I  
GROUNDWATER GAUGING SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
RW-2 3692.12	8/22/07	50.96	---	---	3641.16	---	---
	9/4/07	50.88	---	---	3641.24	---	---
	9/13/07	50.49	---	---	3641.63	---	---
	9/17/07	50.92	---	---	3641.20	---	---
	9/27/07	51.00	---	---	3641.12	---	---
	10/4/07	50.92	---	---	3641.20	---	---
	10/11/07	50.87	---	---	3641.25	---	---
	11/2/07	50.79	---	---	3641.33	---	---
	11/16/07	50.65	---	---	3641.47	---	---
	11/20/07	50.73	---	---	3641.39	---	---
	12/13/07	50.92	---	---	3641.20	---	---
	1/2/08	50.91	---	---	3641.21	---	---
RW-3 3690.86	10/14/99	45.82	---	---	3645.04	68.65	47 - 67
	11/3/99	52.82	---	---	3638.04	---	---
	2/16/01	52.88	---	---	3637.98	---	---
	6/11/02	52.91	---	---	3637.95	---	---
	11/26/02	53.22	53.15	0.07	3637.70	---	---
	6/5/03	54.56	54.40	0.16	3636.44	---	---
	12/3/03	53.23	---	---	3637.63	---	---
	7/1/04	53.19	52.98	0.21	3637.85	---	---
	12/20/04	52.50	52.09	0.41	3638.72	---	---
	3/1/05	Start-up groundwater extraction system				---	---
	1/25/06	50.71	---	---	3640.15	---	---
	5/1/06	50.49	---	---	3640.37	---	---
	6/26/06	50.50	---	---	3640.36	---	---
	12/18/06	50.31	---	---	3640.55	---	---
	1/12/07	50.17	---	---	3640.69	---	---
	1/15/07	50.21	50.20	0.01	3640.66	---	---
	2/2/07	50.23	---	---	3640.63	---	---
	2/9/07	50.13	---	---	3640.73	---	---
	2/23/07	50.03	---	---	3640.83	---	---
	3/2/07	50.12	---	---	3640.74	---	---
	3/8/07	50.14	---	---	3640.72	---	---
	3/16/07	50.22	---	---	3640.64	---	---
	3/23/07	50.20	---	---	3640.66	---	---
	3/28/07	50.08	---	---	3640.78	---	---
	4/4/07	50.18	---	---	3640.68	---	---
	4/12/07	50.14	---	---	3640.72	---	---
	4/19/07	50.13	---	---	3640.73	---	---
	4/25/07	50.28	---	---	3640.58	---	---
	5/1/07	50.29	---	---	3640.57	---	---
	5/8/07	50.24	---	---	3640.62	---	---
	5/23/07	50.23	---	---	3640.63	---	---
	5/29/07	50.21	---	---	3640.65	---	---
	6/5/07	50.19	---	---	3640.67	---	---
	6/14/07	50.18	---	---	3640.68	---	---
	6/20/07	50.26	---	---	3640.60	---	---

**TABLE I**  
**GROUNDWATER GAUGING SUMMARY**  
**CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY**  
**FORMER NEW MEXICO "F" STATE TANK BATTERY**  
**LEA COUNTY, NEW MEXICO**

Well ID TOC Elevation	Collection Date	Depth to Groundwater (ft TOC)	Depth to LNAPL (ft TOC)	LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft above MSL)	Well Depth (ft TOC)	Well Screen Interval (ft bgs)
RW-3 3690.86	6/26/07	50.15	---	---	3640.71	---	---
	7/2/07	50.11	---	---	3640.75	---	---
	7/13/07	50.14	---	---	3640.72	---	---
	7/20/07	50.11	---	---	3640.75	---	---
	7/27/07	50.17	---	---	3640.69	---	---
	8/14/07	50.37	---	---	3640.49	---	---
	8/22/07	50.45	---	---	3640.41	---	---
	9/4/07	50.36	---	---	3640.50	---	---
	9/13/07	50.44	---	---	3640.42	---	---
	9/17/07	50.44	---	---	3640.42	---	---
	9/27/07	50.49	---	---	3640.37	---	---
	10/4/07	50.42	---	---	3640.44	---	---
	10/11/07	50.39	---	---	3640.47	---	---
	11/2/07	50.31	---	---	3640.55	---	---
	11/16/07	50.19	---	---	3640.67	---	---
	11/20/07	50.27	---	---	3640.59	---	---
	12/13/07	52.38	---	---	3638.48	---	---
	1/2/08	52.35	---	---	3638.51	---	---
WW-1 3704.17	6/11/02	66.35	---	---	3637.82	Unknown	Unknown
	6/5/03	68.25	---	---	3635.92	---	---
WW-2 3703.84	6/11/02	66.18	---	---	3637.66	Unknown	Unknown
	11/26/02	66.18	---	---	3637.66	---	---
	6/5/03	68.54	---	---	3635.30	---	---

**Notes:**

1. Data through June 6, 2005 provided by Larson & Associates, Inc.
2. TOC - Top of Casing.
3. MSL - Mean Sea Level.
4. bgs - Below ground surface.
5. Corrected groundwater elevations from July 1998 to December 2006 were calculated using LNAPL specific gravity of 0.88.
6. Corrected groundwater elevations from January 2007 to December 2007 were calculated using LNAPL specific gravity of 0.897.
7. MW-1, MW-2 and MW-9 were plugged and abandoned and replaced with RW-1, RW-2 and RW-3 in November 1999.
8. Monitor wells (MWs) are 2-inch in diameter; Recovery wells (RWs) are 4-inch in diameter.

TABLE II  
GROUNDWATER ANALYTICAL SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.01	0.75	0.75	0.62	250
MW-3	7/28/98	0.003	<0.001	<0.001	0.002	36.0
	2/16/01	<0.005	<0.005	<0.005	<0.005	31
	6/12/02	<0.005	<0.005	<0.005	<0.005	27.1
	11/26/03	<0.001	<0.001	<0.001	<0.001	31.9
	6/6/03	<0.001	<0.001	<0.001	<0.001	27.5
	12/4/03	<0.001	<0.001	<0.001	0.0017	26.1
	7/2/04	<0.005	<0.005	<0.005	<0.005	28.0
	12/21/04	<0.005	<0.005	<0.005	<0.005	32.3
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	34.3
	12/13/05	<0.005	<0.005	<0.005	<0.010	29.3
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	31.1
	12/19/06	<0.005	<0.005	<0.005	<0.001	28.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	31
	12/14/07	<0.000500	<0.000500	<0.000500	<0.00100	30.9
MW-4	7/28/98	<0.001	<0.001	<0.001	<0.001	94.0
	2/16/01	<0.005	<0.005	<0.005	0.008	170
	6/12/02	<0.005	<0.005	<0.005	<0.005	85.6
	11/26/03	0.002	<0.001	<0.001	<0.005	160.0
	6/6/03	<0.001	<0.001	<0.001	0.0026	111.0
	12/4/03	0.0015	<0.001	<0.001	<0.001	104.0
	7/2/04	<0.001	<0.001	<0.001	<0.001	72.4
	12/21/04	<0.005	<0.005	<0.005	<0.005	59.7
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	58.4
	12/13/05	<0.005	<0.005	<0.005	<0.010	55.3
	6/27/06	0.000597	<0.000500	<0.000500	<0.001	48.8
	12/19/06	<0.005	<0.005	<0.005	<0.001	34.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	39
	12/13/07	0.000968	<0.000500	<0.000500	0.00254	63.1
MW-5	7/28/98	<0.001	<0.001	<0.001	<0.001	360.0
	2/16/01	<0.005	<0.005	<0.005	<0.005	120
	6/12/02	<0.005	<0.005	<0.005	<0.005	90.2
	11/26/03	0.002	<0.001	0.003	<0.002	59.1
	6/6/03	<0.001	<0.001	<0.001	<0.001	48.6
	12/4/03	<0.001	<0.001	<0.001	<0.001	36.5
	7/2/04	<0.005	<0.005	<0.005	<0.005	32.9
	12/21/04	<0.005	<0.005	<0.005	<0.005	39.8
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	41.1
	12/13/05	<0.005	<0.005	<0.005	<0.010	39.7
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	43.2
	12/19/06	<0.005	<0.005	<0.005	<0.001	51.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	67
	12/14/07	<0.000500	<0.000500	<0.000500	<0.00100	101

