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Matthew P. Hudson Remediation Project Manager

Upstream Business Unit Chevron Environmental Management Company 1400 Smith St Room 40038 Houston, TX 77002 Tel 713 372 1046 mhudson@chevron.com

June 26, 2008

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

Subject: 2007 Annual Groundwater Monitoring Reports

Dear Glenn:

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

- 1R-254: G.L. Erwin "A and B" Federal NCT-2 Tank Battery, Lea County, NM
- 1R-255: J.R. Philips Tank Battery No. 2, Lea County, NM

1R-258: Former New Mexico State "F" Tank Battery, Lea County, NM

1R-289: Cooper-Jal Unit South Injection Station, Lea County, NM

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

Sincerely,

Matthew P. Hudson

Enclosures

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



2007 ANNUAL GROUNDWATER MONITORING REPORT

COOPER-JAL UNIT SOUTH INJECTION STATION CASE NO. 1R289 OGRID NO. 4323 NW/4, NW/4, SE/4, SECTION 24, T-24-S, R-36-E LATITUDE: N 32° 12′ 7.3″ LONGITUDE: W 103° 12′ 59.9″ LEA COUNTY, NEW MEXICO

Prepared For: Mr. Matt Hudson CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY Upstream Business Unit 1400 Smith Street, Room 40038 Houston, Texas 77002

> Prepared by: Conestoga-Rovers & Associates

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JUNE 17, 2008 Ref. no. 039123 (4)

web: www.CRAworld.com

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1.0 INTRODUCTION

This Annual Groundwater Monitoring Report presents groundwater data collected during the 2007 reporting period by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) at the Cooper-Jal Unit South Injection Station (hereafter referred to as the "Site"). Groundwater sampling events were performed on May 30, 2007 and on November 14-16, 2007.

The Site is located on Lea County Road J7, approximately 5.5 miles northwest of Jal, New Mexico and situated in Unit Letter J, northwest quarter (NW/4) of the northwest quarter (NW/4) of the southeast quarter (SE/4), Section 24, Township 24 South, Range 36 East, Lea County, New Mexico. The Site is relatively flat and improved with bermed above-ground storage tanks (ASTs), hardened caliche roadways, and oil and gas production equipment that includes four production wells. Land use in the vicinity of the Site is undeveloped rangeland vegetated with indigenous grass, livestock ranching and oil and gas production. The topography slopes southeast toward Monument Draw located approximately 7.5 miles southeast of the Site. A Site Location Map is presented as FIGURE 1.

Site assessment activities were initiated in 1993 when Environmental Spill Control, Inc. (ESCI) of Hobbs, New Mexico performed a subsurface assessment of an unlined earthen emergency produced water overflow pit that was located adjacent to the west edge of the Site. During the investigation, five boreholes were installed to depths ranging from 15 feet to 100 feet below ground surface (bgs). The investigation revealed the presence of hydrocarbon-affected soil. In 1996, Texaco Exploration and Production, Inc. (Texaco) filed a notice of intent to close the pit with the New Mexico Oil Conservation Division (NMOCD). Approximately 1,248 cubic yards of hydrocarbon-affected material were removed from the pit. During the closure activities, the excavation was lined with approximately 1,091 cubic yards of imported clay and backfilled with 3,360 cubic yards of imported caliche. Texaco submitted the pit closure report to the NMOCD in December 1996.

In 1997, the NMOCD requested additional assessment activities to define the vertical extent of affected soil beneath the pit. Assessment activities performed by Highlander Environmental Corporation revealed elevated soil chloride concentrations. In October 1997, monitor well MW-1 was installed near the former pit. Groundwater samples collected from the well contained chloride concentrations above the New Mexico Water Quality Control Commission (NMWQCC) Human Health Standards for Groundwater. Subsequent assessment activities through May 1998 included the installation of 14 monitor wells. In 1998, electromagnetic (EM-34) terrain conductivity surveys were performed to identify areas of elevated soil chloride concentrations.

In June 1998, Texaco prepared a groundwater corrective action plan to mitigate chloride concentrations and to provide plume containment by extracting groundwater from the affected groundwater-bearing unit. Subsequent assessment activities performed in 1999 included the installation of wells MW-11, RW-1 and RW-2. Wells MW-12 and MW-13 were installed in 2001. Semi-annual groundwater monitoring 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 NMWQCC regulations. In addition, the NMWQCC regulations present the Human Health Standards for Groundwater. The constituent of concern in affected groundwater at the Site is chloride. In this report, groundwater analytical results for chloride and four additional analytes are compared to the NMWQCC standards as shown in the following table:

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
Fluoride	1.6
Nitrate (NO ₃ as N)	10
Sulfate (SO ₄)	600
Total Dissolved Solids (TDS)	1,000

3.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater at the Site is monitored with a network of 17 monitor wells and two recovery wells in accordance with the *Work Plan for Plume Delineation and Modification to Proposed Groundwater Monitoring Schedule* (Larson & Associates, November 18, 1998). Wells MW-8, MW-9, MW-9A, MW-10 and MW-11 are the only wells sampled during the first semi-annual monitoring event. The remaining 14 wells are sampled annually during the second semi-annual monitoring event. A Site Details Map is presented as FIGURE 2. Groundwater sampling events were performed on May 30, 2007 and on November 14-16, 2007.

The stratification of chloride-impacted groundwater is monitored with selectively screened wells in the affected groundwater-bearing unit. Wells MW-1 through MW-5 and MW-7 through MW-13 are screened across the basal 10 feet to 20 feet of the groundwater-bearing unit. These wells were drilled and completed to the Chinle Formation "Red Beds" underlying the Ogallala Aquifer and are referred to as the "deep wells" in this report. Wells MW-2A, MW-4A, MW-5A and MW-9A are screened across the water table interface with approximately five feet of screen above the water table and 15 feet of screen below the water table. These wells are referenced as the "shallow wells." Wells MW-6, MW-11, RW-1 and RW-2 are screened across the entire saturated zone of the groundwater-bearing unit and are referred to as "fully penetrating" wells.

