

1R - 258

# REPORTS

DATE:

3/06/2007

1R0258



**Matthew P. Hudson**  
Remediation Project  
Manager

**Abandonment Business  
Unit**

Chevron Environmental  
Management Company  
11111 S Wilcrest Dr  
Room N2104A  
Houston, TX 77009  
Tel 281 561 3466  
Fax 281 561 3841  
mhkw@chevron.com

April 30, 2007

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

**Subject: 2006 Annual Groundwater Monitoring Report Addendum/Geological Cross Sections  
Former New Mexico State "F" Tank Battery  
NE/4, SE/4, Section 24, Township 19 South, Range 36 East, Lea County, New Mexico  
OGRID No. 4323  
Case #1R258**

Dear Mr. Von Gonten:

Please find enclosed two additional figures as an addendum (per our 3/7/07 meeting) to the above-referenced report. The figures illustrate geological cross sections detailing site lithology, monitor well screen intervals, and groundwater level elevations.

Should you have any questions or comments concerning this addendum, please call me at (281) 561-3466 or Luke Markham with CRA at (432) 686-0086.

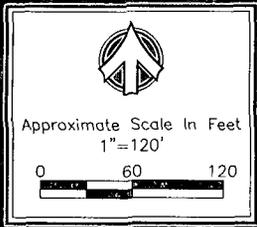
Sincerely,

A handwritten signature in black ink, appearing to read "Matthew P. Hudson".

Matthew P. Hudson

Enclosure: FIGURE 1 – A–A' Transect Map  
FIGURE 2 – A-A' Cross Section

Cc: Patricia Caperton, NMOCD (electronic copy)  
Luke Markham, CRA (cover letter only)



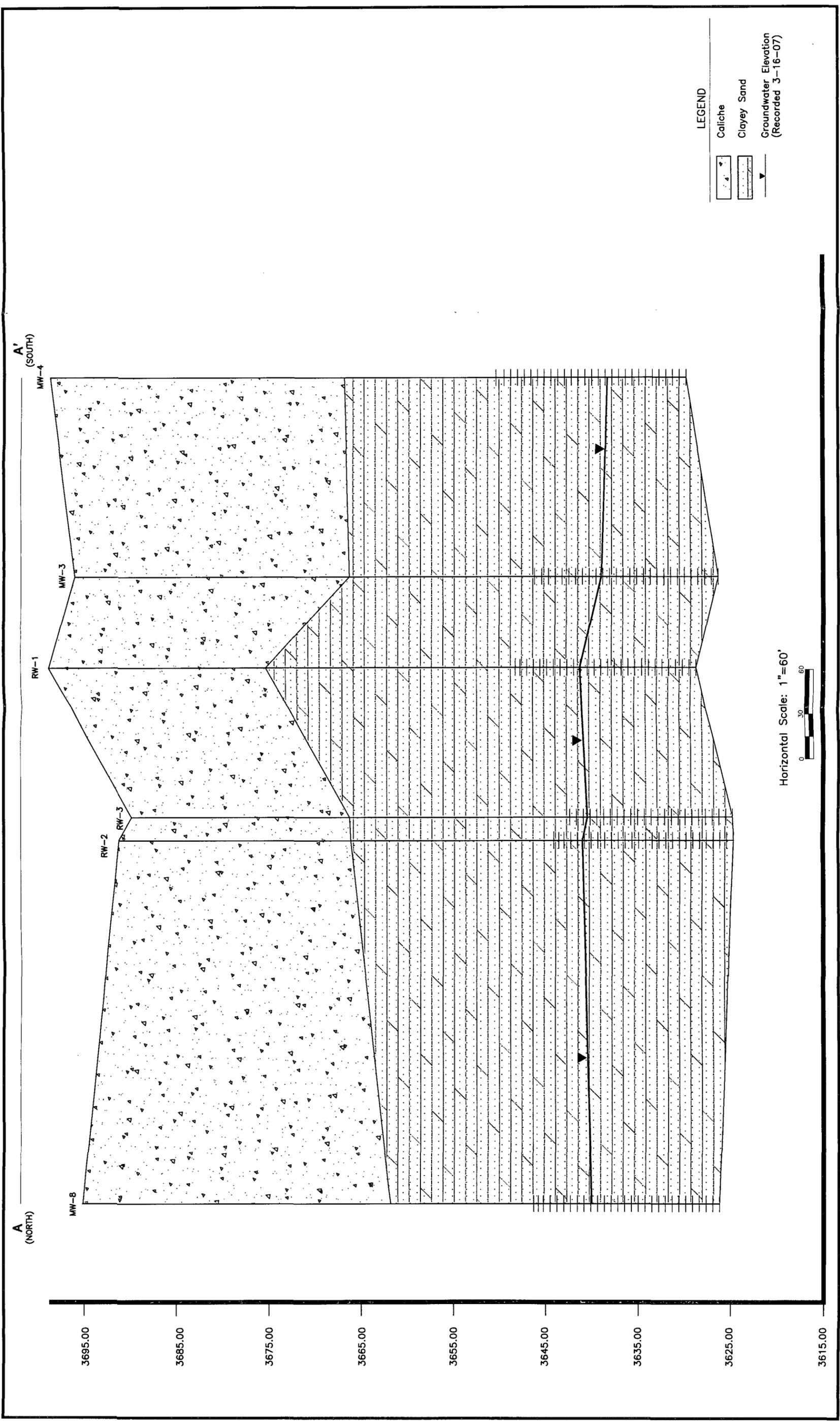
LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	Transect Line

039122 1H07 SLR 042407



A - A' TRANSECT MAP  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

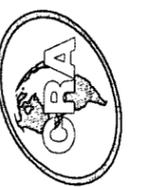
JOB No.  
 039122  
 FIGURE  
 1



LEGEND

- Caliche
- Clayey Sand
- Groundwater Elevation (Recorded 3-16-07)

Horizontal Scale: 1"=60'



A - A' CROSS SECTION

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

JOB No.  
039122

FIGURE  
2



IR 258

**Matthew P. Hudson**  
Remediation Project  
Manager

**Abandonment Business  
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Chevron Environmental  
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11111 S Wilcrest Dr  
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mhkw@chevron.com

**RECEIVED**

March 6, 2007

Mr. Wayne Price  
New Mexico Oil Conservation Division  
1220 So. St. Francis Drive  
Santa Fe, New Mexico 87505

MAR 07 2007

**Oil Conservation Division  
Environmental Bureau**

**Subject: 2006 Annual Groundwater Monitoring Report  
Former New Mexico State "F" Tank Battery, Lea County, New Mexico  
OGRID No. 4323**

Dear Mr. Price:

Please find enclosed one copy of the above-referenced report. This report provides information and details on the groundwater monitoring activities completed by Conestoga-Rovers and Associates (CRA) during 2006.

Should you have any questions concerning this report or the on-going work, please call myself at (281) 561-3466 or Luke Markham with CRA at (432) 686-0086.

Sincerely,

Matthew P. Hudson

Enclosure

cc: Patricia Caperton, NMOCD (electronic copy)  
Luke Markham, CRA (cover letter only)



1R 258

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MAR 07 2007

Oil Conservation Division  
Environmental Bureau

**2006 ANNUAL GROUNDWATER MONITORING  
REPORT**

**FORMER NEW MEXICO STATE "F" TANK BATTERY**

**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**





## **2006 ANNUAL GROUNDWATER MONITORING REPORT**

**FORMER NEW MEXICO STATE "F" TANK BATTERY  
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  
Abandonment Business Unit  
1111 S. Wilcrest Drive  
Houston, Texas 77099**

**Prepared by:  
Conestoga-Rovers  
& Associates**

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**FEBRUARY 28, 2007  
REF. NO. 039122 (3)**

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## INTRODUCTION

This Annual Groundwater Monitoring Report presents groundwater data collected during the 2006 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 sampling events were performed on June 27, 2006 and on December 19, 2006.

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. Semi-annual groundwater monitoring weekly operation and maintenance (O&M) activities have been performed by CRA since 2005 along with annual reporting to the NMOCD for this 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 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). The recovery wells (RW-1, RW-2 and RW-3) can be gauged with an electric probe by turning the recovery system off and moving the sanitary seal on each well head to the side. However, the recovery wells are not routinely sampled because the downhole eductor plumbing must be removed to access the recovery wells with groundwater sampling equipment. Semi-annual monitoring and sampling activities were performed on June 26, 2006 and on December 18, 2006.

The groundwater recovery system was turned off at least 48 hours before monitoring/sampling events were conducted to allow groundwater levels to equilibrate. Prior to purging the monitor wells, static fluid levels and LNAPL thicknesses were measured 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 well was 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. Groundwater samples were placed on ice in insulated coolers 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 analysis of BTEX and chloride by EPA Method 8021B and 300.0, respectively. The fluids recovered and generated during the sampling event 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 June 2006 and December 2006 are presented on FIGURES 3 and 4, respectively. Depth to groundwater ranged from 50.50 feet to 65.82 feet below top of casing on June 26, 2006 and from 50.31 feet to 65.67 feet below top of casing on December 18, 2006. Groundwater elevations at the Site appear to be consistent with historical levels with groundwater flow to the southeast. The maximum gradient observed in 2006 was 0.007 feet/foot.

LNAPL was not detected in the monitor wells or offsite water wells WW-1 and WW-2 during the 2006 monitoring period. Historically, three onsite recovery wells have contained measurable amounts of LNAPL. During the June 2006 monitoring event,

LNAPL was present in recovery wells RW-1 and RW-2 at thicknesses of 3.16 feet and 0.08 feet, respectively. In December 2006, RW-1 and RW-2 contained an LNAPL thickness of 0.23 feet and 0.40 feet, respectively. Although measurable LNAPL was not encountered during either sampling event in RW-3, residual LNAPL (sheen) was observed. LNAPL thickness maps for June and December 2006 are presented as FIGURES 5 and 6, respectively.

### **3.2 ANALYTICAL RESULTS**

Analytical results are summarized in TABLE II. Groundwater BTEX and chloride concentration maps for June 2006 and December 2006 are presented as FIGURES 7 and 8, respectively. BTEX 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 2006 monitoring period. Chloride concentrations were also below the NMWQCC standard in all samples collected during the 2006 monitoring period. Copies of the certified laboratory reports are provided in APPENDIX A.

#### 4.0 CORRECTIVE ACTION

Excluding brief periods for routine maintenance, the groundwater recovery/gradient control system operated continuously from start-up on February 14, 2005 to temporary shut-down on November 20, 2006. Operation and maintenance (O&M) activities were performed weekly.