TABLE II  
GROUNDWATER ANALYTICAL SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.01	0.75	0.75	0.62	250
MW-6	7/28/98	<0.001	<0.001	<0.001	<0.001	43.0
	2/16/01	<0.005	<0.005	0.006	0.006	52
	6/12/02	<0.001	<0.001	<0.001	<0.001	54.1
	11/26/03	<0.001	<0.001	<0.001	<0.002	65.0
	6/6/03	<0.001	<0.001	<0.001	<0.001	43.7
	12/4/03	<0.001	<0.001	<0.001	<0.001	45.3
	7/2/04	<0.001	<0.001	<0.001	<0.001	57.5
	12/21/04	<0.005	<0.005	<0.005	<0.005	61.3
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	66.7
	12/13/05	<0.005	<0.005	<0.005	<0.010	80.9
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	86.4
	12/19/06	<0.005	<0.005	<0.005	<0.001	88.0
	3/16/07	<0.000500	<0.000500	<0.000500	<0.001	92.2
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	110
	9/27/07	<0.000500	<0.000500	<0.000500	<0.00100	99.5
	12/14/07	<0.000500	<0.000500	<0.000500	<0.00100	99.2
MW-7	7/28/98	<0.001	<0.001	<0.001	<0.001	82.0
	2/16/01	<0.005	<0.005	<0.005	<0.005	150
	6/12/02	<0.005	<0.005	<0.005	<0.005	96.7
	11/26/03	<0.001	<0.001	<0.001	<0.002	133.0
	6/6/03	<0.001	<0.001	<0.001	<0.001	199.0
	12/4/03	<0.001	<0.001	<0.001	<0.001	230.0
	7/2/04	<0.001	<0.001	<0.001	<0.001	215.0
	12/21/04	<0.005	<0.005	<0.005	<0.005	274.0
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	221.0
	12/13/05	<0.005	<0.005	<0.005	<0.010	204.0
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	158.0
	12/19/06	<0.005	<0.005	<0.005	<0.001	130.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	110
	12/13/07	<0.000500	<0.000500	<0.000500	<0.00100	135
MW-8	7/28/98	<0.001	<0.001	<0.001	<0.001	29.0
	2/16/01	<0.005	<0.005	<0.005	<0.005	94
	6/12/02	<0.005	<0.005	<0.005	<0.005	180.0
	11/26/03	<0.001	<0.001	<0.001	<0.002	239.0
	6/6/03	<0.001	<0.001	<0.001	<0.001	244.0
	12/4/03	<0.001	<0.001	<0.001	<0.001	251.0
	7/2/04	<0.005	<0.005	<0.005	<0.005	206.0
	12/21/04	<0.005	<0.005	<0.005	<0.005	244.0
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	227.0
	12/13/05	<0.005	<0.005	<0.005	<0.010	144.0
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	92.6
	12/19/06	<0.005	<0.005	<0.005	<0.001	83.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	79
	12/13/07	<0.000500	<0.000500	<0.000500	<0.00100	82.9



TABLE II  
GROUNDWATER ANALYTICAL SUMMARY  
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER NEW MEXICO "F" STATE TANK BATTERY  
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.01	0.75	0.75	0.62	250
WW-1	7/28/98	<0.001	<0.001	<0.001	<0.001	100.0
	6/12/02	<0.001	<0.001	<0.001	<0.001	43.6
	11/26/02	<0.001	<0.001	<0.001	<0.002	80.0
	6/6/03	<0.001	<0.001	<0.001	<0.001	73.4
	12/4/03	<0.001	<0.001	<0.001	<0.001	65.3
	7/2/04	<0.001	<0.001	<0.001	<0.001	66.5
	12/21/04	<0.005	<0.005	<0.005	<0.005	74.3
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	63.4
	12/13/05	<0.005	<0.005	<0.005	<0.010	41.1
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	50.0
	12/19/06	<0.005	<0.005	<0.005	<0.001	80.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	52
	12/14/07	<0.000500	<0.000500	<0.000500	<0.00100	59.8
WW-2	6/12/02	<0.001	<0.001	<0.001	<0.001	53.7
	11/26/02	<0.001	<0.001	<0.001	<0.002	70.9
	6/6/03	<0.001	<0.001	<0.001	<0.001	71.1
	12/4/03	<0.001	<0.001	<0.001	<0.001	52.4
	7/2/04	<0.001	<0.001	<0.001	<0.001	51.0
	12/21/04	<0.005	<0.005	<0.005	<0.005	55.6
	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	55.3
	12/13/05	<0.005	<0.005	<0.005	<0.010	75.3
	6/27/06	<0.000500	<0.000500	<0.000500	<0.001	69.7
	12/19/06	<0.005	<0.005	<0.005	<0.001	57.0
	6/27/07	<0.000500	<0.000500	<0.000500	<0.00100	46
	12/14/07	<0.000500	<0.000500	<0.000500	<0.00100	83.1
RW-2	6/27/07	0.00287	<0.0025	<0.00250	0.0303	60
RW-3	6/11/02	<0.005	<0.005	<0.005	<0.005	25.9
	12/3/04	<0.001	<0.001	<0.001	<0.001	36.6
	6/27/07	0.00855	<0.00250	0.0122	0.0270	130

**Notes:**

1. Result shown in mg/L.
2. Data through June 6, 2005 provided by Larson & Associates, Inc.
3. Bold indicates detection above method detection limit.
4. Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.



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

Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

March 26, 2007

Luke Markham  
CRA  
2135 S. Loop 250 West  
Midland, TX 79701

RE: Project: 2067718  
RE: Project ID: N.N. "F" STATE BATTERY/039122

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 20, 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,

Cindy Olavesen



**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except 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



# Report of Laboratory Analysis

## Project Number: 2067718



3/26/2007 15:42:43



## Sample Cross Reference Report

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA

Project: N.N. "F" STATE BATTERY/039122

Project No.: 2067718

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
MW631607	20508364	Water	03/16/2007	10:35	03/20/2007	10:00

3/26/2007 15:42:46

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



## 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: 2067718**

---

**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:**

All LCS recoveries were within QC limits

**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.

---

3/26/2007 15:43:11  
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



## 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: 2067718

Analytical Method	Batch	Sample used for QC
EPA 325.2	83695	Batch sample from another client

For the sample used as the original for the DUP or MS/MSD for the batch:

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.

3/26/2007 15:43:14

**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 Environment - E-10266  
U.S. Dept. of Agriculture Foreign Soil Permit - S-47270



## 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: CRA  
Client ID: MW631607 Site: None  
Project: N.N. "F" STATE BATTERY/039122 Project No.: 2067718 Sample Qu:  
Lab ID: 20508364 Matrix: Water % Moisture: n/a  
Description: None Prep Level: Water Batch: 83685  
Method: 8021 VOAs Water Units: ug/L Target List: 8021 WL20  
Collected: 03/16/07 Received: 03/20/07  
Prep Factor: 1 Prepared: 03/21/07 Analyzed: 03/21/07 20:58 DET(1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 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.

**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

3/26/2007 15:43:16

# 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

**Pace Analytical\***

New Orleans Laboratory

Client ID: MW631607

Client: CRA

Project: N.N. "F" STATE BATTERY/039122

Site: None

Lab ID: 20508364

Project No.: 2067718

Description: None

Matrix: Water

%Moisture: n/a

Collected: 03/16/07

Received: 03/20/07

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	83695	1	92.2		mg/L	1.00	23-Mar-07	23-Mar-07 16:13	TAE (1)

1 parameter(s) reported

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 ignitability.

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

3/26/2007 15:43:19

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 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 8021

Project: 2067718

LCS: 20508677 3/21/2007 5:12:00 PM

Batch: 83685

MS:

Units: ug/L

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCSD Found	LCS %Rec	LCSD %Rec	LCS RPD	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	(1)MS RPD	QC Limits LCS	MS/MSD	Max RPD	Qu
Benzene	20	20.01		100										72 - 133	-		Q5
Ethylbenzene	20	19.17		96										75 - 136	-		Q5
Toluene	20	19.75		99										77 - 132	-		Q5
m&p-Xylene	40	37.95		95										79 - 136	-		Q5
o-Xylene	20	19.02		95										79 - 136	-		Q5

5 compound(s) reported

\* denotes recovery outside of QC limits.

MS spike concentrations are not corrected for moisture content of the spiked sample.

(1) MS RPD is calculated via SW-846 rules; on the basis of spiked sample concentrations rather than spike recoveries.

3/26/2007 15:43:22

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 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 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

Report: 2067718

Batch: 83685

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20508364	Sample	66							
20508676	BLANK	83							
20508677	LCS	83							
20509595	BLANK	90							

QC 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 duplicate.

3/26/2007 15:43:25

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Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environment - E-10266  
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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: 20508676

Description: 8021 VOAs Water Blank

Project No.: 2067718

Method: EPA 8021

Batch: 83685

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 21-Mar-07

Analyzed: 03/21/07 16:46 DET (1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	0.0803J		0.500
100-41-4	Ethylbenzene	1	0.0610J		0.500
1634-04-4	Methyl-tert-butyl ether	1	ND		0.500
108-88-3	Toluene	1	0.0674J		0.500
	m&p-Xylene	1	0.145 J		1.00
95-47-6	o-Xylene	1	0.0704J		0.500

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.