Prior to purging the monitor wells, static fluid levels 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.

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 major cations, anions and TDS by various Environmental Protection Agency (EPA) Methods. The fluids recovered and generated during the sampling event were containerized in a dedicated Polyethylene tank located onsite and subsequently managed at an NMOCD-permitted salt water disposal (SWD) facility by Nabors Well Services LTD. (Nabors).

3.1 <u>POTENTIOMETRIC SURFACE AND GRADIENT</u>

Groundwater elevation data are presented in TABLE I. Groundwater gradient maps for May 2007 and November 2007 are presented on FIGURES 3 and 4, respectively. Depth to groundwater ranged from 130.52 feet to 144.54 feet below top of casing on May 29, 2007 and from 130.42 feet to 144.54 feet below top of casing on November 13, 2007. Although the Site's network of wells is completed at various intervals (shallow, deep and fully penetrating), the groundwater elevations appear to be consistent with historical levels with groundwater flow to the southeast. The gradient observed in 2007 was 0.003 feet/foot for both May and November events.

3.2 ANALYTICAL RESULTS

Analytical results are summarized in TABLE II. An isoconcentration map of the chloride concentration for the May 2007 groundwater monitoring event is presented as FIGURE 5. Chloride isoconcentrations maps for the shallow and deep wells for November 2007 are presented as FIGURES 6 and 7, respectively.

The analytical results generally fall within historical ranges. During the May 2007 sampling event, one monitor well (MW-9A) exceeded the NMWQCC groundwater standards for chloride and TDS. In addition, two monitor wells (MW-9 and MW-11) exceeded the NMWQCC groundwater standard for fluoride. In November 2007, twelve wells (MW-1, MW-2, MW-4, MW-4A, MW-5, MW-7, MW-9A, MW-10, MW-12, MW-13, RW-1 and RW-2) exceeded the NMWQCC groundwater standards for chloride and TDS. In addition, three wells (MW-1, MW-6 and MW-11) exceeded the NMWQCC groundwater standard for chloride and TDS. In addition, three wells (MW-1, MW-6 and MW-11) exceeded the NMWQCC groundwater standard for sulfate. Nitrate concentrations were below NMWQCC groundwater standards during the 2007 sampling events. Copies of the certified analytical reports and chain-of-custody documentation are attached in APPENDIX A.

4.0 PLANNED ACTIVITIES

The first semi-annual 2008 groundwater monitoring event is scheduled for May 2008. On October 1, 1999, Texaco Exploration and Production, Inc. filed applications with the New Mexico Office of the State Engineer (NMOSE) to Divert Underground Waters for proposed recovery wells RW-1 (CP-884) and RW-2 (CP-885). The objective for the application to divert underground water was to remove chloride-impacted groundwater as a corrective action. However, LA reported that the NMOSE denied the appropriation permits on concerns that NMOSE's internal 40-year aquifer drawdown projections exceeded NMOSE criteria.

CRA understands that the Capitan Underground Water Basin underlying the Site has been declared a "Critical" underground water basin and closed to new appropriations. CRA and CEMC will coordinate with the NMOCD and NMOSE to further evaluate the diversion of underground water as a corrective action. Subsequently, the proposed groundwater remediation method may be modified, as appropriate, to achieve the NMWQCC cleanup standards and/or meet regulatory obligations.

5.0 SUMMARY OF FINDINGS

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

- Groundwater at the Site is monitored with a network of 17 monitor wells and two recovery wells. Wells MW-8, MW-9, MW-9A, MW-10 and MW-11 are sampled semi-annually. The remaining 14 wells are sampled annually during the second semi-annual sampling event.
- Depth to groundwater ranged from 130.52 feet to 144.54 feet below top of casing on May 29, 2007 and from 130.42 feet to 144.54 feet below top of casing on November 13, 2007. Groundwater flow at the Site is to the southeast at a gradient of 0.003 feet/foot.
- The analytical results generally fall within historical ranges with higher chloride concentrations in the basal portion of the Ogallala aquifer. During the May 2007 sampling event, one monitor well (MW-9A) exceeded the NMWQCC groundwater standards for chloride and TDS. In addition, two monitor wells (MW-9 and MW-11) exceeded the NMWQCC groundwater standard for fluoride. In November 2007, twelve wells (MW-1, MW-2, MW-4, MW-4A, MW-5, MW-7, MW-9A, MW-10, MW-12, MW-13, RW-1 and RW-2) exceeded the NMWQCC groundwater standards for chloride and TDS. In addition, three wells (MW-1, MW-6 and MW-11) exceeded the NMWQCC groundwater standard for fluoride. Three wells (MW-1, MW-4 and MW-5) also exceeded the NMWQCC groundwater standard for sulfate. Nitrate concentrations were below NMWQCC groundwater standards during the 2007 sampling events.
- The first semi-annual 2008 groundwater monitoring event is scheduled for May 2008. CRA and CEMC will coordinate with the NMOCD and NMOSE to further evaluate the diversion of underground water as a corrective action. Subsequently, the proposed groundwater remediation method may be modified, as appropriate, to achieve the NMWQCC cleanup standards and/or meet regulatory obligations.