Total fluids (groundwater and LNAPL) were recovered from each of the three recovery wells through an eductor located approximately two feet below the static groundwater table. The eductors were piped in series through a 500-barrel (bbl) oil/water separator tank and a 500-bbl water tank. Water was continuously circulated through the system by a 15-horsepower electric centrifugal pump. The cumulative (sum of the three recovery wells) groundwater recovery during the 2006 calendar year was approximately 432,000 gallons. The recovered water was transported offsite for disposal in the Nabors SWD well No. 1, a Chevron-approved disposal well.

To date, no phase-separated crude oil accumulated in the oil/water separator's product holding tank. It is believed that the rapid circulation of the water required for eductor operation emulsifies the LNAPL and that the holding time in the oil/water separator is insufficient for the oil to break out of suspension. Consequently, this "eductor" groundwater recovery/gradient control system was temporarily shut-down to evaluate remedial options to ensure conservation of water to the maximum extent practical and expedite groundwater remediation. The evaluation of remedial options was focused on enhancing LNAPL recovery. On November 28, 2006, the eductors and associated piping in recovery well RW-1 were replaced with a Xitech® LNAPL skimmer pump system. The skimmer system removes LNAPL and minimizes groundwater extraction from the recovery well. Subsequent to skimmer installation activities, the LNAPL thickness in RW-1 decreased from 2.64 feet (November 28, 2006) to 0.23 feet (December 18, 2006). As of February 2007, approximately 75 gallons of LNAPL have been recovered from RW-1.

## 5.0 PLANNED ACTIVITIES

Currently, the Xitech® system is skimming LNAPL from the groundwater and the recovered product is pumped into a 55-gallon drum which has been placed inside an overpack drum. This system is appropriate as a temporary method for handling the LNAPL based on the volume being recovered. Weekly O&M activities will be performed to monitor the level in the drum. Planned activities also include an evaluation of the other two recovery wells (RW-2 and RW-3) for similar or alternative recovery techniques. Since these two wells have historically contained smaller amounts of LNAPL, the Xitech® system may not be as efficient. The best course of action for these wells will be determined based on our evaluation. Either concurrent with or subsequent to this evaluation, the following activities will be performed:

- Assess the current facilities at the Site and determine if they can be adapted/modified for the new LNAPL recovery system. If not, a more suitable long-term recovery facility will be developed;
- Review monitoring and sampling schedule for the Site to optimize system efficiency.

The 2007 semi-annual groundwater sampling events are scheduled to be performed during June and December 2007. In addition, weekly O&M and quarterly Site-wide gauging and monitor well MW-6 sampling activities will be performed to monitor the groundwater gradient and the potential for offsite plume migration.

## 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 50.50 feet to 65.82 feet below top of casing on June 26, 2006 and from 50.31 feet to 65.67 feet below top of casing on December 18, 2006. Groundwater flow at the Site is to the southeast and the maximum gradient observed in 2006 was 0.007 feet/foot.
- LNAPL was not detected in the monitor wells or offsite water wells WW-1 and WW-2 during the 2006 monitoring period. During the June 2006 monitoring event, LNAPL was present in recovery wells RW-1 and RW-2 at thicknesses of 3.16 feet and 0.08 feet, respectively. In December 2006, RW-1 and RW-2 contained an LNAPL thickness of 0.23 feet and 0.40 feet, 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 2006 monitoring period.
- The groundwater recovery/gradient control system (three recovery wells) was temporarily shut-down on November 20, 2006 pending alternative LNAPL recovery evaluation. On November 28, 2006, the eductors and associated piping in recovery well RW-1 were replaced with a Xitech® LNAPL skimmer pump system. Subsequent to skimmer installation activities, the LNAPL thickness in RW-1 decreased from 2.64 feet (November 28, 2006) to 0.23 feet (December 18, 2006). As of February 2007, approximately 75 gallons of LNAPL have been recovered from RW-1. Planned activities include an evaluation of the other two recovery wells (RW-2 and RW-3) for similar or alternative recovery techniques.
- The 2007 semi-annual groundwater sampling events are scheduled to be performed during June and December 2007. In addition, quarterly Site-wide gauging and monitor well MW-6 sampling activities will be performed to monitor the groundwater gradient and the potential for offsite plume migration.

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



Lucas D. Markham  
Project Manager



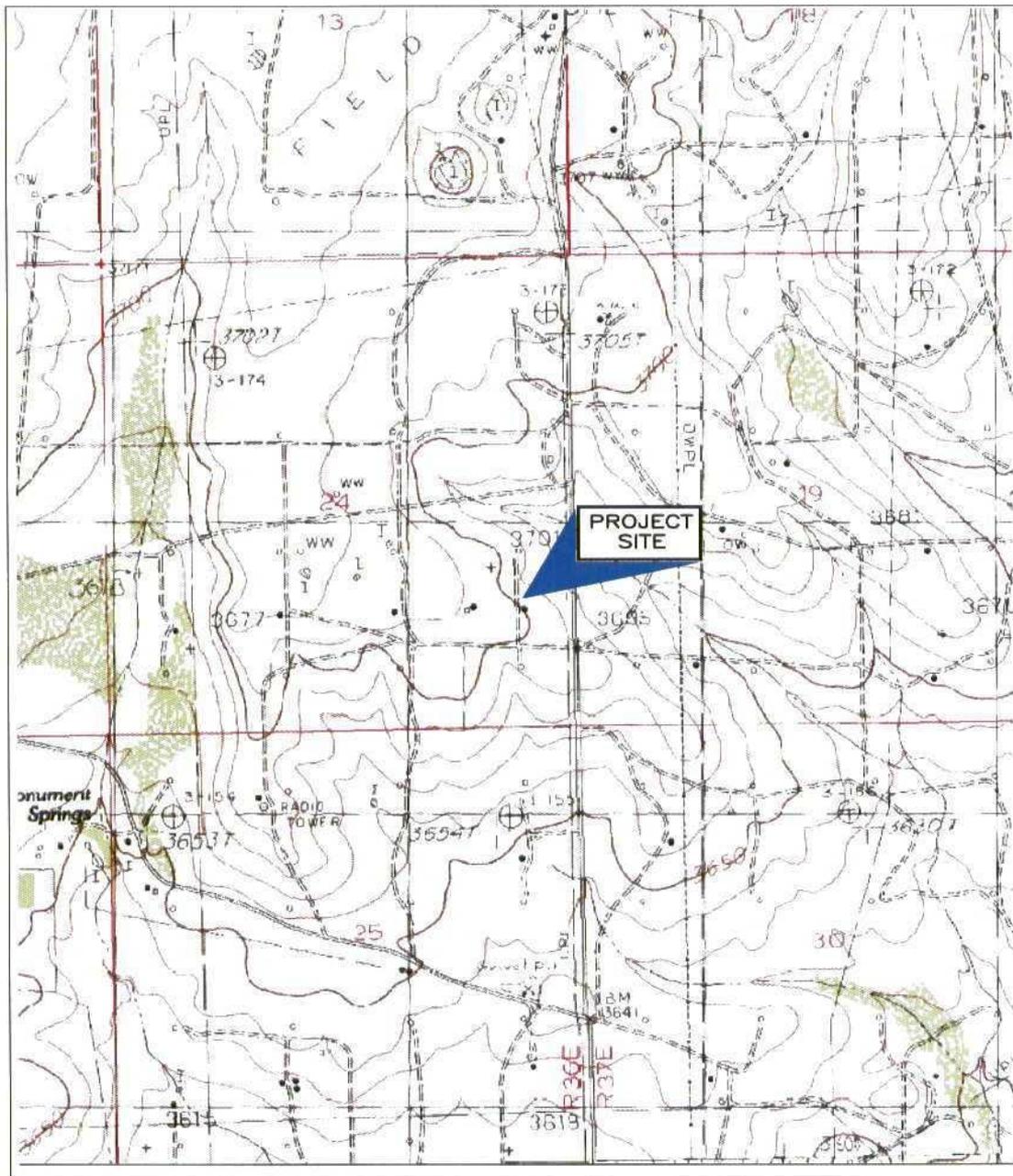
Thomas C. Larson  
Operations Manager

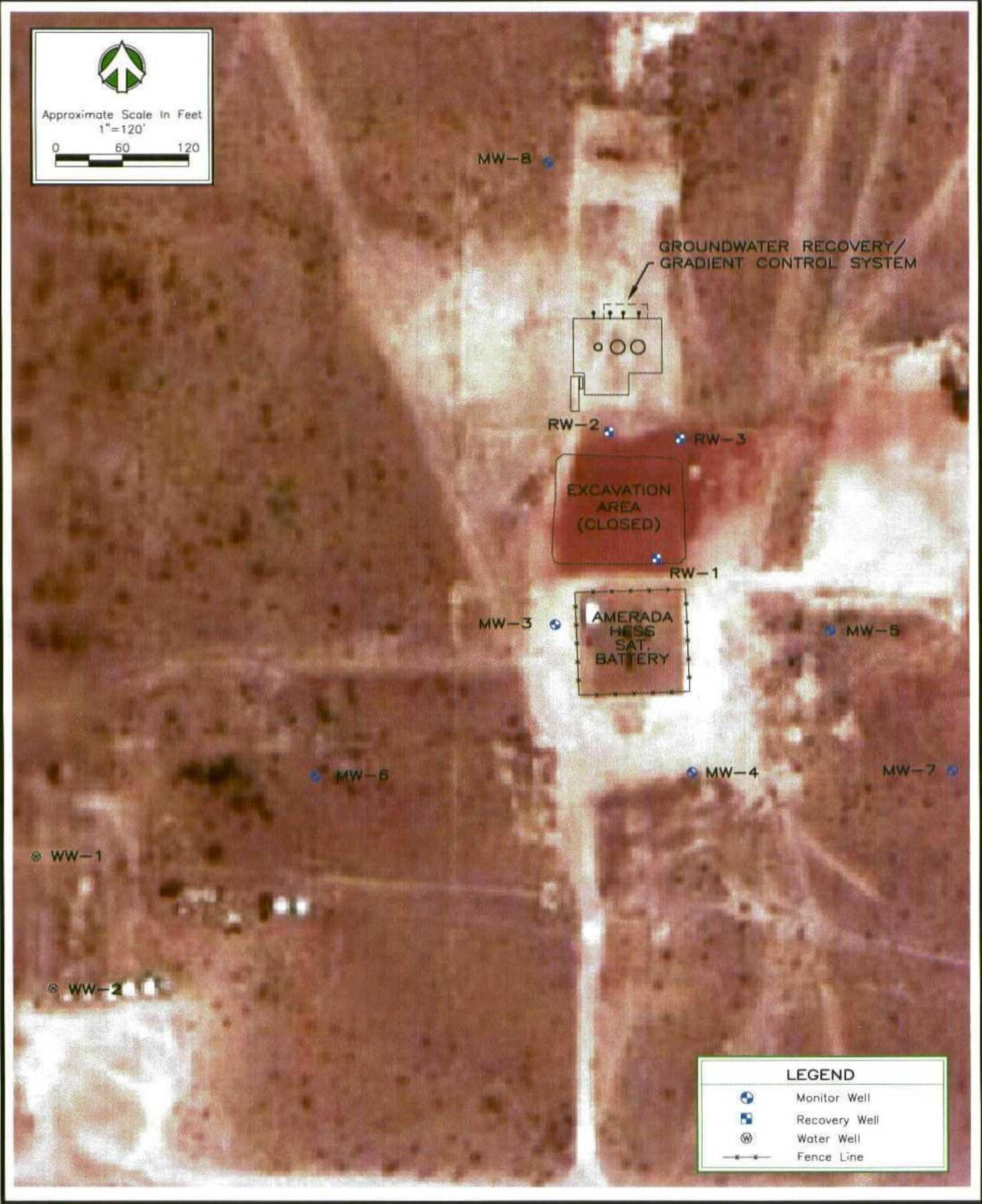
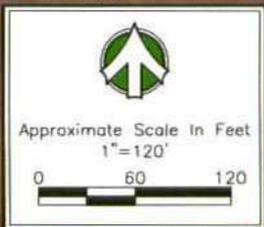
**FIGURES**