3/26/2007 15:43:28  
New Orleans Laboratory Certifications  
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Kansas Dept. of Health Environment - E-10266  
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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

## Wet Chemistry Quality Control Results

Project: 2067718

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS %Rec	LCS %Rec	LCS RPD	MS Spike	MS %Rec	MS %Rec	(1)MS RPD	MS DUP RPD	QC Limits		RPD Max	Qu
Chloride	83695	ND	1.00	mg/L	72.1	97								90 - 110	-		
Chloride	83695			mg/L								23		-	-	20	D1

ARL denotes Adjusted Reporting Limit, corrected for sample size, dilution and moisture content as applicable.  
\* denotes recovery outside of QC limits.  
(1) MS RPD is calculated via SW-846 rules; on the basis of spiked sample concentrations rather than spike recoveries.

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Arkansas Dept. of Environmental Quality - 88-0681  
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3/26/2007 15:43:31



## Report Qualifiers

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1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Project: **2067718**

### General Qualifiers

Qualifier	Qualifier Description
D1	The analysis was performed at a dilution due to the high analyte concentration.

### QC Qualifiers

Qualifier	Qualifier Description
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q5	Insufficient sample was provided to perform matrix spike analyses on any sample in this analytical batch. Method performance for this analyte has been demonstrated by the laboratory control sample recovery.

3/26/2007 15:43:34

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CHAIN-OF-CUSTODY / Analytical Request Document

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www.pacelabs.com

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

740148

Section B Required Client Information:

Report To: Luke Mackhagan  
Copy To:  
Invoice To:  
P.O.  
Project Name: N.A. F state Battery  
Project Number: 039122

Section A Required Client Information:

Company: CPA  
Address: 8135 S. Loop 250 W.  
Midland, TX 79703

Section C To Be Completed by Pace Analytical and Client

Quote Reference:  
Project Manager:  
Project #:  
Profile #:  
Requested Analysis:

Section D Required Client Information:

SAMPLE ID  
One character per box.  
(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

MATRIX CODE  
Valid Matrix Codes  
WATER, SOIL, OIL, WIPE, AIR, TISSUE, OTHER  
CODE WT, SL, OL, WP, AR, TS, OT

DATE COLLECTED  
TIME COLLECTED  
# Containers  
Preservatives: H2SO4, HNO3, HCl, NaOH, Na2S2O3, Methanol, Other

Remarks / Lab ID  
Chloride  
BTEX 80218  
31  
20508369

ITEM #	DATE COLLECTED	TIME COLLECTED	# Containers	Preservatives	MATRIX CODE	SHIPPING DATE	NO. OF COOLERS	AIRBILL NO.	SHIPMENT METHOD	SAMPLE CONDITION	Temp in °C	Received on Ice	Sealed Cooler	Samples Intact	Additional Comments:
1	07-08-16	1035a	4	X	WT						2.0	Y/N	Y/N	Y/N	
2					SL										
3					OL										
4					WP										
5					AR										
6					TS										
7					OT										
8															
9															
10															
11															
12															

REINQUISHED BY / AFFILIATION: Joe Mirides  
DATE: 3-20-07  
TIME: 1400  
ACCEPTED BY / AFFILIATION: 7000  
DATE: 3-20-07  
TIME: 1000

SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER:  
SIGNATURE of SAMPLER:



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

Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

July 30, 2007

Luke Markham  
CRA  
2135 S. Loop 250 West  
Midland, TX 79701

RE: Project: 2071168  
RE: Project ID: N.M.F. State Battery

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 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,

Cindy Olavesen



**REPORT OF LABORATORY ANALYSIS**

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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



## Report of Laboratory Analysis

Project Number: 2071168



7/30/2007 11:11:41





## Sample Cross Reference Report

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Project: N.M.F. State Battery

Project No.: 2071168

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
RW262707	20533177	Water	06/27/2007	11:40	06/29/2007	10:10
RW362707	20533178	Water	06/27/2007	11:00	06/29/2007	10:10
MW362707	20533179	Water	06/27/2007	14:10	06/29/2007	10:10
MW462707	20533180	Water	06/27/2007	13:30	06/29/2007	10:10
MW562607	20533181	Water	06/27/2007	14:15	06/29/2007	10:10
MW662707	20533182	Water	06/27/2007	12:20	06/29/2007	10:10
MW762607	20533183	Water	06/27/2007	14:45	06/29/2007	10:10
MW862607	20533184	Water	06/27/2007	13:30	06/29/2007	10:10
WW162707	20533185	Water	06/27/2007	12:45	06/29/2007	10:10
WW262707	20533186	Water	06/27/2007	12:50	06/29/2007	10:10
DUP62707	20533187	Water	06/27/2007		06/29/2007	10:10
TRIP	20533188	Water	06/27/2007		06/29/2007	10:10

7/30/2007 11:11:44

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Pennsylvania DEP (NELAC) 68-04202



## Project Narrative

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1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

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**Project:     2071168**

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**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:**

All LCS recoveries were within QC limits.

**Matrix Spikes and Duplicates:**

All MS/MSD recoveries or duplicate RPDs were within QC limits.

**Surrogates:**

All surrogate recoveries were within QC limits.

---

7/30/2007 11:12:12

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## Project Narrative



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1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Project: 2071168

Analytical Method	Batch	Sample used for QC
EPA 8021	88399	Project sample MW362707

For the sample used as the original for the DUP or MS/MSD for the batch;

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.

7/30/2007 11:12:15

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# 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: CRA MIDLAND  
Site: None  
Client ID: RW262707  
Project: N.M.F. State Battery  
Project No.: 2071168  
Lab ID: 20533177  
Matrix: Water  
Sample Qu: None  
Description: None  
Prep Level: Water  
Batch: 88399  
Method: 8021 VOAs Water  
Units: ug/L  
Target List: 8021 WL20  
Collected: 06/27/07  
Received: 06/29/07  
Prep Factor: 1  
Prepared: 07/11/07  
Analyzed: 07/11/07 14:37 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	5	2.87	D2	2.50	
100-41-4	Ethylbenzene	5	ND	D2	2.50	
108-88-3	Toluene	5	ND	D2	2.50	
	m&p-Xylene	5	30.3	D2	5.00	
95-47-6	o-Xylene	5	ND	D2	2.50	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:18

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# 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

**Pace Analytical\***

New Orleans Laboratory

Client: CRA MIDLAND

Client ID: RW362707

Site: None

Project: N.M.F. State Battery

Project No.: 2071168

Sample Qu:

Lab ID: 20533178

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 88399

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/07

Received: 06/29/07

Prepared: 07/11/07

Analyzed: 07/11/07 15:03 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	5	8.55	D2	2.50	
100-41-4	Ethylbenzene	5	12.2	D2	2.50	
108-88-3	Toluene	5	ND	D2	2.50	
	m&p-Xylene	5	27.0	D2	5.00	
95-47-6	o-Xylene	5	ND	D2	2.50	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

New Orleans Laboratory Certifications

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# Report of Laboratory Analysis

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1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND  
Client ID: MW362707 Site: None  
Project: N.M.F. State Battery Project No.: 2071168 Sample Qu:  
Lab ID: 20533179 Matrix: Water % Moisture: n/a  
Description: None Prep Level: Water Batch: 88399  
Method: 8021 VOAs Water Units: ug/L Target List: 8021 WL20  
Collected: 06/27/07 Received: 06/29/07  
Prep Factor: 1 Prepared: 07/10/07 Analyzed: 07/10/07 18:38 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.  
A Prep Factor other than 1 accounts for a non-routine sample size.  
Reporting/Detection 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.

7/30/2007 11:12:19  
New Orleans Laboratory Certifications  
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## 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: CRA MIDLAND

Client ID: MW462707

Site: None

Project: N.M.F. State Battery

Project No.: 2071168

Sample Qu:

Lab ID: 20533180

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 88399

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/07

Received: 06/29/07

Prep Factor: 1

Prepared: 07/10/07

Analyzed: 07/10/07 19:54 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

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## 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: CRA MIDLAND

Client ID: MW562607

Site: None

Project: N.M.F. State Battery

Project No.: 2071168

Sample Qu:

Lab ID: 20533181

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 88399

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/07

Received: 06/29/07

Prep Factor: 1

Prepared: 07/10/07

Analyzed: 07/10/07 21:36 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

### New Orleans Laboratory Certifications

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Florida Dept. of Health (NELAC) - E87595

Kansas Dept. of Health Environment - E-10266

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## 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: CRA MIDLAND

Client ID: MW662707

Site: None

Project: N.M.F. State Battery

Project No.: 2071168

Sample Qu:

Lab ID: 20533182

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 88399

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/07

Received: 06/29/07

Prepared: 07/10/07

Analyzed: 07/10/07 22:01 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

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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  
Pennsylvania DEP (NELAC) 68-04202