All of Which is Respectfully Submitted, **CONESTOGA-ROVERS & ASSOCIATES**

Todd Vella

Todd Wells Project Manager

Thomas C. Larson Senior Project Manager





	SITE DETAILS MAP	JOB No. 039123
(GRVA)	CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION LEA COUNTY, NEW MEXICO	FIGURE 2



	GROUNDWATER GRADIENT MAP - MAY 2007	JOB No. 0.39123
GR/AL	CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION LEA COUNTY, NEW MEXICO	FIGURE 3



GROUNDWATER GRADIENT MAP - NOVEMBER 2007	JOB No. 039123
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION	FIGURE
LEA COUNTY, NEW MEXICO	4



	CHLORIDE ISOCONCENTRATION MAP - MAY 2007	JOB No.
X BY/AL	CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION	FIGURE
-	LEA COUNTY, NEW MEXICO	5





SHALLOW GROUNDWATER CHLORIDE ISOCONCENTRATION MAP - NOVEMBER 2007	JOB No. 039123
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION LEA COUNTY, NEW MEXICO	FIGURE 6





DEEP GROUNDWATER CHLORIDE ISOCONCENTRATION MAP - NOVEMBER 2007	JOB No.
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY COOPER-JAL UNIT SOUTH INJECTION STATION	FIGURE
LEA COUNTY, NEW MEXICO	7

Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-1	05/18/98	135.05	2	3185.12	172.38	153-173
3320.17	05/25/99	134.93		3185.24		
	02/08/01	134.80		3185.37		
	05/10/02	134.77		3185.40		
	10/22/02	134.89		3185.28		
	05/20/03	135.17		3185.00		
1	11/24/03	134.70		3185.47		
	05/11/04	134.75		3185.42		
	11/15/04	134.76		3185.41		
	05/17/05	134.29		3185.88		
	11/15/05	134.93		3185.24		
	05/08/06	134.68		3185.49		
1	11/13/06	134.62		3185.55		
	05/29/07	134.71		3185.46		
	11/16/07	134.70		3185.47		
MW-2	05/18/98	135.00	2	3184.86	170.60	163-173
3319.86	05/25/99	134.79		3185.07		
	02/08/01	134.63		3185.23		
	05/10/02	134.65		3185.21	~ 	
	10/22/02	134.72		3185.14		
	05/20/03	134.95		3184.91		
	11/24/03	134.56		3185.30		
	05/11/04	134.55		3185.31		
	11/15/04	134.53		3185.33		
	05/17/05	134.39		3185.47		
	11/15/05	134.77		3185.09		
	05/08/06	134.52		3185.34		
	11/13/06	134.44		3185.42		
	05/29/07	134.54		3185.32		
	11/14/07	134.52		3185.34		
MW-2A	05/18/98	134.80	2	3185.06	142.30	130-145
3319.86	05/25/99	134.73		3185.13		
	02/08/01	134.58		3185.28		
	05/10/02	134.50		3185.36		
	10/22/02	134.66		3185.20		
	05/20/03	135.80		3184.06		
	11/24/03	134.60		3185.26		
ļ,	05/11/04	134.53		3185.33		
	11/15/04	134.58		3185.28		
	05/17/05	134.47		3185.39		
	11/15/05	134.74		3185.12		
	05/08/06	134.46		3185.40		
	11/13/06	134.39		3185.47		
	05/29/07	134.50		3185.36		
	11/14/07	134.48		3185.38		

Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-3	05/18/98	132.65	2	3185.56	171.93	161-171
3318.21	05/25/99	132.52		3185.69		
	02/08/01	132.40		3185.81		
	05/10/02	132,40		3185.81		
	10/22/02	132,49		3185.72		
	05/20/03	132,75		3185.46		
	11/24/03	132.29		3185.92		
	05/11/04	132.38		3185.83		
	11/15/04	132.46		3185.75		
	05/17/05	132.32		3185.89		
	11/15/05	132.55		3185.66		
	05/08/06	132.32		3185.89		
	11/13/06	132.27		3185.94		
	05/29/07	132.36		3185.85		
	11/16/07	132.34		3185.87		
MW-4	05/18/98	136.01	2	3183.73	171.41	161-171
3319.74	05/25/99	135.57		3184.17		
	02/08/01	135.87		3183.87		
	05/10/02	135.67		3184.07		
	10/22/02	135.90		3183.84		
	05/20/03	136.00		3183.74		
	11/24/03	135.70		3184.04		
	05/11/04	135.34		3184.40		
	11/15/04	135.76		3183.98		
	05/17/05	135.69		3184.05		
	11/15/05	135.85		3183.89		
	05/08/06	135.60		3184.14		
	11/13/06	135.59		3184.15		
	05/29/07	135.75		3183.99		
	11/14/07	135.62		3184.12		
MW-4A	05/18/98	135.68	2	3183.90	146.00	128-143
3319.58	05/21/99	135.65		3183.93		
	05/25/99	135.90		3183.68		
	02/08/01	135.34		3184.24		
	05/10/02	135.30		3184.28		
	10/22/02	135.51		3184.07		
	05/20/03	135.55		3184.03		
	11/24/03	135.31		3184.27		
	05/11/04	135.72		3183.86		
	11/15/04	135.38		3184.20		
	05/17/05	135.32		3184.26		
	11/15/05	135.52		3184.06		
	05/08/06	135.26		3184.32		
	11/13/06	135.20		3184.38		
	05/29/07	135.32		3184.26		
	11/14/07	135.20		3184.38		i

Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-5	05/18/98	137.42	2	3183.68	173.65	161-171
3321.10	05/25/99	137.28		3183.82		
	02/08/01	137.18		3183.92		
	05/10/02	137.10		3184.00		
	10/22/02	137.04		3184.06		
	05/20/03	137.45		3183.65		
	11/24/03	137.01		3184.09		
	05/11/04	137.01		3184.09		
	11/15/04	137.08		3184.02	· · ·	
	05/17/05	137.00		3184.10		
	11/15/05	137.18		3183.92	~~~	
	05/08/06	136.90		3184.20		
	11/13/06	136.81		3184.29		
	05/29/07	136.92		3184.18		
	11/14/07	136.85		3184.25		
MW-5A	05/18/98	137.20	2	3183.87	143.85	126-141
3321.07	05/25/99	137.11		3183.96		
	02/08/01	136.99		3184.08		
	05/10/02	136.90		3184.17		
	10/22/02	137.17		3183.90		1
	05/20/03	137.24		3183.83		
	11/24/03	136.91		3184.16		
	05/11/04	136.88		3184.19	·	
	11/15/04	136.92		3184.15		j 📗
	05/17/05	136.83		3184.24		
	11/15/05	137.06		3184.01		
	05/08/06	136.80		3184.27		
	11/13/06	136.74		3184.33		
	05/29/07	136.82		3184.25		
	11/14/07	136.88		3184.19		i
MW-6	05/18/98	136.73	2	3184.42	169.25	120-170
3321.15	05/25/99	136.61		3184.54		
	02/08/01	136.50		3184.65		
	05/10/02	136.40		3184.75		
	10/22/02	136.57		3184.58		
	05/20/03	136.85		3184.30		
	11/24/03	136.38		3184.77		
	05/11/04	136.41		3184.74		
	11/15/04	136.08		3185.07		
	05/17/05	136.58		3184.57		
	11/15/05	136.82		3184.33		
	05/08/06	136.58		3184.57		
	11/13/06	136.49		3184.66		
	05/29/07	136.61		3184.54		
	11/15/07	136.59		3184.56		
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Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-7	05/18/98	136.19	2	3182.20	166.15	151-166
3318.39	05/25/99	135.98		3182.41		
	02/08/01	135.87		3182.52		1
	05/10/02	135.67		3182.72		
	10/22/02	135.89		3182.50		
	05/20/03	136.12		3182.27		
	11/24/03	135.71		3182.68		
	05/11/04	135.74		3182.65		[
	11/15/04	135.78		3182.61		
	05/17/05	135.68		3182.71		
	11/15/05	135.90		3182.49		
	05/08/06	135.64		3182.75		
	11/13/06	135.58		3182.81		
	05/29/07	135.73		3182.66		
	11/15/07	135.64		3182.75		
MW-8	05/18/98	134.36	2	3182.78	171.92	155-170
3317.14	05/25/99	134.21		3182.93		
	02/08/01	134.08		3183.06		
	05/10/02	133.95		3183.19		
	10/22/02	134.18		3182.96		
	05/20/03	134.38		3182.76		
	11/24/03	133.99		3183.15		
	05/11/04	134.02		3183.12		
	11/15/04	134.11		3183.03		
	05/17/05	133.97		3183.17		
	11/15/05	134.21		3182.93		
	05/08/06	133.94		3183.20		
	11/13/06	133.9		3183.24		
	05/29/07	134.02		3183.12		
	11/15/07	133.76		3183.38		1
MW-9	05/18/98	132.89	2	3179.90	161.40	149-164
3312.79	05/25/99	132.68		3180.11		
	02/08/01	132.52		3180.27	· · · · · · · · · · · ·	
	05/10/02	137.20		3175.59		
	10/22/02	132.56		3180.23		
	05/20/03	132.75		3180.04		
	11/24/03	132.35		3180.44	~~~	
	05/11/04	132.39		3180.40		
	11/15/04	132.43		3180.36		
	05/17/05	132.26		3180.53		
	11/15/05	132.60		3180.19		
	05/08/06	132.26		3180.53		
	11/13/06	132.19		3180.60		
	05/29/07	132.32		3180.47		
1	11/14/07	132.34		3180.45		

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Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-9A	05/18/98	132.65	2	3179.91	144.15	127-142
3312.56	05/25/99	132.43		3180.13		
	02/08/01	132.37		3180.19		
	05/10/02	137.20		3175.36		
	10/22/02	132.35		3180.21		
	05/20/03	132.55		3180.01		
	11/24/03	132.10		3180.46		
	05/11/04	132.14		3180.42		
	11/15/04	132.19		3180.37		
	05/17/05	132.06		3180.50		
	11/15/05	132.35		3180.21		
	05/08/06	132.02		3180.54		
	11/13/06	131.09		3181.47		
	05/29/07	132.08		3180.48		
	11/14/07	132.06		3180.50		
MW-10	05/18/98	137.18	2	3182.12	164.15	151-166
3319.30	05/25/99	137.04		3182.26		
	02/08/01	136.88		3182.42		
Į	05/10/02	136.80		3182.50		
	10/22/02	136.91		3182.39		
	05/20/03	137.13		3182.17		
	11/24/03	136.71		3182.59		
	05/11/04	136.77		3182.53		
	11/15/04	136.82		3182.48		
	05/17/05	136.34		3182.96		
	11/15/05	136.95		3182.35		
	05/08/06	136.65		3182.65		
	11/13/06	136.59		3182.71		
	05/29/07	136.68		3182.62		
	11/15/07	136.61		3182.69		
MW-11	03/23/99	131.12	4	3178.57	165.71	125-165
3309.69	05/25/99	130.91		3178.78		
	02/08/01	130.11		3179.58		
	05/10/02	135.60		3174.09		
	10/22/02	130.76		3178.93		
	05/20/03	131.03		31/8.66		
	05/11/04	130.57		31/9.12		
1	11/15/04	130.65		3179.08		
	05/17/05	131 54		2179.04		
	11/15/05	130.70		3170.13		
	05/08/06	130.70		3170.99		
	11/13/06	130.41		3179.20		
	05/29/07	130.42		3179.27		
	11/14/07	130.32		3179.17		
l		100.72		5177.27	-	
	1					1

Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
MW-12	05/10/02	139.57	2	3188.86	165.50	156.68-171.65
3328.43	10/22/02	139.73		3188.70		
	05/20/03	139.72		3188.71		
	11/24/03	139.69		3188.74		
	05/11/04	139.64		3188.79		
	11/15/04	139.68		3188.75		
	05/17/05	139.58		3188.85		
	11/15/05	139.83		3188.60		
	05/08/06	139.55		3188.88		
	11/13/06	139.53		3188.90		
	05/29/07	139.65		3188.78		
	11/16/07	139.05		3189.38		
MW-13	05/10/02	144.45	2	3194.04	167.40	156.68-171.65
3338.49	10/22/02	144.49		3194.00		
	05/20/03	144.9		3193.59		
	11/24/03	144.37		3194.12		
	05/11/04	144.47		3194.02		
	11/15/04	144.56		3193.93		
	05/17/05	144.36		3194.13		
	11/15/05	144.60		3193.89		
	05/08/06	144.29		3194.20		
	11/13/06	144.38		3194.11		
	05/29/07	144.54		3193.95		
	11/16/07	144.54		3193.95		
RW-1	05/21/99	134.32	5 ·	3184.18	171.25	130.41-174.37
3318.50	05/25/99	134.24		3184.26		
	02/08/01	134.15		3184.35		
	05/10/02	134.00		3184.50		
	10/22/02	134.17		3184.33		
	05/20/03	134.40		3184.10		
	11/24/03	134.02		3184.48		
	05/11/04	134.01		3184.49		
	11/15/04	134.06		3184.44		
	05/17/05	133.97		3184.53		
	11/15/05	134.20		3184.30		
	05/08/06	133.93		3184.57		
	11/13/06	133.92		3184.58		
	05/29/07	134.00		3184.50		
	11/15/07	133.88		3184.62		

Well ID		Depth to	Casing	Groundwater		Well Screen
тос	Collection	Groundwater	Diameter	Elevation	Well Depth	Interval
Elevation	Date	(ft TOC)	(in)	(ft)	(ft TOC)	(ft bgs)
RW-2	02/08/01	135.58	5	3183.04	154.63	134.22-172.73
3318.62	05/10/02	135.55		3183.07		
	10/22/02	135.55		3183.07		
	05/20/03	135.58		3183.04		
	11/24/03	135.54		3183.08		
	05/11/04	135.48		3183.14		
	11/15/04	135.43		3183.19		
	05/17/05	135.46		3183.16		
	11/15/05	135.65		3182.97		
	05/08/06	135.42		3183.20		
	11/13/06	135.47		3183.15		
	05/29/07	135.54		3183.08		·
	11/15/07	135.48		3183.14		

Notes:

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1. TOC - Top of Casing.

2. bgs - below ground surface.

3. A - Indicates shallow groundwater monitor well.

TDS		1,000	15,000	6,300	20,000	784	969	13,200	1,158	1,328	952	2,640 N	624	10,900	9,400	15,000	15,000	6,040	6,770	5,880	6,760	3,965	832	10,000 N	8,260	011/6	1,200	390	435	425	418	452	440	428	630 N	488	504
Sodium			4,300.0	2,900.0	5,236.0	184.0	l	3,410.0	294.0	355.0	373.0	847.000	172.000	2100.000 D1	2,650.0	3,430.0	3,189.0	1,160.0	;	1,020.0	1,120.0	549.0	158.0	3,290.000	1,5400.000	1310.000 D1	215.0	45.5	43.8		47.9	43.8	43.6	49.1	49.800	49.900	45.400
Potassium		·	50.00	116.00	236.00	11.90	ı	96.50	18.50	22.40	25.40	23.000	15.600	54.000	30.00	29.00	48.50	35.60	1	20.00	32.00	29.70	22.40	20.800	21.000	16.200	5.70	7.02	4.35		3.76	3.98	3.66	3.98	4.200	3.470	<5.000
Magnesium			630.0	520.0	780.0	20.1	1	475.0	22.0	23.1	22.7	92.600	6.490	187.000	380.0	490.0	488.0	239.0	ł	176.0	227.0	112.0	29.4	209.000	212.000	152.000	36.0	16.7	13.9	1	14.3	14.4	15.0	15.3	18.000	15.600	15.300
Calcium	Standard		520.0	285.0	374.0	45.7	ł	238.0	19.2	17.2	29.2	85.400	13.200	154.000	840.0	1,100.0	1,025.0	587.0	1	448.0	555.0	308.0	104.0	594.000	535.000	449.000	144.0	64.4	57.6	ł	67.2	51.7	62.9	68.8	157.000	69.800	666.00
Sulfate	Groundwater	600	1,100	570	1,000	86.9	96.8	875	125	136	103	215 D1	76	602 D1	760	066	870	483	451	386	446	246	56.9	645 D1	470	462 D1	330	76	79.1	26	75.5	77.4	76.5	75.4	75.1 D1	76	66.8 D1
Nitrate - N	Commission (10	-	1	7.70	3.28	ł	10.90	2.72	2.70	3.30	2.4	2.0	3.90 D1	-	1	4.10	3.18	I	3.87	5.63	2.78	2.13	2.6	2.1	1.93	1	2.30	2.34	I	2.18	2.23	2.24	2.78	2.3	1.6	1.51
Fluoride	uality Control	1.60	;	1	4.40	5.83	ł	<8.00	7.03	7.31	4.94	3.0	4.2	3.7	1	1	2.30	1.72	ł	2.04	<4.00	<2.00	<1.00	0.72	0.78 N	0.76	1	1.30	<1.00	Ļ	<1.00	1.00	<1.00	1.22	0.60	0.55	0.58
Chloride	exico Water Q	250	8,500	5,600	11,000	237	168	6,600	402	504	384	1,210 D1	96	4,250 D1	5,900	8,200	7,400	3,200	2,920	2,550	3,330	1,750	430	4,720 D1	3,500	3,280 D1	280	44	36.6	41 .3	40.5	43.1	44.8	52.5	56.8	49	74.6
Total Alkalinity	New Me		280	280	306	2018	١	290	250	264	232	262	200	255	210	290	184	160	١	158	160	146	120	171	160	178	190	162	176	١	168	166	176	164	151	180	170
Bicarbonate Alkalinity			1	;	306	208	ł	290	250	264	232	262	200	255		ł	184	160	ı	158	160	146	120	171	160	178	1	162	176	1	168	166	176	164	151	180	170
Carbonate Alkalinity			1	1	<1.0	<1.0	I	<1.0	<1.0	<1.00	<1.00	<10.0	<10	<10.0		1	<1.0	<1.0	1	<1.0	<1.0	<1.00	<1.00	<10.0	<10	0.01>	;	<1.0	<1.0	1	<1.0	<1.0	<1.00	<1.00	<10.0	<10	<10.0
Sample Date			9/16/97	2/25/98	2/14/01	5/17/02	10/23/02	5/21/03	11/25/03	5/12/04	11/16/04	11/16/05	11/14/06	11/16/07	2/25/98	4/9/98	2/14/01	5/17/02	10/23/02	5/22/03	11/25/03	5/12/04	11/16/04	11/16/05	11/14/06	11/14/07	2/26/98	2/14/01	5/15/02	10/23/02	5/22/03	11/25/03	5/12/04	11/16/04	11/16/05	11/14/06	11/14/07
Sample ID			1-WM												MW-2												MW-2A										