# MONUMENT NORTH QUADRANGLE NEW MEXICO

LAT= 32° 38' 34.9" N  
LONG= 103° 18' 0.49" W

PHOTOREVISED 1985





039122 SLR 061405

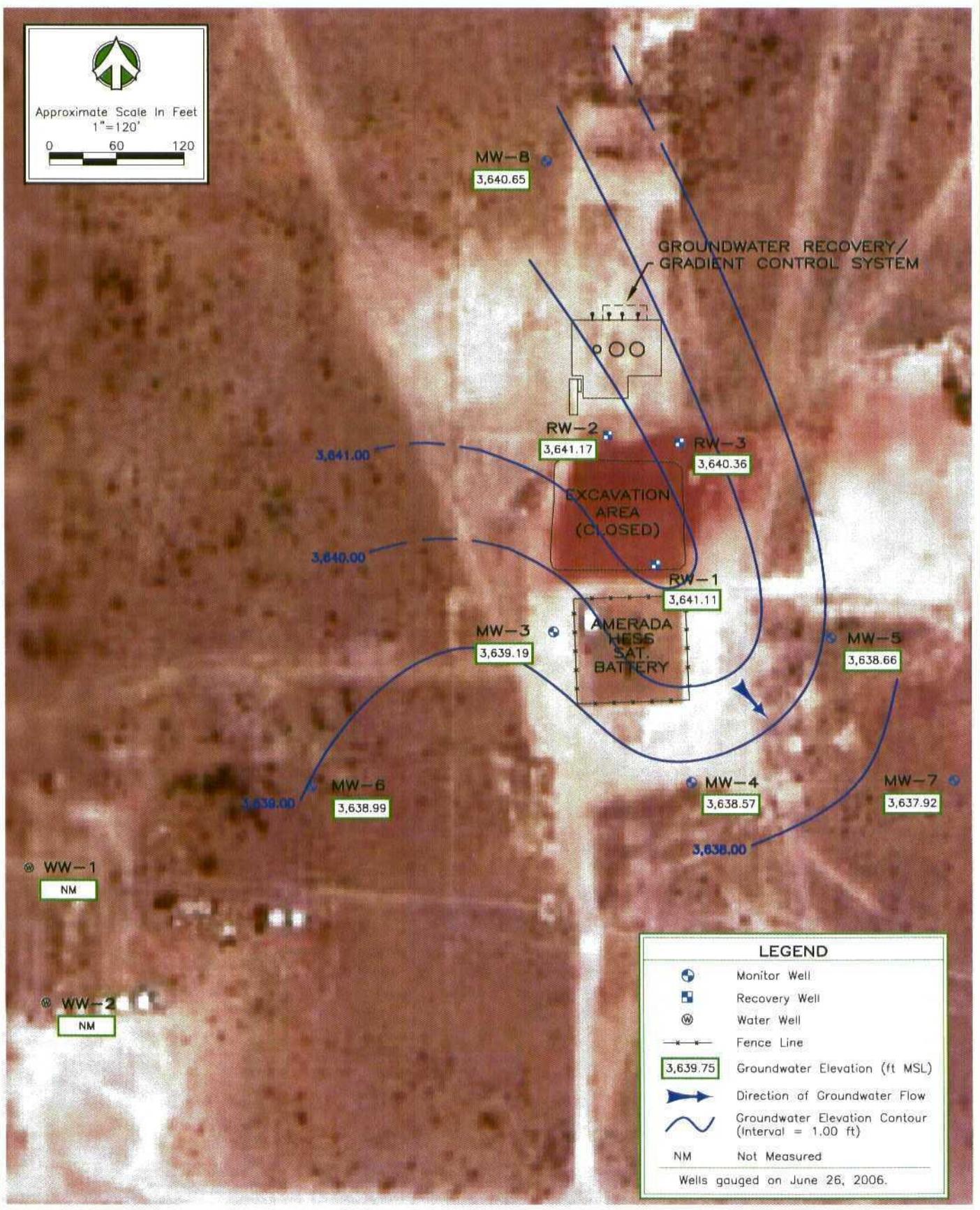
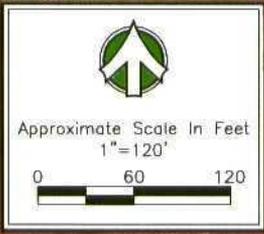


**SITE DETAILS**

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

JOB No.  
039122

FIGURE  
2



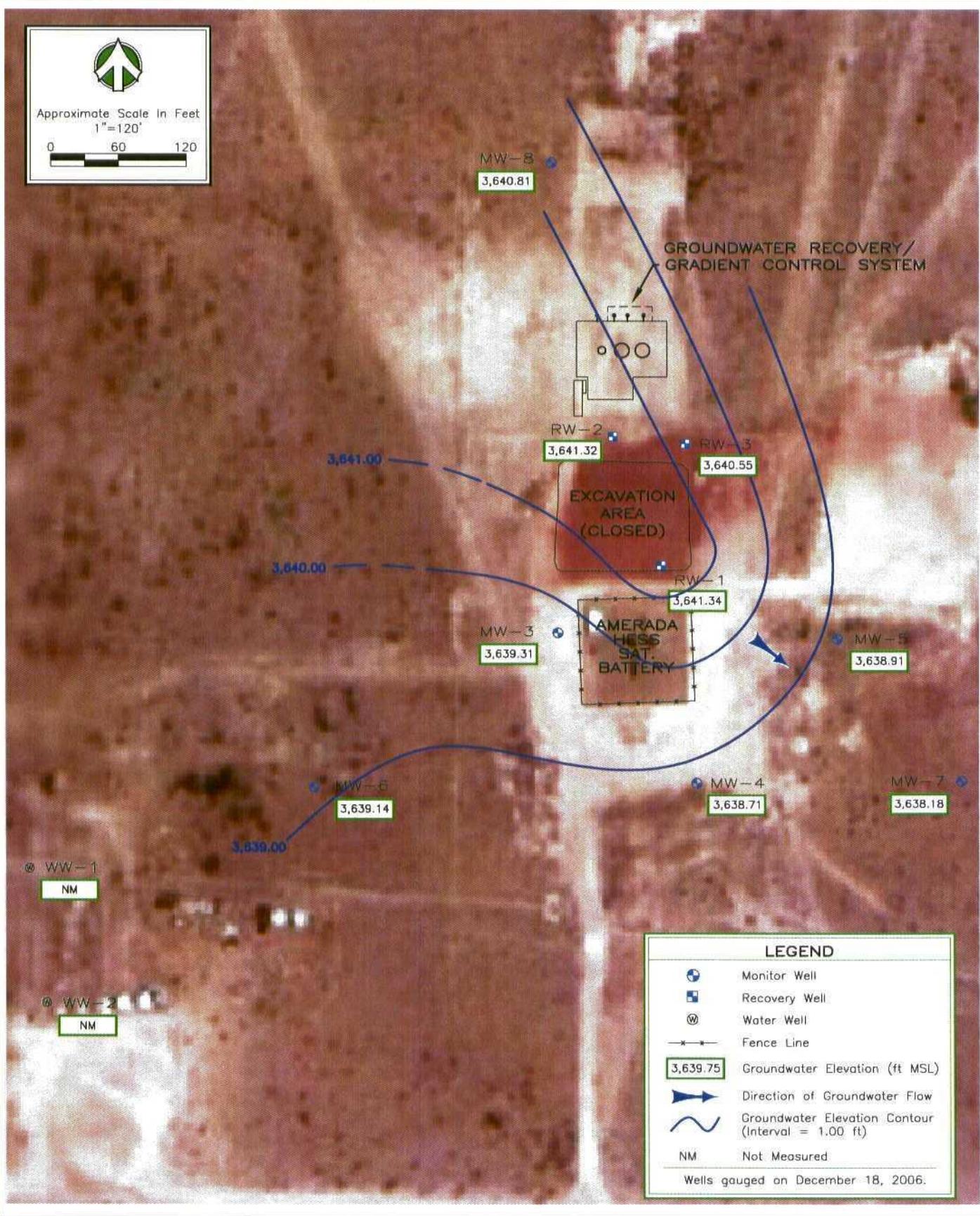
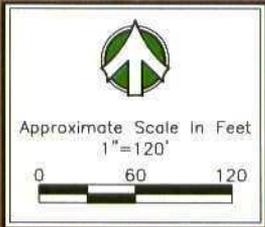
LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	Groundwater Elevation (ft MSL)
	Direction of Groundwater Flow
	Groundwater Elevation Contour (Interval = 1.00 ft)
NM	Not Measured
Wells gauged on June 26, 2006.	