# 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: CRA MIDLAND  
Site: None  
Client ID: MW762607  
Project: N.M.F. State Battery  
Project No.: 2071168  
Lab ID: 20533183  
Matrix: Water  
Sample Qu: % Moisture: n/a  
Description: None  
Prep Level: Water  
Batch: 88399  
Method: 8021 VOAs Water  
Units: ug/L  
Target List: 8021 WL20  
Collected: 06/27/07  
Received: 06/29/07  
Prep Factor: 1  
Prepared: 07/10/07  
Analyzed: 07/10/07 22:27 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

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  
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Pennsylvania DEP (NELAC) 68-04202



# 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:** CRA MIDLAND  
**Site:** None  
**Client ID:** MW862607  
**Project:** N.M.F. State Battery  
**Project No.:** 2071168  
**Lab ID:** 20533184  
**Matrix:** Water  
**Description:** None  
**Prep Level:** Water  
**Method:** 8021 VOAs Water  
**Units:** ug/L  
**Prep Factor:** 1  
**Batch:** 88399  
**Target List:** 8021 WL20  
**Collected:** 06/27/07  
**Received:** 06/29/07  
**Prepared:** 07/10/07  
**Analyzed:** 07/10/07 22:52 RMP  
**% Moisture:** n/a

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

**New Orleans Laboratory Certifications**  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
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## Report of Laboratory Analysis

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St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND  
Client ID: WW162707 Site: None  
Project: N.M.F. State Battery Project No.: 2071168 Sample Qu:  
Lab ID: 20533185 Matrix: Water % Moisture: n/a  
Description: None Prep Level: Water Batch: 88399  
Method: 8021 VOAs Water Units: ug/L Target List: 8021 WL20  
Collected: 06/27/07 Received: 06/29/07  
Prep Factor: 1 Prepared: 07/10/07 Analyzed: 07/10/07 23:18 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

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# Report of Laboratory Analysis

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St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND  
Site: None  
Client ID: WW262707  
Project: N.M.F. State Battery  
Project No.: 2071168  
Lab ID: 20533186  
Matrix: Water  
Sample Qu: n/a  
Description: None  
Prep Level: Water  
Batch: 88399  
Method: 8021 VOAs Water  
Units: ug/L  
Target List: 8021 WL20  
Collected: 06/27/07  
Received: 06/29/07  
Prep Factor: 1  
Prepared: 07/10/07  
Analyzed: 07/10/07 23:43 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.  
A Prep Factor other than 1 accounts for a non-routine sample size.  
Reporting/Detection 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.

7/30/2007 11:12:19  
New Orleans Laboratory Certifications  
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Arkansas Dept. of Environmental Quality - 88-0681  
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## Report of Laboratory Analysis

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St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: DUP62707

Site: None

Project: N.M.F. State Battery

Project No.: 2071168

Sample Qu:

Lab ID: 20533187

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 88399

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/07

Received: 06/29/07

Prep Factor: 1

Prepared: 07/11/07

Analyzed: 07/11/07 00:09 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

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## 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:** CRA MIDLAND

**Client ID:** TRIP

**Site:** None

**Project:** N.M.F. State Battery

**Project No.:** 2071168

**Sample Qu:**

**Lab ID:** 20533188

**Matrix:** Water

**% Moisture:** n/a

**Description:** None

**Prep Level:** Water

**Batch:** 88399

**Method:** 8021 VOAs Water

**Units:** ug/L

**Target List:** 8021 WL20

**Collected:** 06/27/07

**Received:** 06/29/07

**Prep Factor:** 1

**Prepared:** 07/11/07

**Analyzed:** 07/11/07 00:34 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
100-41-4	Ethylbenzene	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	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.

A Prep Factor other than 1 accounts for a non-routine sample size.

Reporting/Detection 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.

7/30/2007 11:12:19

**New Orleans Laboratory Certifications**  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
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Pennsylvania DEP (NELAC) 68-04202



## 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 8021

Project: 2071168

LCS: 20535231 7/10/2007 4:30:00 PM

Batch: 88399

MS: 20535575 7/10/2007 7:03:00 PM

Units: ug/L

Original for MS: 20533179 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		Max	Qu
											LCS	MS/MSD	RPD	
Benzene	20	21.98	110	20	0.00	21.71	21.73	109	109	0	72 - 133	51 - 147	20	
Ethylbenzene	20	21.85	109	20	0.00	21.05	21.38	105	107	2	75 - 136	55 - 145	20	
Toluene	20	21.83	109	20	0.00	21.32	21.47	107	107	1	77 - 132	57 - 143	20	
m&p-Xylene	40	43.42	109	40	0.00	41.59	42.36	104	106	2	79 - 136	79 - 130	20	
o-Xylene	20	21.89	109	20	0.00	21.53	21.77	108	109	1	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.

7/30/2007 11:12:22

New Orleans Laboratory Certifications  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
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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 8021

Project: 2071168

LCS: 20535579 7/11/2007 2:12:00 PM

Batch: 88399

MS:

Units: ug/L

Original for MS:

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 RPD	Qu
Benzene	20	21.98	110								72 - 133	-	
Ethylbenzene	20	21.8	109								75 - 136	-	
Toluene	20	21.99	110								77 - 132	-	
m&p-Xylene	40	43.45	109								79 - 136	-	
o-Xylene	20	21.82	109								79 - 136	-	

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.

7/30/2007 11:12:23

New Orleans Laboratory Certifications  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Arkansas Dept. of Environmental Quality - 88-0681  
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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



Report: 2071168

Batch: 88399

Lab ID	Type and Qualifiers	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20533177	Sample D2	92							
20533178	Sample D2	96							
20533179	Sample	85							
20533180	Sample	86							
20533181	Sample	81							
20533182	Sample	79							
20533183	Sample	80							
20533184	Sample	78							
20533185	Sample	77							
20533186	Sample	77							
20533187	Sample	80							
20533188	Sample	78							
20535230	BLANK	81							
20535231	LCS	94							
20535575	MS	97							
20535576	MSD	96							
20535577	BLANK	80							
20535578	BLANK	82							
20535579	LCS	92							
20535582	BLANK	85							

QC 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 duplicate.

7/30/2007 11:12:25

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Kansas Dept. of Health, Environment - E-10266  
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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

**Pace Analytical\***  
New Orleans Laboratory

Lab ID: 20535230

Description: 8021 VOAs Water Blank

Project No.: 2071168

Method: EPA 8021

Batch: 88399

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 10-Jul-07

Analyzed: 07/10/07 16:05 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting 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 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.

7/30/2007 11:12:29

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

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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: 20535577

Description: 8021 VOAs Water Blank

Project No.: 2071168

Method: EPA 8021

Batch: 88399

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 10-Jul-07

Analyzed: 07/10/07 21:10 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting 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 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.

7/30/2007 11:12:29  
New Orleans Laboratory Certifications  
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Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023  
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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

**Pace Analytical\***  
New Orleans Laboratory

Lab ID: 20535578

Description: 8021 VOAs Water Blank

Project No.: 2071168

Method: EPA 8021

Batch: 88399

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 11-Jul-07

Analyzed: 07/11/07 13:46 RMP

CAS Number	Parameter	Dilution	Result	Qu	Reporting 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	0.416 J		0.500
	m&p-Xylene	1	ND		1.00
95-47-6	o-Xylene	1	ND		0.500

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.

7/30/2007 11:12:29

New Orleans Laboratory Certifications

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## Report Qualifiers

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Project: **2071168**

### General Qualifiers

Qualifier	Qualifier Description
D2	The analysis was performed at a dilution due to the presence of matrix interferences.

7/30/2007 11:12:32

**New Orleans Laboratory Certifications**  
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Company		Copy To:	Client Information (Check quote/contract)		Requested Due Date:	Project Reference:	
Address		Invoice To:	*TAT:		Project Manager:		
P.O.			* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.		Project #:		
Project Name:			Turn Around Time (TAT) in calendar days.		Profile #:		
Project Number:					Requested Analysis:		
432-686-0086		Fax	039122		BTEX 80216		
686-D186		Chiller 300					
Section D		Required Client Information:					
SAMPLE ID		Preservatives					
One character per box. (A-Z, 0-9, /, -)		H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub> Methanol Other					
Sample IDs MUST BE UNIQUE		# Containers					
Valid Matrix Codes		DATE COLLECTED TIME COLLECTED					
MATRIX WATER SOIL OIL WIFE AIR TISSUE OTHER		mm/dd/yy hour:min a/p					
CODE WT SL CL WP AF TS DT							
ITEM #		REMARKS / Lab ID					
1 RW262707		WT 6-22-07 140 41 3 31 20533171					
2 RW362707		1 06/27/07 1100 31 3178					
3 MW362707		06/22/07 1410 31 3114					
4 MW462707		06/27/07 1330 31 3180					
5 MW562707		06/26/07 1415 31 3181					
6 MW662707		06/27/07 1220 31 3182					
7 MW762707		06/26/07 1445 31 3183					
8 MW862707		06/26/07 1330 31 3184					
9 WW162707		06/27/07 1245 31 3185					
10 WW262707		06/27/07 1250 31 3186					
11 DUP62707		06/22/07 31 3187					
12 TRCP		WT 41 13 2 3188					
SHIPMENT METHOD		AIRBILL NO.		SHIPPING DATE		NO. OF COOLERS	
Fedex							
SAMPLE CONDITION		Temp in °C		41.1		RECEIVED BY / AFFILIATION	
Temp in °C		41.1		6-20-07 1515		DATE	
Received on Ice		N/A		7ed Ex		DATE	
SAMPLE NOTES		Joe Miralles		6-20-07 1515		DATE	
7ed Ex		6-20-07 1010		My muller Para		DATE	
6-20-07 1010		6-20-07 1010		6-20-07 1010		DATE	

Sealed Cooler	DN
Samples Intact	Y/N
Additional Comments:	

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	
SIGNATURE of SAMPLER:	DATE Signed: (MM / DD / YY)



1241 Bellevue Street, Suite 9  
Green Bay, WI 54302  
920-469-2436, Fax: 920-469-8827

## Analytical Report Number: 885650

Client: PACE ANALYTICAL SERVICES, INC.