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TDS		1,000	1,500	440	433	419	435	440	448	424	N 0 1 -8	505	570	22,000	23,000	29,000	22,600	23,200	62,500	54,450	65,450	25,200	24,300 N	28,700	36,300	3,300	4,000	1,610	1,430	2,200	2,585	2,300	2,235	2,340 N	2,870	2,650
Sodium			237.0	48.6	50.0	I	54.6	51.7	47.5	58.9	93.400	57.200	50.600	5,300.0	5,400.0	;	4,310.0	1	4,140.0	4,620.0	4,850.0	5,900.0	3,880.000	6,150.000	4760.000 D1	620.0	1	125.0	1	248.0	329.0	279.0	413.0	382.000	406.000	334.000
Potassium			11.00	7.61	5.04	1	5.39	5.19	4.77	12.70	8.870	4.300	<5.000	48.00	42.00	1	60.90	1	47.30	62.00	60.70	73.60	28.100	58.800	48.000	11.00	1	10.30	J	10.10	15.20	11.50	14.90	9.230	8.100	7.330
Magnesium			50.0	19.0	18.4	l	17.8	18.0	16.8	23.6	22.100	17.300	16.300	880.0	840.0	I	814.0	I	659.0	889.0	829.0	972.0	387.000	897.000	382.000	130.0	1	49.5	-	58.9	79.3	66.5	75.4	64.400	53.500	44.900
Calcium	Standard		200.0	54.5	55.6	1	53.2	46.5	52.2	56.3	89.200	51.300	50.800	1,700.0	1,740.0	ł	1,610.0	ł	1,450.0	1830.0	1800.0	2020.0	849.000	1,760.000	1170.000	470.0	1	200.0	ł	279.0	337.0	297.0	369.0	335.000	227.000	205.000
Sulfate	Groundwater 5	600	406	100	102	104	96.3	103	101	95.4	108 D1	96	88.2 D1	1,300	1,500	1,500	1,380	1,320	1,370	1,400	1,560	1,410	45.8 D1	1,400	1,410 D1	410	210	121	114	160	182	179	186	160 D1	170	167 D1
Nitrate - N	Commission (10		2.40	2.35	ł	2.25	2.30	2.38	2.77	2.2	1.7	1.58	1	ł	6.80	60.9	1	12.30	12.30	8.97	31.50	0.20	5.2	7.15 D1	1	2.80	2.23	:	2.43	5.82	3.30	4.62	2.2	2.6	3.60 D1
Fluoride	uality Control	1.60	1	1.60	1.56	1	1.17	1.35	1.20	1.53	0.97	0.92 N	0.93	:	1	1.80	2.01	1	<10.00	<8.00	<8.00	<20.00	0.82	<5.0 C	0.54	1	1.40	<1.00	ł	<1.00	<4.00	<2.00	<2.00	<0.5	<0.50	0.35
Chloride	exico Water Q	250	452	34	30.6	35.4	30.6	31.4	32.3	35.1	96.3	30	39.7	12,000	13,000	15,000	11,300	11,300	11,300	12,100	14,200	13,600	9,440 D1	14,000	14,800 D1	1,600	1,600	577	478	844	1,060	984	1,110	827 D1	096	845 D1
Total Alkalinity	New Mo		190	158	158	1	156	160	164	166	171	170	170	230	240	232	232	ł	220	218	214	222	181	260	255	180	154	156	1	154	158	156	164	181	620	311
Bicarbonate Alkalinity				158	158	1	156	160	161	166	171	170	170	:	1	232	232	ł	220	218	214	222	181	260	255	-	154	156	1	154	158	156	164	181	620	311
Carbonate Alkalinity			1	<1.0	<1.0	1	<1.0	41.0	<1.00	<1.00	<10.0	<10	<10.0	1	ł	<1.0	<1.0	I	<1.0	<1.0	<1.00	<1.00	<10.0	<10	<10.0		<1.0	<1.0	ł	<1.0	<1.0	<1.00	<1.00	<10.0	<10	<10.0
Sample Date			2/27/98	2/14/01	5/17/02	10/23/02	5/22/03	11/25/03	5/12/04	11/16/04	11/17/05	11/15/06	11/16/07	2/27/98	4/9/98	2/14/01	5/17/02	10/23/02	5/22/03	11/26/03	5/11/04	11/17/04	11/17/05	11/15/06	11/14/07	2/27/98	2/14/01	5/15/02	10/23/02	5/22/03	11/26/03	5/11/04	11/17/04	11/16/05	11/15/06	11/14/07
Sample ID			MW-3											MW-4												MW-4A										