039122 2006 SLR 022707



GROUNDWATER GRADIENT MAP – JUNE 2006  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

JOB No.  
 039122  
 FIGURE  
 3



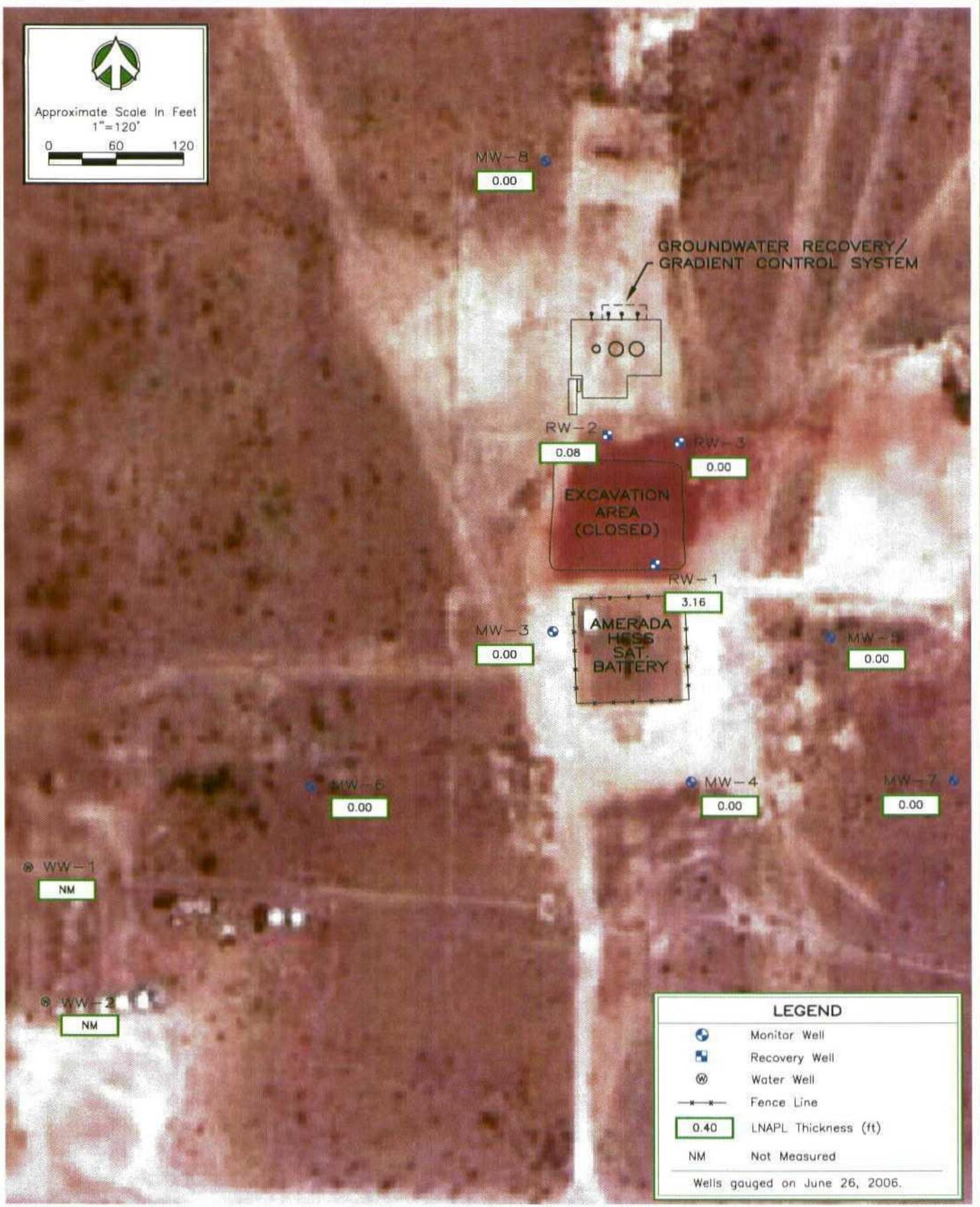
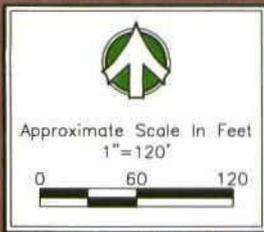
LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	Groundwater Elevation (ft MSL)
	Direction of Groundwater Flow
	Groundwater Elevation Contour (Interval = 1.00 ft)
	Not Measured
Wells gauged on December 18, 2006.	

039122 2006 SLR 022707



GROUNDWATER GRADIENT MAP – DECEMBER 2006  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

JOB No.  
 039122  
 FIGURE  
 4



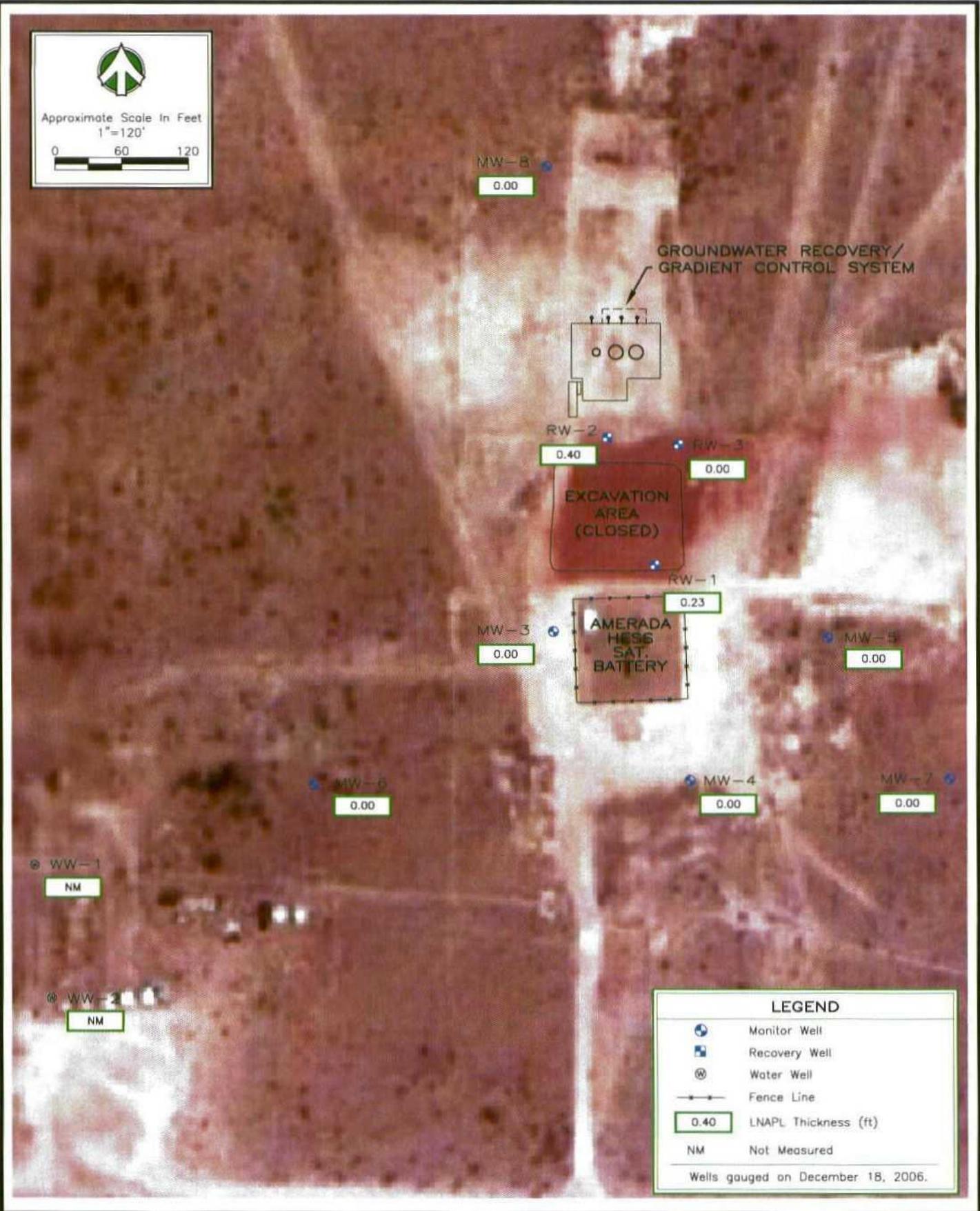
LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	LNAPL Thickness (ft)
NM	Not Measured
Wells gauged on June 26, 2006.	

039122 2006 SLR 022707



**LNAPL THICKNESS MAP – JUNE 2006**  
**CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY**  
**NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT**  
**LEA COUNTY, NEW MEXICO**

JOB No.  
**039122**  
 FIGURE  
**5**



LEGEND	
	Monitor Well
	Recovery Well
	Water Well
	Fence Line
	LNAPL Thickness (ft)
NM	Not Measured
Wells gauged on December 18, 2006.	

039122 2006 SLR 022707



LNAPL THICKNESS MAP – DECEMBER 2006  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

JOB No.  
 039122  
 FIGURE  
 6



Approximate Scale in Feet  
1"=120'



MW-8	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	92.6

GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2

RW-3

NS

NS

EXCAVATION  
AREA  
(CLOSED)

RW-1

NS

AMERADA  
HESS  
SAT.  
BATTERY

MW-3	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	31.1

MW-5	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	43.2

MW-6	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	86.4

MW-4	
B	0.000597
T	<0.00500
E	<0.00500
X	<0.001
Chloride	48.8

MW-7	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	158.0

WW-1	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	50.0

WW-2	
B	<0.00500
T	<0.00500
E	<0.00500
X	<0.001
Chloride	69.7

**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)

**NOTES:**

1. Groundwater samples were collected on June 27, 2006.
2. BTEX analysis by EPA Method 8021B and Chloride analysis by EPA Method 325.2.

039122 2006 SLR 022707

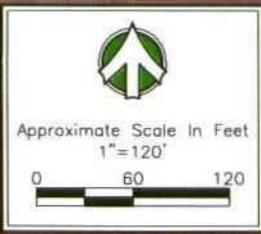


GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-JUNE 2006

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

JOB No.  
039122

FIGURE  
7



MW-8	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	83.0

GROUNDWATER RECOVERY/  
GRADIENT CONTROL SYSTEM

RW-2 NS RW-3 NS

EXCAVATION  
AREA  
(CLOSED)  
RW-1 NS

AMERADA  
HESS  
SAT.  
BATTERY

MW-3	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	28.0

MW-5	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	51.0

MW-6	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	88.0

MW-4	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	34.0

MW-7	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	130.0

WW-1	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	80.0

WW-2	
B	<0.005
T	<0.005
E	<0.005
X	<0.001
Chloride	57.0

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)

- NOTES:**
1. Groundwater samples were collected on June 27, 2006.
  2. BTEX analysis by EPA Method 8021B and Chloride analysis by EPA Method 300.0.