Lab Contact: Eric Wied

Project Name: CRA

Project Number: 2071168

Lab Sample Number	Field ID	Matrix	Collection Date
885650-001	20533177 RW262707	WATER	06/27/07 11:40
885650-002	20533178 RW362707	WATER	06/27/07 11:00
885650-003	20533179 MW362707	WATER	06/27/07 14:10
885650-004	20533180 MW462707	WATER	06/27/07 13:30
885650-005	20533181 MW562607	WATER	06/26/07 14:15
885650-006	20533182 MW662707	WATER	06/27/07 12:20
885650-007	20533183 MW762607	WATER	06/26/07 14:45
885650-008	20533184 MW862607	WATER	06/26/07 13:30
885650-009	20533185 VVW162707	WATER	06/27/07 12:45
885650-010	20533186 VVW262707	WATER	06/27/07 12:50
885650-011	20533187 DUP62707	WATER	06/27/07

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc. The sample results relate only to the analytes of interest tested.

Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

### REPORT OF LABORATORY ANALYSIS

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



Approval Signature

Date

Page 1 of 17

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533177 RW262707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-001

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	60	5.0	1	mg/L		07/06/07 12:37 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533178 RW362707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-002

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	130	50	10	mg/L		07/06/07 01:23 PM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	



**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533179 MW362707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-003

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	31	5.0	1	mg/L		07/06/07 01:05 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client: PACE ANALYTICAL SERVICES, INC.

Project Name: CRA

Project Number: 2071168

Field ID: 20533180 MW462707

Matrix Type: WATER

Collection Date: 06/27/07

Report Date: 07/11/07

Lab Sample Number: 885650-004

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	39	5.0	1	mg/L		07/06/07 01:19 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

**Client :** PACE ANALYTICAL SERVICES, INC.

**Project Name :** CRA

**Project Number :** 2071168

**Field ID :** 20533181 MW562607

**Matrix Type :** WATER

**Collection Date :** 06/26/07

**Report Date :** 07/11/07

**Lab Sample Number :** 885650-005

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	67	5.0	1	mg/L		07/06/07 01:33 AM	EPA 300.0	EPA 300.0
						<b>Prep Date/Time:</b>	<b>Anl By: GLL</b>	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533182 MW662707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-006

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	110	50	10	mg/L		07/06/07 01:35 PM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533183 MW762607

Matrix Type : WATER

Collection Date : 06/26/07

Report Date : 07/11/07

Lab Sample Number : 885650-007

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	110	50	10	mg/L		07/06/07 01:47 PM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	



**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533184 MW862607

Matrix Type : WATER

Collection Date : 06/26/07

Report Date : 07/11/07

Lab Sample Number : 885650-008

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	79	5.0	1	mg/L		07/06/07 02:16 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533185 WW162707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-009

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	52	5.0	1	mg/L		07/06/07 02:30 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533186 WW262707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-010

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	46	5.0	1	mg/L		07/06/07 02:44 AM	EPA 300.0	EPA 300.0
						Prep Date/Time:	Anl By: GLL	

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 885650**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2071168

Field ID : 20533187 DUP62707

Matrix Type : WATER

Collection Date : 06/27/07

Report Date : 07/11/07

Lab Sample Number : 885650-011

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	30	5.0	1	mg/L		07/06/07 03:27 AM	EPA 300.0	EPA 300.0
Prep Date/Time:							Anl By: GLL	

## Qualifier Codes

Flag	Applies To	Explanation
A	Inorganic	Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
B	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
B	Organic	Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
C	All	Elevated detection limit.
D	All	Analyte value from diluted analysis or surrogate result not applicable due to sample dilution.
E	Inorganic	Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established control limits of 0-10%. The sample concentration is greater than 50 times the IDL for analysis done on the ICP or 100 times the IDL for analysis done on the ICP-MS. The result was flagged with the E qualifier to indicate that a physical interference was observed.
E	Organic	Analyte concentration exceeds calibration range.
F	Inorganic	Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
F	Organic	Surrogate results outside control criteria.
G	All	The result is estimated because the concentration is less than the lowest calibration standard concentration utilized in the initial calibration. The method detection limit is less than the reporting limit specified for this project.
H	All	Preservation, extraction or analysis performed past holding time.
HF	Inorganic	This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was performed in the laboratory beyond the recommended holding time.
J	All	Concentration detected equal to or greater than the method detection limit but less than the reporting limit.
K	Organic	Detection limit may be elevated due to the presence of an unrequested analyte.
L	All	Elevated detection limit due to low sample volume.
M	Organic	Sample pH was greater than 2
N	All	Spiked sample recovery not within control limits.
O	Organic	Sample received overweight.
P	Organic	The relative percent difference between the two columns for detected concentrations was greater than 40%.
Q	All	The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
S	Organic	The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
U	All	The analyte was not detected at or above the reporting limit.
V	All	Sample received with headspace.
W	All	A second aliquot of sample was analyzed from a container with headspace.
X	All	See Sample Narrative.
Z	Organics	This compound was separated in the CCV standard but it did not meet the resolution criteria as set forth in SW846.
&	All	Laboratory Control Spike recovery not within control limits.
*	All	Precision not within control limits.
+	Inorganic	The sample result is greater than four times the spike level: therefore, the percent recovery is not evaluated.
<	All	The analyte was not detected at or above the reporting limit.
1	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
2	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria.
3	Inorganic	BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
4	Inorganic	BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
5	Inorganic	BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
6	Inorganic	BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
7	Inorganic	BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
8	Inorganic	Sample was received unpreserved. Sample was preserved either at the time of receipt or at the time of sample preparation.
9	Inorganic	Sample was received with insufficient preservation. Acid was added either at the time of receipt or at the time of sample preparation.



Test Group Name	885650-011	885650-010	885650-009	885650-008	885650-007	885650-006	885650-005	885650-004	885650-003	885650-002	885650-001
CHLORIDE	B	B	B	B	B	B	B	B	B	B	B

Code	NM Certification
B	Not Certified

**Pace Analytical  
Services, Inc.**

**QC Summary**

1241 Bellevue Street  
Green Bay, WI 54302  
920-469-2436  
Fax: 920-469-8827

Batch: 885650  
Lab Section: WETCHEM  
QC Batch Number: 22576  
Prep Method: EPA 300.0  
Analytical Method: EPA 300.0

QC Type	Client Sample ID	Lab Sample ID
MB	WCG2232-053MB	WCG2232-053MB
LCS	WCG2232-053MBLCS	WCG2232-053MBLCS
MS	20533187 DUP62707MS	885650-011MS
MS	885650-001MS	885650-001MS
MSD	20533187 DUP62707MSD	885650-011MSD
MSD	885650-001MSD	885650-001MSD

Client Sample ID	Lab Sample ID	MB ID	Client Sample ID	Lab Sample ID	MB ID
20533177 RW262707	885650-001	MB	20533178 RW362707	885650-002	MB
20533179 MW362707	885650-003	MB	20533180 MW462707	885650-004	MB
20533181 MW562807	885650-005	MB	20533182 MW662707	885650-006	MB
20533183 MW762607	885650-007	MB	20533184 MW862607	885650-008	MB
20533185 MW162707	885650-009	MB	20533186 MW262707	885650-010	MB
20533187 DUP62707	885650-011	MB			

Test Name	Method Blank Result Conc	LCS Spiked Conc	LCS Recovery % C	LCS/MSD RPD % C	LCS/LCSD Control Limits						Parent Sample Number	Parent Result Conc	MS Spiked Conc	MS Recovery % C	MSD Spiked Conc	MSD Recovery % C	MS/ MSD RPD % C	MS/MSD Control Limits						
					LCL %	UCL %	RPD %	Parent Sample Number	Parent Result Conc	MS Spiked Conc								MS Recovery % C	MSD Spiked Conc	MSD Recovery % C	MS/ MSD RPD % C	LCL %	UCL %	RPD %
Chloride	<	5	20.0	99.6	—	—	—	90	110	20	88505-001	5.02	20.0	24.2	95.8	20.0	24	95.0	0.7	90	110	20		
Chloride	<	5	20.0	99.6	—	—	—	90	110	20	885650-011	29.9	20.0	51.4	107.1	20.0	51.2	106.5	0.2	90	110	20		

Conc = mg/L unless otherwise noted  
C = QC Code, see Qualifier Sheet

Parent Result is reported down to MDL in order to allow Validation of this worksheet  
The %R and RPD results are calculated from raw data values with more significant figures than are reported on this form.