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Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total [®] Alkalinity	Chloride	Fluoride	Nitrate - N	Sulfate	Calcium	Magnesium	Potassium	Sodium	TDS
				New Me	exico Water Qu	ality Control	Commission (Groundwater S	standard		10		
					250	1.60	10	600					1,000
MW-5	2/26/98		-	180	6,600	:	I	910	1,400.0	470.0	31.00	2,400.0	12,000
	2/14/01	<1.0	166	166	2,700	1.80	4.10	910	1	1	I	I	18,000
	5/17/02	<1.0	156	156	4,040	1.53	4.56	586	757.0	319.0	60.09	1,260.0	8,340
	10/23/02	ł	;	:	3,900	ł	ł	94.8	ł	ł	1	1	422
	5/22/03	<1.0	158	158	3,170	<4.00	6.52	550	644.0	215.0	49.90	1,240.0	7,860
	11/25/03	<1.0	168	168	5,120	<4.00	6.77	739	978.0	365.0	54.90	1,680.0	11,940
	5/11/04	<1.00	160	160	6,760	<3.00	4.65	1,030	1,180.0	417.0	40.30	2,120.0	20,380
	11/17/04	<1.00	172	172	6,750	<10	16.60	786	1,210.0	486.0	40.60	2,300.0	11,980
	11/17/05	<10.0	161	161	2,140 D1	0.79	0.16	334 D1	339.000	126.000	10.800	000.167	7,120 N
	11/14/06	<10	160	160	2,000	09.0	1.5	300	437.000	173.000	14.200	918.000	4,420
	11/14/07	<10.0	161	161	5,790 D1	0.37	4.01 D1	668,D1	812.000	240.000	23.300	1850.000 D1	16,300
MW-5A	2/26/98	ł	1	170	190	:	1	180	107.0	23.0	3.50	117.0	740
	2/15/01	<1.0	164	164	140	1.20	2.10	130	90.2	27.9	8.70	74.6	670
	5/15/02	<1.0	182	182	53.5	<1.00	2.23	84.4	63.2	16.1	4.69	43.6	475
	10/23/02	1	1	ł	50	-	I	616	ł	:		I	8,670
	5/22/03	<1.0	158	158	32.5	<1.00	2.10	6.69	55.5	13.8	3.41	41.5	416
	11/25/03	<1.0	332	332	34.1	1.05	2.20	75.5	60.9	14.6	4.08	45.0	422
	5/11/04	<1.00	164	164	38.8	<1.00	2.25	75.8	60.9	15.0	3.40	43.2	484
	11/17/04	<1.00	152	152	39.6	1.37	2.66	74.3	58.1	13.6	3.83	48.5	430
	11/16/05	<10.0	191	191	40.2	0.82	2.1	75.2 D1	176.000	17.800	4.220	45.300	570 N
	11/14/06	<10	240	240	47	0.64	1.5	62	90.400	16.100	3.580	51.400	588
	11/14/07	<10.0	227	227	54.4	0.66	1.45	68.7 D1	73.700	14.000	<5.000	44.200	528
9-MM	2/26/98	1	1	200	260	1	-	400	180.0	44.0	6.20	205.0	1,200
	2/14/01	<1.0	158	158	59	1.70	2.20	66	67.5	22.1	7.67	52.3	470
	5/17/02	<1.0	162	162	37.8	1.62	2.14	99.3	63.1	19.6	5.12	48.6	427
	10/23/02	1	:	ł	46.1	ł	I	109	1	;		ł	331
	5/22/03	<1.0	162	162	40.3	1.24	2.13	94.4	61.7	17.4	4.23	51.9	464
	11/25/03	<1.0	154	154	53.6	1.40	2.18	98	53.6	18.7	4.97	51.7	482
	5/11/04	<1.00	156	156	54.4	1.23	2.19	67	59.0	18.1	4.22	47.8	506
	11/16/04	<1.00	162	162	57.9	1.64	2.68	8.66	66.6	19.6	5.16	57.0	464.
	11/17/05	<10.0	201	201	101	0.97	0.35	97.8 D1	103.000	20.200	4.100	59.100	730 N
	11/15/06	<10	750	750	89	66.0	1.5	93	64.600	20.400	4.230	57.100	507
	11/15/07	<10.0	284	284	162	51	1.35	96.3 D1	84.100	25.200	<5.000	62.100	630