039122 SLR 022707



GROUNDWATER BTEX & CHLORIDE CONCENTRATIONS MAP-DECEMBER 2006  
 CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
 NEW MEXICO "F" STATE GROUNDWATER REMEDIATION PROJECT  
 LEA COUNTY, NEW MEXICO

JOB No.  
039122  
 FIGURE  
8

**TABLES**



**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	---	---	
MW-4 3699.50	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	---	---	

**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	---	---	
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	---	---	

**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	---	---	
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	---	---	

**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	3637.55	---	---	
	6/11/02	62.26	61.86	0.40	3637.66	---	---	
	11/26/02	62.60	62.07	0.53	3637.32	---	---	
	6/5/03	63.00	62.84	0.16	3636.92	---	---	
	12/3/03	63.26	62.61	0.65	3636.66	---	---	
	7/1/04	63.10	62.33	0.77	3636.82	---	---	
	12/20/04	61.80	60.96	0.84	3638.12	---	---	
	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	---	---		
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	3638.11	---	---	
	11/26/02	54.28	54.07	0.21	3637.84	---	---	
	6/5/03	53.24	53.23	0.01	3638.88	---	---	
	12/3/03	54.51	54.38	0.13	3637.61	---	---	
	7/1/04	54.51	54.12	0.39	3637.61	---	---	
	12/20/04	53.69	53.52	0.17	3638.43	---	---	
	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	---	---		

**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	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	3637.64	---	---	
	6/5/03	54.56	54.40	0.16	3636.30	---	---	
	12/3/03	53.23	---	---	3637.63	---	---	
	7/1/04	53.19	52.98	0.21	3637.67	---	---	
	12/20/04	52.50	52.09	0.41	3638.36	---	---	
	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	---	---	
WW-1 3704.17	7/28/98	68.20	---	---	3634.97	Unknown	Unknown	
	6/11/02	66.35	---	---	-66.35	---	---	
	6/5/03	68.25	---	---	-68.25	---	---	
WW-2 3703.84	7/28/98	67.70	---	---	3635.84	Unknown	Unknown	
	6/11/02	66.18	---	---	-66.18	---	---	
	11/26/02	66.18	---	---	-66.18	---	---	
	6/5/03	68.54	---	---	-68.54	---	---	

**Notes:**

1. Data through June 6, 2005 provided by Larson & Associates, Inc. The groundwater elevations were corrected for LNAPL using an unknown specific gravity.
2. TOC - Top of Casing.
3. MSL - Mean Sea Level.
4. bgs - Below ground surface.
5. Corrected groundwater elevations calculated using LNAPL specific gravity of 0.88.
6. MW-1, MW-2 and MW-9 were plugged and abandoned and replaced with RW-1, RW-2 and RW-3 in November 1999.
7. Monitor wells (MWs) are 2-inch in diameter; Recovery wells (RWs) are 4-inch in diameter.
8. Eductor system (total fluids) replaced with Xitech system (skimmer) on November 28, 2006.

**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
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
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

**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	<b>0.006</b>	<b>0.006</b>	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	
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	<b>274.0</b>
	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	
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	<b>251.0</b>
	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	

**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	
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	
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	36.3

**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

July 05, 2006

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

RE: Project: 2060725  
RE: Project ID: N.M. "F" STATE BATTERY/039122

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2006. 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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LELAP # 02006



## Report of Laboratory Analysis

Project Number: 2060725



# 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

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

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

Project No.: 2060725

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
MW362706	20456361	Water	06/27/2006	11:30	06/28/2006	10:20
MW462706	20456362	Water	06/27/2006	11:35	06/28/2006	10:20
MW562706	20456363	Water	06/27/2006	10:45	06/28/2006	10:20
MW662706	20456364	Water	06/27/2006	11:55	06/28/2006	10:20
MW762706	20456365	Water	06/27/2006	10:44	06/28/2006	10:20
MW862706	20456366	Water	06/27/2006	12:30	06/28/2006	10:20
WW162706	20456367	Water	06/27/2006	12:00	06/28/2006	10:20
WW262706	20456368	Water	06/27/2006	12:00	06/28/2006	10:20
DUP62706	20456369	Water	06/27/2006		06/28/2006	10:20
TRIP	20456370	Water	06/27/2006		06/28/2006	10:20

7/5/2006 15:02:48

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Arkansas Dept. of Environmental Quality - 88-0681  
Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023  
Florida Dept. of Health (NELAC) - E87595  
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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

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

Client ID: MW362706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456361

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 01:37 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:48

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.  
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Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

Client ID: MW462706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456362

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/06

Received: 06/28/06

Prepared: 06/30/06

Analyzed: 06/30/06 02:05 DET(1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	0.597		0.500	
108-88-3	Toluene	1	ND		0.500	
100-41-4	Ethylbenzene	1	ND		0.500	
	m&p-Xylene	1	ND		1.00	
95-47-6	o-Xylene	1	ND		0.500	

5 compound(s) reported

7/5/2006 15:02:48

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

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: MW562706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456363

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 02:34 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:48

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: MW662706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456364

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 03:02 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:48

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

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: MW762706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456365

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 04:57 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:48

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

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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: MW862706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456366

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 05:25 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:48

ND denotes Not Detected at or above the adjusted reporting limit.  
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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: WW162706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456367

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 06/27/06

Received: 06/28/06

Prep Factor: 1

Prepared: 06/30/06

Analyzed: 06/30/06 05:54 DET(1)

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

5 compound(s) reported

7/5/2006 15:02:48

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.

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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

Client ID: WW262706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456368

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/06

Received: 06/28/06

Prepared: 06/30/06

Analyzed: 06/30/06 19:27 DET(1)

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

5 compound(s) reported

7/5/2006 15:02:49

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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: DUP62706

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456369

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/06

Received: 06/28/06

Prepared: 06/30/06

Analyzed: 06/30/06 19:55 DET (1)

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

5 compound(s) reported

7/5/2006 15:02:49

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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***

New Orleans Laboratory

Client: CRA

Client ID: TRIP

Site: None

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

Project No.: 2060725

Sample Qu:

Lab ID: 20456370

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 74204

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Prep Factor: 1

Collected: 06/27/06

Received: 06/28/06

Prepared: 06/30/06

Analyzed: 06/30/06 07:20 DET(1)

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

5 compound(s) reported

7/5/2006 15:02:49

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LELAP # 02006



Client ID: MW362706

Client: CRA

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

Site: None

Lab ID: 20456361

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	EPA 325.2	74185	1	31.1		mg/L	1.00	28-Jun-06	28-Jun-06 12:20	LJL (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 ignitibility.  
 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

7/5/2006 15:02:49

# 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: MW462706

Client: CRA

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

Site: None

Lab ID: 20456362

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Reporting		Prep.	Analysis	Reg. Limit
						Units	Limit			
Chloride	EPA 325.2	74185	1	48.8		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL(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 ignitibility.  
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Phone: 504.469.0333

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: MW562706

Client: CRA

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

Site: None

Lab ID: 20456363

Project No.: 2060725

Description: None

Matrix: Water

% Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	43.2		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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 ignitibility.  
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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: MW662706

Client: CRA

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

Site: None

Lab ID: 20456364

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	86.4		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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 ignitibility.  
Analysis performed in (1) New Orleans, (2) Baton Rouge, (3) Bossier City, (4) Houston, or (0) subcontract or field.

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: MW762706

Client: CRA

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

Site: None

Lab ID: 20456365

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	158.		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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.

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: MW862706

Client: CRA

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

Site: None

Lab ID: 20456366

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	92.6		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL(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.  
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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: WW162706

Client: CRA

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

Site: None

Lab ID: 20456367

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	50.0		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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 ignitibility.  
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# Report of Laboratory Analysis

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: WW262706

Client: CRA

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

Site: None

Lab ID: 20456368

Project No.: 2060725

Description: None

Matrix: Water

%Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	69.7		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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.  
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# Report of Laboratory Analysis

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St. Rose, LA 70087

Phone: 504.469.0333

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client ID: DUP62706

Client: CRA

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

Site: None

Lab ID: 20456369

Project No.: 2060725

Description: None

Matrix: Water

% Moisture: n/a

Collected: 06/27/06

Received: 06/28/06

ParameterName	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Reg. Limit
Chloride	EPA 325.2	74185	1	31.0		mg/L	1.00	28-Jun-06	28-Jun-06 12:29	LJL (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.  
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# Report of Quality Control

Pace Analytical Services, Inc.

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St. Rose, LA 70087

Phone: 504.469.0333

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Method: EPA 8021

Project: 2060725

LCS: 20456584 6/29/2006 4:07:00 PM

Batch: 74204

MS: 20456909 6/30/2006 6:23:00 AM

Units: ug/L

Original for MS: 20456362 Project Sample

Parameter Name	LCS	LCS	LCSD	LCS	MS	MS	MSD (1)MS	QC Limits		Max	Qu
	Spike	% Rec	% Rec	RPD	Spike	% Rec	% Rec RPD	LCS	MS/MSD	RPD	
Benzene	20	92			20	80	86 7	72 - 133	51 - 147	20	
Ethylbenzene	20	104			20	90	97 7	75 - 136	55 - 145	20	
Toluene	20	97			20	86	92 6	77 - 132	57 - 143	20	
m&p-Xylene	40	102			40	89	93 5	79 - 136	79 - 130	20	
o-Xylene	20	106			20	96	100 4	79 - 136	79 - 130	20	

5 compound(s) reported

7/5/2006 15:02:50

\* 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.

New Orleans Laboratory Certifications  
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# Report of Batch Surrogate Recovery

Pace Analytical Services, Inc.

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St. Rose, LA 70087

Phone: 504.469.0333

Fax: 504.469.0555

LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Report: 2060725

Batch: 74204

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
20456361	Sample	81							
20456362	Sample	108							
20456363	Sample	105							
20456364	Sample	106							
20456365	Sample	103							
20456366	Sample	96							
20456367	Sample	92							
20456368	Sample	99							
20456369	Sample	101							
20456370	Sample	104							
20456583	BLANK	87							
20456584	LCS	105							
20456589	BLANK	106							
20456590	BLANK	98							
20456909	MS	103							
20456910	MSD	103							
20457042	BLANK	103							
20457179	BLANK	101							

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.

7/5/2006 15:02:50

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# Report of Method Blank

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LELAP # 02006

 Pace Analytical\*  
New Orleans Laboratory

Lab ID: 20456590

Description: 8021 VOAs Water Blank

Project No.: 2060725

Method: EPA 8021

Batch: 74204

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 29-Jun-06

Analyzed: 06/29/06 22:45 DET (1)

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
1330-20-7	Xylene (Total)	1	ND		1.50
	m&p-Xylene	1	ND		1.00
95-47-6	o-Xylene	1	ND		0.500

7 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.