Report Date: 7/11/2007  
QC Batch Number: 22576



# Sample Condition Upon Receipt

Client Name: Pace - LA

Project # 885650

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other \_\_\_\_\_

Thermometer Used JB

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 10

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: AG 7/3/07  
LA 7/3/07

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>W</u>	
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, Wt-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Pace Trip Blank Lot # (if purchased):	_____	

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: [Signature]

Date: 07.03.07

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical®  
www.pacelabs.com

Required Client Information: Section A  
Company: CR4  
Address: 2135 S. Loop 250 W.  
Midland, TX 79103  
Phone: 432-686-0086 Fax: 686-D186

Page: 1 of 1

801168 752388

Section C

Report To: Luke Mackham  
Copy To: Invoice To: PO: Project Name: N.M.F. State Battery  
Project Number: 039122

Client Information (Check quote/contract):  
Requested Due Date: TAT:

Project Manager:

Section D Required Client Information:  
Valid Matrix Codes: WATER, SOIL, OIL, WIPE, AIR, TISSUE, OTHER  
MATRIX CODE: WT, SL, OL, WP, AR, TS, OT

\* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.  
Turn Around Time (TAT) in calendar days.

Project #:

885655

Section E SAMPLE ID  
One character per box.  
(A-Z, 0-9 / -)

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

ITEM #

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section F SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section G SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section H SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section I SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section J SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section K SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section L SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section M SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section N SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section O SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section P SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section Q SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section R SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section S SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section T SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section U SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section V SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section W SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section X SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives

Section Y SAMPLE ID

DATE COLLECTED

TIME COLLECTED

# Containers

Unpreserved

Preservatives



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

October 10, 2007

Luke Markham  
CRA  
2135 S. Loop 250 West  
Midland, TX 79701

RE: Project: 2074375  
RE: Project ID: NM "F" STATE/039122

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 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,

Cindy Olavesen



**REPORT OF LABORATORY ANALYSIS**

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



## Sample Cross Reference

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

**Project:** 2074375

**Client:** CRA MIDLAND

**Project ID:** NM "F" STATE/039122

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
MW6 92707	20556118	Water	09/27/07 11:20	09/28/07 10:45

10/10/2007 10:29:39

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270





## 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:** 2074375

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**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:**

All LCS recoveries were within QC limits.

**Matrix Spikes and Duplicates:**

All MS/MSD recoveries or duplicate RPDs were within QC limits.

**Surrogates:**

All surrogate recoveries were within QC limits.



## 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:** 2074375

---

Analytical Method	Batch	Sample used for QC
EPA 8015 Mod/8021 Mod	92513	Batch sample from another client
SM 4500-CI E	92115	Batch sample from another client

---

For the sample used as the original for the DUP or MS/MSD for the batch:

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.

10/10/2007 10:30:11

## Sample Results



Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW6 92707

Project: 2074375

Project ID: NM "F" STATE/039122

Site: None

Lab ID: 20556118

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 92513

Method: GC Volatile Organics Water

Collected: 27-Sep-07

Received: 28-Sep-07

Prepared: 09-Oct-07

Analyzed: 09-Oct-07 15:44 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

10/10/2007 10:30:14



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW6 92707

Project: 2074375

Project ID: NM "F" STATE/039122

Site: None

Lab ID: 20556118

Matrix: Water

%Moisture: n/a

Description: None

Collected: 09/27/07

Received: 09/28/07

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	SM 4500-Cl	92115	1		99.5	mg/L	1.00	28-Sep-07	28-Sep-07 18:11	MMH

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

10/10/2007 10:30:17  
*Louisiana Dept. of Environmental Quality (LELAP) - 02006*  
*Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004*  
*Arkansas Dept. of Environmental Quality - LA050004*  
*Florida Dept. of Health (NELAC) - E87595*  
*Kansas Dept. of Health Environmental - E-10266*  
*Pennsylvania DEP (NELAC) 68-04202*  
*U.S. Dept. of Agricultural Foreign Soil Permit - S-47270*



## Organics 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 8015 Mod/8021 Mod

Project: 2074375

LCS: 20558646 10/9/2007 9:04:00 AM

Batch: 92513

MS: 20558647 10/9/2007 12:14:00 PM

Units: mg/L

Original for MS: 2055556 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		Max RPD	Qu
Benzene	0.02	0.0208	104	0.02	0.00	0.01997	0.02194	100	109	9	72 - 133	51 - 147	20	
Ethylbenzene	0.02	0.02133	107	0.02	0.00	0.0204	0.02218	102	110	8	75 - 136	55 - 145	20	
Toluene	0.02	0.0207	104	0.02	0.00	0.01985	0.02167	99	108	9	77 - 132	57 - 143	20	
m&p-Xylene	0.04	0.04289	107	0.04	0.00	0.04112	0.0444	102	110	8	79 - 136	79 - 130	20	
o-Xylene	0.02	0.02163	108	0.02	0.00	0.02083	0.02247	103	111	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.

10/10/2007 10:30:20

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
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# Organics 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 8015 Mod/8021 Mod

Project: 2074375

LCS: 20559142 10/9/2007 11:53:00 AM

Batch: 92513

MS: 20558647 10/9/2007 12:14:00 PM

Units: mg/L

Original for MS: 2055556 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		Max	Qu
											LCS	MS/MSD	RPD	
Benzene	0.02	0.01923	96	0.02	0.00	0.01997	0.02194	100	109	9	72 - 133	51 - 147	20	
Ethylbenzene	0.02	0.01983	99	0.02	0.00	0.0204	0.02218	102	110	8	75 - 136	55 - 145	20	
Toluene	0.02	0.01918	96	0.02	0.00	0.01985	0.02167	99	108	9	77 - 132	57 - 143	20	
m&p-Xylene	0.04	0.03987	100	0.04	0.00	0.04112	0.0444	102	110	8	79 - 136	79 - 130	20	
o-Xylene	0.02	0.02014	101	0.02	0.00	0.02083	0.02247	103	111	8	79 - 136	79 - 130	20	

5 compound(s) reported

\* denotes recovery outside of QC limits.

10/10/2007 10:30:20

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

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
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## Organics 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 8015 Mod/8021 Mod

Project: 2074375

LCS: 20559144 10/9/2007 7:37:00 PM

Batch: 92513

MS:

Units: mg/L

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits		Max	Qu
											LCS	MS/MSD	RPD	
Benzene	0.02	0.02173	109								72 - 133	-		
Ethylbenzene	0.02	0.0222	111								75 - 136	-		
Toluene	0.02	0.02157	108								77 - 132	-		
m&p-Xylene	0.04	0.04457	111								79 - 136	-		
o-Xylene	0.02	0.02234	112								79 - 136	-		

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.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

10/10/2007 10:30:20



## 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: 92513

Project: 2074375

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20558645	92513 BLANK 1		101							
20559141	92513 BLANK 2		95							
20559143	92513 BLANK 3		101							
20558646	92513 LCS 1		96							
20559142	92513 LCS 2		96							
20559144	92513 LCS 3		102							
20556118	MW6 92707		102							
20558647	MW-AMS 1		98							
20558648	MW-AMSD 1		98							

QC 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.

10/10/2007 10:30:23

Louisiana Dept. of Environmental Quality (LELAP) - 02006

Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004

Arkansas Dept. of Environmental Quality - LA050004

Florida Dept. of Health (NELAC) - E87595

Kansas Dept. of Health Environmental - E-10266

Pennsylvania DEP (NELAC) 68-04202

U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

Project: 2074375

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Chloride	92115	ND	1.00	mg/L	72.1	74.04	103	100	57.98	159		101			0	90 - 110	75 - 125	20

\* denotes recovery outside of QC limits.

ND denotes Not Detected at or above the adjusted reporting limit or PQL.