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# Report of Method Blank

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Phone: 504.469.0333

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Lab ID: 20457042

Description: 8021 VOAs Water Blank

Project No.: 2060725

Method: EPA 8021

Batch: 74204

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 30-Jun-06

Analyzed: 06/30/06 04:57 DET(1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	0.148 J		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
1330-20-7	Xylene (Total)	1	ND		1.50
	m&p-Xylene	1	0.124 J		1.00
95-47-6	o-Xylene	1	ND		0.500

7 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.

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

# Report of Method Blank

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Lab ID: 20457179

Description: 8021 VOAs Water Blank

Project No.: 2060725

Method: EPA 8021

Batch: 74204

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 30-Jun-06

Analyzed: 06/30/06 10:40 DET (1)

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
1330-20-7	Xylene (Total)	1	ND		1.50
	m&p-Xylene	1	ND		1.00
95-47-6	o-Xylene	1	ND		0.500

7 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.

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# Report of Quality Control

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LELAP # 02006



**Pace Analytical\***  
New Orleans Laboratory

## Wet Chemistry Quality Control Results

Project No.: 2060725

Parameter	Batch	Blank	ARL	Units	LCS	LCS	LCS	MS	MS	MS	(1)MS	DUP	QC Limits		RPD	Qu
					Spike	% Rec	% Rec	RPD	Spike	% Rec	% Rec	RPD	RPD	LCS	MS/MSD	Max
Chloride	74185	ND	1.00	mg/L	99	99		100	100	100	0		90 - 110	75 - 125	20	

7/5/2006 15:02:51

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.

**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

# CHAIN-OF-CUSTODY / Analytical Request Document

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



Page: 1 of 1  
0997875

2060 725

## Section A

Required Client Information:

Company: CRA  
Address: 735 S. Loop West, Midland, TX 79703  
Email To: LukeMarkham@CRAworld.com  
Phone: 432-686-0086  
Requested Due Date/TAT: STD

## Section B

Required Project Information:

Report To: Luke Markham  
Copy To:  
Purchase Order No.:  
Project Name: N.M.F. State Battery  
Project Number: 039122

## Section C

Invoice Information:

Attention: A/P  
Company Name: CRA  
Address: Same  
Pace Quote Reference:  
Pace Project Manager:  
Pace Profile #:

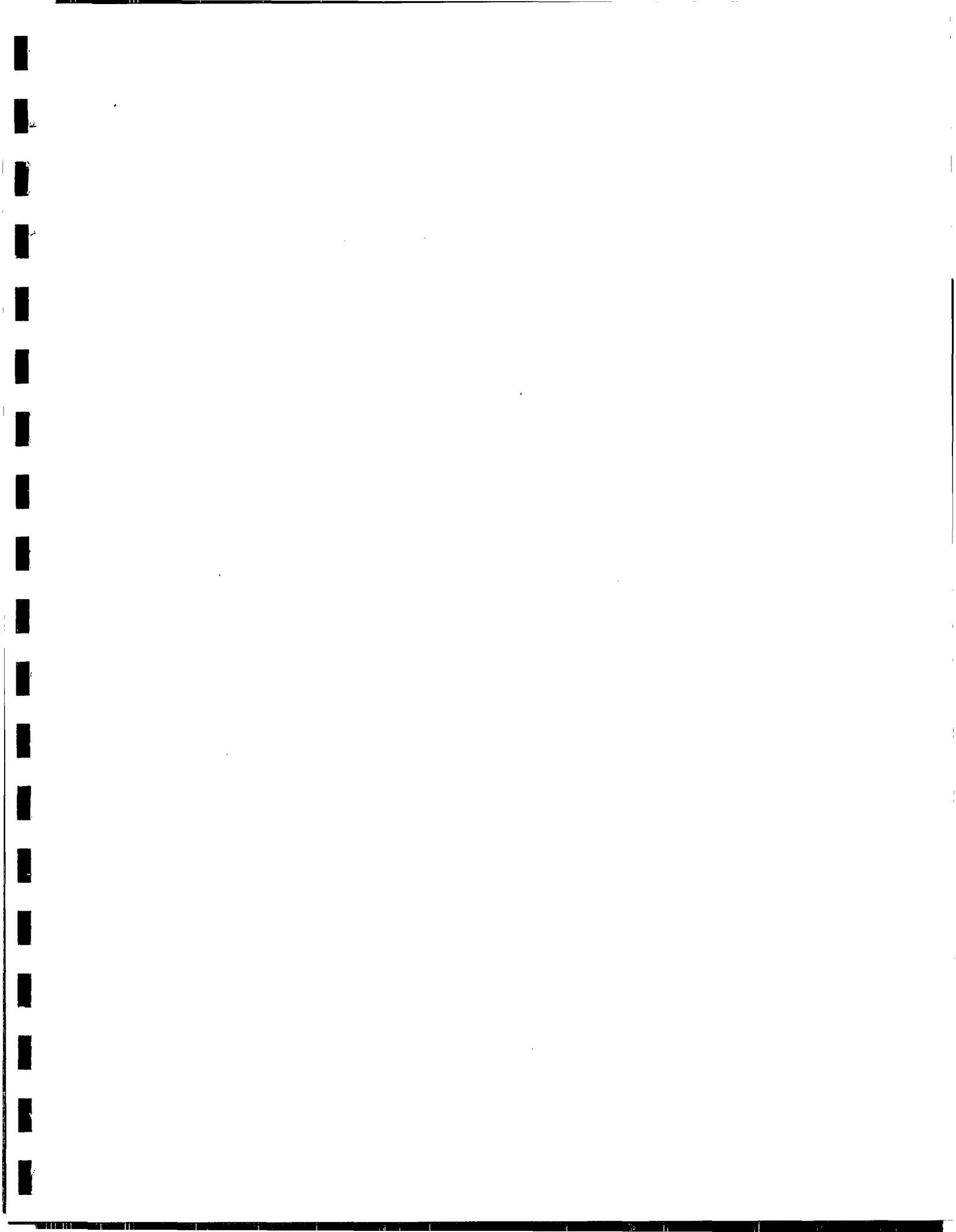
REGULATORY AGENCY  
 NPDES  
 UST  
 GROUND WATER  
 RCRA  
 DRINKING WATER  
 Other

SITE LOCATION  
 GA  
 IL  
 IN  
 MI  
 MN  
 NC  
 OH  
 SC  
 WI  
 OTHER NM

ITEM #	Valid Matrix Codes	Required Client Information	CODE	SAMPLE TYPE	MATRIX CODE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Filtered (Y/N)	Requested Analysis:	Pace Project Number	Lab I.D.
						COMPOSITE START DATE	COMPOSITE END/GRAB TIME							
1	DRINKING WATER		DW	G-GRAB	WTG	6-27	1130	4	3	3	Y	361	20456361	
2	WASTEWATER		WW	G-GRAB	WT	6-27	1135	4	3	3	Y	362	362	
3	WASTEWATER		WW	G-GRAB	WT	6-27	1045	4	3	3	Y	363	363	
4	WASTEWATER		WW	G-GRAB	WT	6-27	1155	4	3	3	Y	364	364	
5	WASTEWATER		WW	G-GRAB	WT	6-27	1044	4	3	3	Y	365	365	
6	WASTEWATER		WW	G-GRAB	WT	6-27	1230	4	3	3	Y	366	366	
7	WASTEWATER		WW	G-GRAB	WT	6-27	1200	4	3	3	Y	367	367	
8	WASTEWATER		WW	G-GRAB	WT	6-27	1200	4	3	3	Y	368	368	
9	WASTEWATER		WW	G-GRAB	WT	6-27	-	4	3	3	Y	369	369	
10	WASTEWATER		WW	G-GRAB	WT	-	-	2	3	3	Y	370	370	
11	WASTEWATER		WW	G-GRAB	WT	-	-	2	3	3	Y	370	370	
12	WASTEWATER		WW	G-GRAB	WT	-	-	2	3	3	Y	370	370	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION
Joe Mikes CRA	6-27-06	1530	M. J. Mikes	6-28-06	1020	Temp in °C Received on ice Custody Sealed Cooler Samples

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



 **Pace Analytical**<sup>®</sup>  
New Orleans Laboratory

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

Phone: 504.469.0333  
Fax: 504.469.0555  
LELAP # 02006

January 09, 2007

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

RE: Project: 2065362  
RE: Project ID: N.M. "F" STATE BATTERY/039122

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2006. 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: 2065362



# 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

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

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

Project No.: 2065362

Sample ID	Lab ID	Matrix	Collection Date/Time		Received Date/Time	
MW3121906	20491967	Water	12/19/2006	15:30	12/21/2006	10:30
MW4121906	20491968	Water	12/19/2006	14:00	12/21/2006	10:30
MW5121906	20491969	Water	12/19/2006	15:00	12/21/2006	10:30
MW8121906	20491970	Water	12/19/2006	13:30	12/21/2006	10:30
WW1121906	20491971	Water	12/19/2006	12:35	12/21/2006	10:30
WW2121906	20491972	Water	12/19/2006	12:40	12/21/2006	10:30
DUPI21906	20491973	Water	12/19/2006		12/21/2006	10:30
TRIP BLANK	20491974	Water	12/19/2006		12/21/2006	10:30
MW6121906	20491975	Water	12/19/2006	12:55	12/21/2006	10:30
MW7121906	20491976	Water	12/19/2006	14:30	12/21/2006	10:30

1/9/2007 17:10:48

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

**Pace Analytical\***  
New Orleans Laboratory

---

**Project: 2065362**

---

**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.

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1/9/2007 17:11:09

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

<b>Client ID:</b> <u>MW3121906</u>	<b>Client:</b> <u>CRA</u>	<b>Site:</b> <u>None</u>
<b>Project:</b> <u>N.M. "F" STATE BATTERY/039122</u>	<b>Project No.:</b> <u>2065362</u>	<b>Sample Qu:</b>
<b>Lab ID:</b> <u>20491967</u>	<b>Matrix:</b> <u>Water</u>	<b>% Moisture:</b> <u>n/a</u>
<b>Description:</b> <u>None</u>	<b>Prep Level:</b> <u>Water</u>	<b>Batch:</b> <u>80403</u>
<b>Method:</b> <u>8021 VOAs Water</u>	<b>Units:</b> <u>ug/L</u>	<b>Target List:</b> <u>8021 WL20</u>
<b>Prep Factor:</b> <u>1</u>	<b>Collected:</b> <u>12/19/06</u>	<b>Received:</b> <u>12/21/06</u>
	<b>Prepared:</b> <u>12/23/06</u>	<b>Analyzed:</b> <u>12/23/06 15:07 DET (1)</u>