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

10/10/2007 10:30:26

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural 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

December 27, 2007

Luke Markham  
CRA  
2135 S. Loop 250 West  
Midland, TX 79701

RE: Project: 2077045  
RE: Project ID: N.M.F State

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 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,

Cindy Olavesen



**REPORT OF LABORATORY ANALYSIS**

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



## Sample Cross Reference

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

**Project:** 2077045

**Client:** CRA MIDLAND

**Project ID:** N.M.F State

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
MW3121407	20577156	Water	14-Dec-07 10:40	15-Dec-07 10:30
MW5121407	20577157	Water	14-Dec-07 13:05	15-Dec-07 10:30
MW6121407	20577158	Water	14-Dec-07 11:15	15-Dec-07 10:30
MW7121407	20577159	Water	13-Dec-07 13:20	15-Dec-07 10:30
MW8121407	20577160	Water	13-Dec-07 12:18	15-Dec-07 10:30
WW1121407	20577161	Water	14-Dec-07 11:20	15-Dec-07 10:30
WW2121407	20577162	Water	14-Dec-07 11:25	15-Dec-07 10:30
DUPI	20577163	Water	14-Dec-07 00:00	15-Dec-07 10:30
MW4121307	20577165	Water	13-Dec-07 12:35	15-Dec-07 10:30

12/27/2007 10:12:04

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270





## 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: 2077045

---

---

**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:**

All LCS recoveries were within QC limits.

**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.



## 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:** 2077045

---

Analytical Method	Batch	Sample used for QC
EPA 8015 Mod/8021 Mod	95836	Batch sample from another client
SM 4500-Cl E	95544	Project sample MW4121307

---

For the sample used as the original for the DUP or MS/MSD for the batch:

12/27/2007 10:13:02

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.

## Sample Results



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW3121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577156

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95836

Method: GC Volatile Organics Water

Collected: 14-Dec-07

Received: 15-Dec-07

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 12:35 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

12/27/2007 10:13:18



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW5121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577157

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95836

Method: GC Volatile Organics Water

Collected: 14-Dec-07

Received: 15-Dec-07

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 12:57 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

## Sample Results



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW6121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577158

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95836

Method: GC Volatile Organics Water

Collected: 14-Dec-07

Received: 15-Dec-07

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 13:18 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

12/27/2007 10:13:18

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW7121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577159

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95739

Method: GC Volatile Organics Water

Collected: 13-Dec-07

Received: 15-Dec-07

Prepared: 21-Dec-07

Analyzed: 21-Dec-07 07:59 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW8121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577160

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95739

Method: GC Volatile Organics Water

Collected: 13-Dec-07

Received: 15-Dec-07

Prepared: 21-Dec-07

Analyzed: 21-Dec-07 08:20 DET

Units: mg/L

Reporting  
Limit

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270





## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: WW1121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577161

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95836

Method: GC Volatile Organics Water

Collected: 14-Dec-07

Received: 15-Dec-07

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 14:01 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

## Sample Results



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: WW2121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577162

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95836

Method: GC Volatile Organics Water

Collected: 14-Dec-07

Received: 15-Dec-07

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 14:22 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: DUP1  
Project ID: N.M.F State  
Lab ID: 20577163  
Description: None  
Method: GC Volatile Organics Water

Project: 2077045  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 95836

Collected: 14-Dec-07 Received: 15-Dec-07  
Prepared: 26-Dec-07 Analyzed: 26-Dec-07 14:44 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		ND	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		ND	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

## Sample Results



Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW4121307

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577165

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 95739

Method: GC Volatile Organics Water

Collected: 13-Dec-07

Received: 15-Dec-07

Prepared: 21-Dec-07

Analyzed: 21-Dec-07 08:42 DET

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit	Reg Limit
71-43-2	Benzene	1		0.000968	0.000500	
100-41-4	Ethylbenzene	1		ND	0.000500	
108-88-3	Toluene	1		ND	0.000500	
	m&p-Xylene	1		0.00254	0.00100	
95-47-6	o-Xylene	1		ND	0.000500	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:18

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW3121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577156

Matrix: Water

% Moisture: n/a

Description: None

Collected: 14-Dec-07

Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		30.9	mg/L	1.00	17-Dec-07	17-Dec-07 12:53	TAE

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:34

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

## Sample Results



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW5121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577157

Matrix: Water

%Moisture: n/a

Description: None

Collected: 14-Dec-07

Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		101.	mg/L	1.00	17-Dec-07	17-Dec-07 12:53	TAE

1 parameter(s) reported

12/27/2007 10:13:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



# Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose , LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW6121407  
Project ID: N.M.F State  
Lab ID: 20577158  
Description: None

Project: 2077045  
Site: None  
Matrix: Water %Moisture: n/a  
Collected: 14-Dec-07 Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		99.2	mg/L	1.00	17-Dec-07	17-Dec-07 12:53	TAE

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:34  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**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**

**Client:** CRA MIDLAND

**Client ID:** MW7121407

**Project:** 2077045

**Project ID:** N.M.F State

**Site:** None

**Lab ID:** 20577159

**Matrix:** Water

**%Moisture:** n/a

**Description:** None

**Collected:** 13-Dec-07

**Received:** 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		135.	mg/L	1.00	17-Dec-07	17-Dec-07 15:06	TAE

1 parameter(s) reported

12/27/2007 10:13:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.

MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006

Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004

Arkansas Dept. of Environmental Quality - LA050004

Florida Dept. of Health (NELAC) - E87595

Kansas Dept. of Health Environmental - E-10266

Pennsylvania DEP (NELAC) 68-04202

U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW8121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577160

Matrix: Water

% Moisture: n/a

Description: None

Collected: 13-Dec-07

Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis		Reg. Limit
						Units	Limit				
Chloride	SM 4500-Cl	95544	1		82.9	mg/L	1.00	17-Dec-07	17-Dec-07	15:06	TAE

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

12/27/2007 10:13:34



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

**Client:** CRA MIDLAND

**Client ID:** WW1121407

**Project:** 2077045

**Project ID:** N.M.F State

**Site:** None

**Lab ID:** 20577161

**Matrix:** Water

**% Moisture:** n/a

**Description:** None

**Collected:** 14-Dec-07

**Received:** 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		59.8	mg/L	1.00	17-Dec-07	17-Dec-07 12:53	TAE

1 parameter(s) reported

12/27/2007 10:13:34

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Sample Results

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: WW2121407

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577162

Matrix: Water

% Moisture: n/a

Description: None

Collected: 14-Dec-07

Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	SM 4500-Cl	95544	1		83.1	mg/L	1.00	17-Dec-07	17-Dec-07 12:53	TAE

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

12/27/2007 10:13:34

## Sample Results



**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

Client: CRA MIDLAND

Client ID: MW4121307

Project: 2077045

Project ID: N.M.F State

Site: None

Lab ID: 20577165

Matrix: Water

%Moisture: n/a

Description: None

Collected: 13-Dec-07

Received: 15-Dec-07

Analyte	Method	Batch	DF	Qu	Result	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	SM 4500-Cl	95544	1		63.1	mg/L	1.00	17-Dec-07	17-Dec-07 15:06	TAE

1 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:13:34

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Organics 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 8015 Mod/8021 Mod

Project: 2077045

LCS: 20578743 21-Dec-07 4:46

Batch: 95739

MS:

MSD:

Units: mg/L

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	QC Limits		Max	Qu
											LCS	MS/MSD	RPD	
Benzene	0.02	0.02061	103								78 - 132	-		Q5
Ethylbenzene	0.02	0.02093	105								80 - 129	-		Q5
Toluene	0.02	0.02055	103								80 - 127	-		Q5
m&p-Xylene	0.04	0.04096	102								80 - 129	-		Q5
o-Xylene	0.02	0.02104	105								82 - 130	-		Q5

5 compound(s) reported

\* denotes recovery outside of QC limits.

12/27/2007 10:13:50

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

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Organics 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 8015 Mod/8021 Mod

Project: 2077045

LCS: 20579388 26-Dec-07 11:10

Batch: 95836

MS:

MSD:

Units: mg/L

Original for MS:

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 RPD	Qu
Benzene	0.02	0.02153	108								78 - 132	-	
Ethylbenzene	0.02	0.0218	109								80 - 129	-	
Toluene	0.02	0.02137	107								80 - 127	-	
m&p-Xylene	0.04	0.04262	107								80 - 129	-	
o-Xylene	0.02	0.02187	109								82 - 130	-	

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.

12/27/2007 10:13:50

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270





## Organics 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 8015 Mod/8021 Mod

Project: 2077045

LCS: 20579388 26-Dec-07 11:10

Batch: 95836

MS: 20578804 22-Dec-07 6:09

MSD: 20578805 22-Dec-07 6:30

Units: mg/L

Original for MS: 20577387 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		Max	Qu
											LCS	MS/MSD	RPD	
Benzene	0.02	0.02153	108	0.02	0.00	0.02208	0.02095	110	105	5	78 - 132	51 - 156	20	
Ethylbenzene	0.02	0.0218	109	0.02	0.00	0.02254	0.02137	112	106	5	80 - 129	40 - 163	20	
Toluene	0.02	0.02137	107	0.02	0.00	0.02214	0.02096	109	103	5	80 - 127	36 - 168	20	
m&p-Xylene	0.04	0.04262	107	0.04	0.00	0.04416	0.0421	108	103	5	80 - 129	28 - 180	20	
o-Xylene	0.02	0.02187	109	0.02	0.00	0.02286	0.02157	113	106	6	82 - 130	37 - 176	20	

5 compound(s) reported

\* denotes recovery outside of QC limits.