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

5 compound(s) reported

1/9/2007 17:11:10

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

# 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

**Pace Analytical\***  
 New Orleans Laboratory

<b>Client ID:</b> <u>MW4121906</u>	<b>Client:</b> <u>CRA</u>	<b>Site:</b> <u>None</u>
<b>Project:</b> <u>N.M. "F" STATE BATTERY/039122</u>	<b>Project No.:</b> <u>2065362</u>	<b>Sample Qu:</b>
<b>Lab ID:</b> <u>20491968</u>	<b>Matrix:</b> <u>Water</u>	<b>% Moisture:</b> <u>n/a</u>
<b>Description:</b> <u>None</u>	<b>Prep Level:</b> <u>Water</u>	<b>Batch:</b> <u>80403</u>
<b>Method:</b> <u>8021 VOAs Water</u>	<b>Units:</b> <u>ug/L</u>	<b>Target List:</b> <u>8021 WL20</u>
<b>Prep Factor:</b> <u>1</u>	<b>Collected:</b> <u>12/19/06</u>	<b>Received:</b> <u>12/21/06</u>
	<b>Prepared:</b> <u>12/23/06</u>	<b>Analyzed:</b> <u>12/23/06 15:33 DET(1)</u>

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

5 compound(s) reported

1/9/2007 17:11:10

ND denotes Not Detected at or above the adjusted reporting limit.  
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# Report of Laboratory Analysis

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St. Rose, LA 70087

Phone: 504.469.0333

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LELAP # 02006

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA  
Site: None  
Client ID: MW5121906  
Project: N.M. "F" STATE BATTERY/039122  
Project No.: 2065362  
Lab ID: 20491969  
Matrix: Water  
Description: None  
Prep Level: Water  
Method: 8021 VOAs Water  
Units: ug/L  
Collected: 12/19/06  
Prepared: 12/23/06  
Sample Qu: n/a  
% Moisture: n/a  
Batch: 80403  
Target List: 8021 WL20  
Received: 12/21/06  
Analyzed: 12/23/06 15:58 DET (1)  
Prep Factor: 1

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

5 compound(s) reported

1/9/2007 17:11:10

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

**Pace Analytical\***  
New Orleans Laboratory

<b>Client ID:</b> <u>MW8121906</u>	<b>Client:</b> <u>CRA</u>	<b>Site:</b> <u>None</u>
<b>Project:</b> <u>N.M. "F" STATE BATTERY/039122</u>	<b>Project No.:</b> <u>2065362</u>	<b>Sample Qu:</b>
<b>Lab ID:</b> <u>20491970</u>	<b>Matrix:</b> <u>Water</u>	<b>% Moisture:</b> <u>n/a</u>
<b>Description:</b> <u>None</u>	<b>Prep Level:</b> <u>Water</u>	<b>Batch:</b> <u>80403</u>
<b>Method:</b> <u>8021 VOAs Water</u>	<b>Units:</b> <u>ug/L</u>	<b>Target List:</b> <u>8021 WL20</u>
<b>Prep Factor:</b> <u>1</u>	<b>Collected:</b> <u>12/19/06</u>	<b>Received:</b> <u>12/21/06</u>
	<b>Prepared:</b> <u>12/23/06</u>	<b>Analyzed:</b> <u>12/23/06 16:24</u> DET (1)

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

5 compound(s) reported

1/9/2007 17:11:10

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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  
Site: None  
Client ID: WW1121906  
Project: N.M. "F" STATE BATTERY/039122  
Project No.: 2065362  
Lab ID: 20491971  
Matrix: Water  
Sample Qu: n/a  
Description: None  
Prep Level: Water  
Batch: 80403  
Method: 8021 VOAs Water  
Units: ug/L  
Target List: 8021 WL20  
Collected: 12/19/06  
Received: 12/21/06  
Prep Factor: 1  
Prepared: 12/26/06  
Analyzed: 12/26/06 15:24 DET(1)

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

5 compound(s) reported

1/9/2007 17:11:10

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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

**Pace Analytical\***  
 New Orleans Laboratory

Client: CRA  
 Client ID: WW2121906 Site: None  
 Project: N.M. "F" STATE BATTERY/039122 Project No.: 2065362 Sample Qu:  
 Lab ID: 20491972 Matrix: Water % Moisture: n/a  
 Description: None Prep Level: Water Batch: 80403  
 Method: 8021 VOAs Water Units: ug/L Target List: 8021 WL20  
 Collected: 12/19/06 Received: 12/21/06  
 Prepared: 12/26/06 Analyzed: 12/26/06 15:51 DET(1)  
 Prep Factor: 1

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

5 compound(s) reported

1/9/2007 17:11:10

ND denotes Not Detected at or above the adjusted reporting limit.  
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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  
**Client ID:** DUP121906  
**Project:** N.M. "F" STATE BATTERY/039122  
**Lab ID:** 20491973  
**Description:** None  
**Method:** 8021 VOAs Water  
**Prep Factor:** 1

**Site:** None  
**Project No.:** 2065362  
**Matrix:** Water  
**Prep Level:** Water  
**Units:** ug/L  
**Collected:** 12/19/06  
**Prepared:** 12/26/06

**Sample Qu:**  
**% Moisture:** n/a  
**Batch:** 80403  
**Target List:** 8021 WL20  
**Received:** 12/21/06  
**Analyzed:** 12/26/06 16:17 DET (1)

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

5 compound(s) reported

1/9/2007 17:11:10

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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

**Pace Analytical\***  
New Orleans Laboratory

Client: CRA

Client ID: TRIP BLANK

Site: None

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

Project No.: 2065362

Sample Qu:

Lab ID: 20491974

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 80403

Method: 8021 VOAs Water

Units: ug/L

Target List: 8021 WL20

Collected: 12/19/06

Received: 12/21/06

Prep Factor: 1

Prepared: 12/26/06

Analyzed: 12/26/06 16:42 DET (1)

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

5 compound(s) reported

1/9/2007 17:11:10

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

# 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  
Site: None  
Client ID: MW6121906  
Project: N.M. "F" STATE BATTERY/039122  
Project No.: 2065362  
Lab ID: 20491975  
Matrix: Water  
Description: None  
Prep Level: Water  
Method: 8021 VOAs Water  
Units: ug/L  
Prep Factor: 1  
Collected: 12/19/06  
Prepared: 12/26/06  
Sample Qu: n/a  
% Moisture: n/a  
Batch: 80403  
Target List: 8021 WL20  
Received: 12/21/06  
Analyzed: 12/26/06 17:07 DET(1)

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		0.500	
108-88-3	Toluene	1	ND		0.500	
100-41-4	Ethylbenzene	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  
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Kansas Dept. of Health Environment - E-10266  
U.S. Dept. of Agriculture Foreign Soil Permit - S-47270

1/9/2007 17:11:10

# 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

<b>Client ID:</b> <u>MW7121906</u>	<b>Client:</b> <u>CRA</u>	<b>Site:</b> <u>None</u>
<b>Project:</b> <u>N.M. "F" STATE BATTERY/039122</u>	<b>Project No.:</b> <u>2065362</u>	<b>Sample Qu:</b>
<b>Lab ID:</b> <u>20491976</u>	<b>Matrix:</b> <u>Water</u>	<b>% Moisture:</b> <u>n/a</u>
<b>Description:</b> <u>None</u>	<b>Prep Level:</b> <u>Water</u>	<b>Batch:</b> <u>80403</u>
<b>Method:</b> <u>8021 VOAs Water</u>	<b>Units:</b> <u>ug/L</u>	<b>Target List:</b> <u>8021 WL20</u>
<b>Prep Factor:</b> <u>1</u>	<b>Collected:</b> <u>12/19/06</u>	<b>Received:</b> <u>12/21/06</u>
	<b>Prepared:</b> <u>12/26/06</u>	<b>Analyzed:</b> <u>12/26/06 17:33</u> DET (1)

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

5 compound(s) reported

1/9/2007 17:11:10

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  
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 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

**Pace Analytical\***  
New Orleans Laboratory

Method: EPA 8021

Project: 2065362

LCS: 20492208 12/22/2006 7:43:00 PM

Batch: 80403

MS:

Units: ug/L

Original for MS:

Parameter Name	LCS	LCS	LCSD	LCS	MS	MS	MSD (1)MS	QC Limits		Max	Qu
	Spike	%Rec	%Rec	RPD	Spike	%Rec	%Rec	RPD	LCS	MS/MSD	RPD
Benzene	20	87							72 - 133	-	Q5
Ethylbenzene	20	85							75 - 136	-	Q5
Toluene	20	87							77 - 132	-	Q5
m&p-Xylene	40	84							79 - 136	-	Q5
o-Xylene	20	84							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.

1/9/2007 17:11:12

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

**Pace Analytical\***  
New Orleans Laboratory

Method: EPA 8021

Project: 2065362

LCS: 20492635 12/26/2006 2:58:00 PM

Batch: 80403

MS:

Units: ug/L

Original for MS:

Parameter Name	LCS	LCS	LCS	LCS	MS	MS	MSD (1)MS	QC Limits		Max	Qu
	Spike	% Rec	% Rec	RPD	Spike	% Rec	% Rec	RPD	LCS	MS/MSD	RPD
Benzene	20	112							72 - 133	-	Q5
Ethylbenzene	20	108							75 - 136	-	Q5
Toluene	20	111							77 - 132	-	Q5
m&p-Xylene	40	107							79 - 136	-	Q5
o-Xylene	20	106							79 - 136	-	Q5

5 compound(s) reported

1/9/2007 17:11:12

\* 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.

**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 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

**Pace Analytical\***  
 New Orleans Laboratory

Report: 2065362

Batch: 80403

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
20491967	Sample	74							
20491968	Sample	77							
20491969	Sample	72							
20491970	Sample	72							
20491971	Sample	76							
20491972	Sample	79							
20491973	Sample	80							
20491974	Sample	73							
20491975	Sample	76							
20491976	Sample	75							
20492207	BLANK	107							
20492208	LCS	101							
20492507	BLANK	78							
20492508	BLANK	104							
20492634	BLANK	74							
20492635	LCS	98							
20492636	BLANK	107							

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.

*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

1/9/2007 17:11:14

# 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: 20492508

Description: 8021 VOAs Water Blank

Project No.: 2065362

Method: EPA 8021

Batch: 80403

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 23-Dec-06

Analyzed: 12/23/06 12:33 DET(1)

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.

1/9/2007 17:11:15

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 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: 20492634

Description: 8021 VOAs Water Blank

Project No.: 2065362

Method: EPA 8021

Batch: 80403

Units: ug/L

Prep Factor: 1

Leached:

Prepared: 26-Dec-06

Analyzed: 12/26/06 14:07 DET(1)

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.

1/9/2007 17:11:15

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 Qualifiers

**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

---

**Project: 2065362**

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## QC Qualifiers

Qualifier	Qualifier Description
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.

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1/9/2007 17:11:17

*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

**Section B**

Required Client Information:

Report To: Lutz Markham  
 Copy To: \_\_\_\_\_  
 Invoice To: \_\_\_\_\_  
 P.O. \_\_\_\_\_  
 Project Name: N.M. F's State Battery  
 Project Number: 039127

**Section A**

Required Client Information:

Company: CRA  
 Address: 2135 S. Loop 250 W.  
Midland, TX 79703

**Section D**

Required Client Information:

Phone: 432-684-0086 Fax: 432-684-0156

Client Information (Check quote/contract):  
 Requested Due Date: \*TAT:  
 Project #: 2065362  
 Profile #: 2981/LL  
 Requested Analysis:

ITEM #	SAMPLE ID	MATRIX	MATRIX CODE	DATE COLLECTED	TIME COLLECTED	# Containers	Preservatives							Remarks / Lab ID	
							Unpreserved	H <sub>2</sub> O <sub>2</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol		Other ITC
1	MW3121906	WT	WT	12-19-04	1530	3	X								20491917
2	MW4121906	WT	WT	12-19	1400	1	Y								1968
3	MW5121906	WT	WT	12-19	1500	1	X								1969
4	MW7121906	WT	WT	12-19	1330	1	X								1970
5	MW8121906	WT	WT	12-19	1235	1	X								1971
6	MW1121906	WT	WT	12-19	1240	1	X								1972
7	MW2121906	WT	WT	12-19	—	3	X								1973
8	DUP121906	WT	WT	12-19	—	2	X								1974
9	TRIP	WT	WT	12-19	—	3	X								1975
10	MW6121906	WT	WT	12-19	1255	3	X								1976
11	MW7121906	WT	WT	12-19	1430	3	X								
12															

SHIPMENT METHOD	AIRBILL NO	SHIPPING DATE	NO. OF COOLERS	ITEM NUMBER	RELINQUISHED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME
					Joe Mireles/CRA	12-20-04	1000			
					Joe Mireles/CRA	12-21-04	1030			

**Section E**

SAMPLE CONDITION: Temp in °C 3.7  
 Received on Ice YN  
 Sealed Cooler YN  
 Samples Intact YN  
 Additional Comments:

SAMPLER NAME AND SIGNATURE: Joe Mireles  
 PRINT Name of SAMPLER:  
 SIGNATURE of SAMPLER:  
 DATE Signed: 12/20/04



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

**Analytical Report Number: 879614**

Client: PACE ANALYTICAL SERVICES, INC.

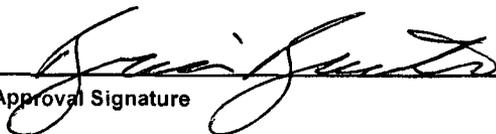
Lab Contact: Brian Basten

Project Name: CRA

Project Number: 2065362

Lab Sample Number	Field ID	Matrix	Collection Date
879614-001	MW3121906 20491967	WATER	12/19/06 15:30
879614-002	MW4121906 20491968	WATER	12/19/06 14:00
879614-003	MW5121906 20491969	WATER	12/19/06 15:00
879614-004	MW6121906 20491975	WATER	12/19/06 12:55
879614-005	MW7121906 20491976	WATER	12/19/06 14:30
879614-006	MW8121906 20491970	WATER	12/19/06 13:30
879614-007	WW1121906 20491971	WATER	12/19/06 12:35
879614-008	WW2121906 20491972	WATER	12/19/06 12:40
879614-009	DUP121906 20491973	WATER	12/19/06

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.

  
 Approval Signature

1-9-07  
 Date

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : MW3121906 20491967

Lab Sample Number : 879614-001

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	28	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

**Pace Analytical  
Services, Inc.**

**Analytical Report Number: 879614**

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

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : MW4121906 20491968

Lab Sample Number : 879614-002

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	34	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2065362

Field ID : MW5121906 20491969

Matrix Type : WATER

Collection Date : 12/19/06

Report Date : 01/09/07

Lab Sample Number : 879614-003

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	51	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : MW6121906 20491975

Lab Sample Number : 879614-004

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	88	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : MW7121906 20491976

Lab Sample Number : 879614-005

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	130	25	5	mg/L		01/05/07	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : MW8121906 20491970

Lab Sample Number : 879614-006

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	83	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Matrix Type : WATER

Project Name : CRA

Collection Date : 12/19/06

Project Number : 2065362

Report Date : 01/09/07

Field ID : WW1121906 20491971

Lab Sample Number : 879614-007

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	80	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2065362

Field ID : WW2121906 20491972

Matrix Type : WATER

Collection Date : 12/19/06

Report Date : 01/09/07

Lab Sample Number : 879614-008

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	57	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

Client : PACE ANALYTICAL SERVICES, INC.

Project Name : CRA

Project Number : 2065362

Field ID : DUP121906 20491973

Matrix Type : WATER

Collection Date : 12/19/06

Report Date : 01/09/07

Lab Sample Number : 879614-009

**INORGANICS**

Test	Result	EQL	Dilution	Units	Code	Anl Date	Prep Method	Anl Method
Chloride	28	5.0	1	mg/L		12/29/06	EPA 300.0	EPA 300.0

## Qualifier Codes

Flag Applies To Explanation

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	Inorganic	Sample received unpreserved. Sample was either preserved at the time of receipt or at the time of sample preparation.
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 check 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.

Test Group Name	879614-001	879614-002	879614-003	879614-004	879614-005	879614-006	879614-007	879614-008	879614-009
CHLORIDE	B	B	B	B	B	B	B	B	B

Code	Facility	Address	TX Certification
B	Green Bay Lab (Bellevue St)	1241 Bellevue Street, Suite 9 Green Bay, WI 54302	Not Certified

**Pace Analytical Services, Inc.**

**QC Summary**

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

Batch: 879614

Lab Section: WETCHEM

QC Batch Number: 17368

Prep Method: EPA 300.0

Analytical Method: EPA 300.0

QC Type	Client Sample ID	Lab Sample ID
MB	WCG2081-072MB	WCG2081-072MB
LCS	WCG2081-072MBLCS	WCG2081-072MBLCS
MS	879736-001MS	879736-001MS
MS	MW4121906 20491968MS	879614-002MS
MSD	879736-001MSD	879736-001MSD
MSD	MW4121906 20491968MS	879614-002MSD

**Client Sample ID Lab Sample ID MB ID**

MW3121906 20491967	879614-001	MB
MW5121906 20491969	879614-003	MB
MW7121906 20491976	879614-005	MB
WW1121906 20491971	879614-007	MB
DUP121906 20491973	879614-009	MB

**Lab Sample ID MB ID**

879614-002	MB
879614-004	MB
879614-006	MB
879614-008	MB

Test Name	Method Blank Result Conc	LCS Spiked Conc	LCS Recovery %	LCS Spiked Conc	LCSD Recovery %	LCSD Spiked Conc	LCS/LCSD Control Limits			Parent Sample Number	Parent Result Conc	MS Spiked Conc	MS Recovery %	MSD Spiked Conc	MSD Recovery %	MS/MSD RPD %	MS/MSD Control Limits				
							LCL %	UCL %	RPD %								LCL %	UCL %	RPD %		
Chloride	<	5	18.8	94.1	--	--	90	110	20	879614-002	33.9	20.0	53.8	99.6	20.0	54	100.3	0.3	90	110	20
Chloride	<	5	18.8	94.1	--	--	90	110	20	879736-001	87.30	200.0	262.8	87.8	200.0	262	87.3	0.3	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: 1/9/2007

QC Batch Number: 17368



# Sample Condition Upon Receipt

Client Name: CRA Project # 879614

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 1.0°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 12-21-06 MWY  
12/21/06

Temp should be above freezing to 6°C

Comments:

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 type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> No <input 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, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
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 type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

### Client Notification/ Resolution:

Field Data Required? Y / N

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

Comments/ Resolution: Requesting method 3020, what needs to be done? 12/21/06

Project Manager Review: \_\_\_\_\_

Date: 12-21-06

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

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



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## Section B

740143

To Be Completed by Pace Analytical and Client  
Quote Reference: Section C

Page: 1 of 1

Required Client Information:  
Report To: Luke Markham  
Copy To:

Required Client Information:  
Company: CRA  
Address: 2135 S. Loop 250 W.  
Midland, TX 79703

Project Manager:  
Project #:  
Profile #:

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

Project Name: "M.M. F. State Battery"  
Project Number: 039122

Requested Analysis:  
Chloride peroxide

\* 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.

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

ITEM #	SAMPLE ID	One character per box (A-Z, 0-9, /, -)	Sample IDs MUST BE UNIQUE	MATERIAL	MATRIX CODE	DATE COLLECTED	mm / dd / yy	TIME COLLECTED	hh: mm a/p	# Containers	Preservatives							Remarks / Lab ID		
											Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol		Other	
1	MW 3121906			WT	WT	12-14-06	1530	1530	11	1									001	1300-14
2	MW 4121906						1400	1400	11	1									002	
3	MW 5121906						1500	1500	11	1									003	
4	MW 6121906						1255	1255	11	1									004	
5	MW 7121906						1430	1430	11	1									005	
6	MW 8121906						1330	1330	11	1									006	
7	MW 1121906						1235	1235	11	1									007	
8	MW 2121906						1240	1240	11	1									008	
9	DUP 121906					12-14-06			11	1									009	

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
					Joe Micoles/CRA	12-14-06	1000	Mark M. Spink	12-21-06	1000
					Feder	12-21-06	1000			

SAMPLE NOTES

Temp in °C: 1.0

Received on Ice:  YN

Sealed Cooler:  YN

Samples Intact:  YN

Additional Comments:

SAMPLER NAME AND SIGNATURE: Joe Micoles

PRINT Name of SAMPLER: Joe Micoles

SIGNATURE of SAMPLER: [Signature]

DATE Signed: (MM/DD/YY) 12-20-06