12/27/2007 10:13:50

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

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## 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: 95739

Project: 2077045

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20578215	95739 BLANK 1		89							
20578742	95739 BLANK 2		84							
20578216	95739 LCS 1		88							
20578743	95739 LCS 2		88							
20577165	MW4121307		111							
20577159	MW7121407		85							
20577160	MW8121407		80							

QC limits: 60-129

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.

12/27/2007 10:14:06

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
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## 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: 95836

Project: 2077045

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20578804	071214-WELLS 1		92							
20578805	071214-WELLS 1		89							
20578802	95836 BLANK 1		92							
20579116	95836 BLANK 2		67							
20579387	95836 BLANK 3		60							
20578803	95836 LCS 1		102							
20579117	95836 LCS 2		89							
20579388	95836 LCS 3		88							
20577163	DUP1		80							
20577156	MW3121407		81							
20577157	MW5121407		79							
20577158	MW6121407		81							
20577161	WW1121407		73							
20577162	WW2121407		78							

QC limits: 60-129

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.

12/27/2007 10:14:06

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
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# Organics 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

Blank ID: 95739 BLANK 2

Project: 2077045

Lab ID: 20578742

Description: GC Volatile Organics Water BLK

Prep Level: Water

Batch: 95739

Method: Water EPA 8015 Mod/8021 Mo

Prepared: 21-Dec-07

Analyzed: 21-Dec-07 04:03

Units: mg/L

CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit
71-43-2	Benzene	1		ND	0.000500
100-41-4	Ethylbenzene	1		0.0000293J	0.000500
1634-04-4	Methyl-tert-butyl ether	1		ND	0.000500
108-88-3	Toluene	1		0.0000352J	0.000500
	m&p-Xylene	1		0.0000611J	0.00100
95-47-6	o-Xylene	1		0.0000678J	0.000500
	Gasoline Range Organics(C6-10)	1		0.0248J	0.0500

7 compound(s) reported

12/27/2007 10:14:22

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
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## Organics 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

Blank ID: 95836 BLANK 3

Project: 2077045

Lab ID: 20579387

Description: GC Volatile Organics Water BLK

Prep Level: Water

Batch: 95836

Method: Water EPA 8015 Mod/8021 Mo

Prepared: 26-Dec-07

Analyzed: 26-Dec-07 10:27

Units: <u>mg/L</u>					
CAS Number	Analyte	Dilution	Qu	Result	Reporting Limit
71-43-2	Benzene	1		ND	0.000500
100-41-4	Ethylbenzene	1		ND	0.000500
1634-04-4	Methyl-tert-butyl ether	1		ND	0.000500
108-88-3	Toluene	1		ND	0.000500
	m&p-Xylene	1		ND	0.00100
95-47-6	o-Xylene	1		ND	0.000500
	Gasoline Range Organics(C6-10)	1		ND	0.0500
7 compound(s) reported					

ND denotes Not Detected at or above the adjusted reporting limit or PQL.  
MDL denotes method detection limit

Limits are 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 may denote an actual regulatory limit or a client-requested notification limit.

12/27/2007 10:14:22  
Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
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## Inorganics 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: 2077045

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Chloride	95544	ND	1.00	mg/L	39.29	43.05	110		63.12						0	90 - 110	-	20
Chloride	95544			mg/L				100	63.12	189.6		126 *				-	75 - 125	Q1

\* denotes recovery outside of QC limits.

ND denotes Not Detected at or above the adjusted reporting limit or PQL.

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

12/27/2007 10:14:38

Louisiana Dept. of Environmental Quality (LELAP) - 02006

Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004

Arkansas Dept. of Environmental Quality - LA050004

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Kansas Dept. of Health Environmental - E-10266

Pennsylvania DEP (NELAC) 68-04202

U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



## Qualifier Summary

**Pace Analytical Services, Inc.**  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

**Project:** 2077045

Qualifier	Qualifier Description
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q5	Insufficient sample was provided to perform matrix spike analyses on any sample in this analytical batch. Method performance for this analyte has been demonstrated by the laboratory control sample recovery.

12/27/2007 10:14:54

Louisiana Dept. of Environmental Quality (LELAP) - 02006  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004  
Arkansas Dept. of Environmental Quality - LA050004  
Florida Dept. of Health (NELAC) - E87595  
Kansas Dept. of Health Environmental - E-10266  
Pennsylvania DEP (NELAC) 68-04202  
U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



740154 3453

Section C

Section B

Required Client Information:

Report To: Luke Markham w/cna  
Copy To:  
Invoice To: Conestoga Divers & Associates  
P.O.  
Project Name: N.M. Fstete  
Project Number: D39122

Section A

Required Client Information:

Company: C R A  
Address: 2135 S. Loop 250 W.  
Midland, TX 79703  
Phone: 432-686-0086 Fax: 432-686-0186

Page: 1 of 1

To Be Completed by Pace Analytical and Client

Section C

Section D		Section B		Section A		Section C	
Required Client Information:		Required Client Information:		Required Client Information:		Required Client Information:	
Report To: Luke Markham w/cna		Report To: Luke Markham w/cna		Report To: Luke Markham w/cna		Report To: Luke Markham w/cna	
Copy To:		Copy To:		Copy To:		Copy To:	
Invoice To: Conestoga Divers & Associates		Invoice To: Conestoga Divers & Associates		Invoice To: Conestoga Divers & Associates		Invoice To: Conestoga Divers & Associates	
P.O.		P.O.		P.O.		P.O.	
Project Name: N.M. Fstete		Project Name: N.M. Fstete		Project Name: N.M. Fstete		Project Name: N.M. Fstete	
Project Number: D39122		Project Number: D39122		Project Number: D39122		Project Number: D39122	
Valid Matrix Codes		Valid Matrix Codes		Valid Matrix Codes		Valid Matrix Codes	
WATER		WATER		WATER		WATER	
SOIL		SOIL		SOIL		SOIL	
OIL		OIL		OIL		OIL	
WIPE		WIPE		WIPE		WIPE	
AIR		AIR		AIR		AIR	
TISSUE		TISSUE		TISSUE		TISSUE	
OTHER		OTHER		OTHER		OTHER	
CODE		CODE		CODE		CODE	
WT		WT		WT		WT	
SL		SL		SL		SL	
OL		OL		OL		OL	
WP		WP		WP		WP	
AR		AR		AR		AR	
TS		TS		TS		TS	
OT		OT		OT		OT	
MATRIX CODE		MATRIX CODE		MATRIX CODE		MATRIX CODE	
DATE COLLECTED		DATE COLLECTED		DATE COLLECTED		DATE COLLECTED	
TIME COLLECTED		TIME COLLECTED		TIME COLLECTED		TIME COLLECTED	
# CONTAINERS		# CONTAINERS		# CONTAINERS		# CONTAINERS	
PRESERVATIVES		PRESERVATIVES		PRESERVATIVES		PRESERVATIVES	
Unpreserved		Unpreserved		Unpreserved		Unpreserved	
H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	
HNO <sub>3</sub>		HNO <sub>3</sub>		HNO <sub>3</sub>		HNO <sub>3</sub>	
HCl		HCl		HCl		HCl	
NaOH		NaOH		NaOH		NaOH	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	
Methanol		Methanol		Methanol		Methanol	
Other		Other		Other		Other	
RELINQUISHED BY / AFFILIATION		RELINQUISHED BY / AFFILIATION		RELINQUISHED BY / AFFILIATION		RELINQUISHED BY / AFFILIATION	
DATE		DATE		DATE		DATE	
TIME		TIME		TIME		TIME	
ACCEPTED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		ACCEPTED BY / AFFILIATION	
DATE		DATE		DATE		DATE	
TIME		TIME		TIME		TIME	
REMARKS / Lab ID		REMARKS / Lab ID		REMARKS / Lab ID		REMARKS / Lab ID	

CLIENT INFORMATION (Check quote/contract):

Requested Due Date: 10 day

\* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.

Turn Around Time (TAT) in calendar days.

Requested Analysis:

Chloride

Blank 802/18

20577154

165

157

158

159

160

161

162

163

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joe Mirides

SIGNATURE of SAMPLER: Joe Mirides

DATE Signed: (MM / DD / YY) 12/14/07



Sample Condition



Pace Analytical

1000 Riverbend, Blvd., Suite F  
St. Rose, LA 70087Courier: ☐ Pace Courier ☐ Hackbarth ☒ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: ☒ Yes ☐ NoThermometer  
Used:☒ Therm Fisher IR 1  
☐ Therm Fisher IR 2

Type of Ice:

☒ Wet ☐ Blue ☐ None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining  
contents: 12/15/07

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7 NO volume received for
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8 Chloride test for sample
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9 Dup 1
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13 If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17
Pace Trip Blank Lot # (if purchased):	N/A	18

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Comments/ Resolution:

E-mailed Client 12/18/07  
6