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Sample ID) Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride	Fluoride	Nitrate - N	Sulfate	Calcium	Magnesium	Potassium	Sodium	TDS
				New M	exico Water Qu 250	ality Control 1.60	l Commission (10	Groundwater : 600	Standard	•	v		1,000
MW-7	5/14/98	1	1	230	430	-	-	340	214.0	66.0	13.00	165.0	1,200
	2/14/01	<1.0	150	150	510	1.70	2.40	150	ł	1	ł	ł	1,500
	5/16/02	<1.0	150	150	75.7	1.59	2.27	97.4	68.6	23.2	6.63	54.3	201
	10/22/02	1	1	ι	88.6	ł	1	109	ł	1	1	ı	490
	5/22/03	<1.0	140	140	173	1.17	2.14	88.9	85.5	28.2	6.18	64.6	631
	11/26/03	<1.0	136	136	189	1.29	2.23	93.5	95.7	31.0	16.7	63.6	704
	5/13/04	<1.00	130	130	267	11.11	2.18	94.7	107.0	34.7	6:39	62.9	914
	11/16/04	<1.00	130	130	367	1.49.	2.72	97.3	142.0	49.3	8.61	87.9	870
	11/17/05	<10.0	121	121	456 D1	0.53	0.28	106 D1	412.000	64.700	12.100	100.000	1,440 N
	11/15/06	<10	240	240	550	0.63	1.5	110	202.000	70.300	7.400	102.000	2,100
	11/15/07	<10.0	189		458 D1	1.20	1.39	176 D1	144.000	59.500	9.950	148.000	1,880
MW-8	5/13/98	ł	;	200	270	ı	1	390	190.0	60.0	12.00	170.0	1,200
	2/14/01	<1.0	156	156	49	1.80	2.50	100	59.9	21.5	7.84	52.9	400
	5/16/02	<1.0	158	158	32.9	1.57	2.33	101	56.6	19.2	5.20	49.5	432
	10/22/02	1	I	ł	40.8	I	;	104	1	١	1	1	392
	5/22/03	×	160	168	33.2	1.40	2.32	98.3	53.9	18.3	9.31	46.4	410
	11/26/03	<1.0	142	142	31.7	1.59	2.38	92.6	55.3	18.2	5.31	50.2	443
	5/12/04	<1.00	154	154	36.3	1.39	2.38	101	53.0	17.3	4.56	48.1	435
	11/16/04	<1.00	170	170	39.8	1.94	2.94	103	57.8	18.6	5.63	56.4	435
	5/17/05	4	152	156	41	1.64	2.94	105	61.0	18.6	5.78	47.3	434
	11/17/05	<10.0	171	171	113	1.1	<0.05	115 D1	83.400	21.700	5.740	102.000	750 N
	5/9/06	<10	160	160	210	68.0	1.4	200	72.700	33.300	7.120	125.000	968
	11/14/06	<10	150	150	230	1.1	1.2	200	74.200	38.300	9.610	162.000	912
	5/30/07	<10	141	141	62	1.2	1.74	120	54.100	19.100	Ŷ	59.300	500
	11/15/07	<10.0	159	159	43.1	1.33	1.56	94.2 D1	52.100	17.200	<5.000	49.800	540
6-MM	5/14/98		;	190	350	,	:	470	207.0	61.0	12.00	200.0	1,300
	2/15/01	<1.0	156	156	35	2.60	2.40	110	60.4	19.8	7.47	47.0	430
	5/16/02	<1.0	160	160	31.7	2.22	2.28	1 .99	60.8	17.6	5.32	50.1	440
	10/23/02	1	ı	ł	39	1	ł	102	ł	1	1	1	436
	5/22/03	<1.0	160	160	31	1.75	2.19	93.3	52.2	15.8	4.75	50.2	455
	11/26/03	<1.0	150	150	31.8	1.99	2.34	8.66	57.7	16.6	4.69	46.3	452
	5/12/04	<1.00	164	164	33.6	1.79	2.29	99.2	54.8	16.0	4.27	43.5	467
	11/16/04	8	154	162	367	1.49	2.72	97.3	63.2	17.8	5.59	55.5	433
	5/17/05		154	154	4.2	2.43	3.05	117	58.8	16.7	5.94	1.44.1	434
	11/17/05	<10.0	161	161	83.5	1.3	0.14	10 111	149.000	26.200	7.430	80.400	N 062
	5/9/06	<10	170	170	32	1.8	1.8	66	52.700	15.000	3.210	45.500	428
	11/15/06	<10	150	150	210	1.1	1.2	190	70.500	35.800	8.640	152.000	905
	5/30/07	<10	153	153	35	2.1	1.69	110	52.200	15.800	\$	44.700	464
	11/14/02	<10.0	151	151	186	1.49	1.48	156 D1	74.100	39.400	8.730	141.000	808
		-					-	-			_	-	-

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Page 4 of 7

1,520 N 020 N 1,280 1,450 **1,400** 660 1,010 TDS 1,000 **2,200** 400 445 651 672 648 828 992 713 758 764 752 802 802 776 724 900 820 950 826 Sodium 74.500 82.400 60.400 64.100 62.400 84.700 58.700 68.400 71.800 70.700 70.3 190.0 61.0 64.0 57.2 334.0 60.5 74.2 70.3 60.2 53.2 26.2 46.0 46.8 62.4 ł 55.7 ł Potassium 13.100 4.3104.750 6.010 6.24 8.080 3.880 4.740 5.030 11.00 8.20 6.96 6.83 6:39 7.60 8.65 5.95 7.07 12.00 6.94 4.62 4.805.31 5.11 ŝ ť۶ ÷ Magnesium 36.900 30.000 28.600 41.40027.100 33.400 47.400 27.100 35.400 33.400 25.2 35.7 31.6 25.1 26.2 33.1 31.7 31.7 29.9 35.7 32.3 96.0 19.2 16.1 62.0 32.3 1 ł Calcium 337.000 111.000 126.000 153.000 482.000 101.000 101.000 104.000 102.0 107.0 105.0 130.0 131.0 153.000 211.0 108.0 109.0120.0 114.0 121.0 113.0 93.300 338.0 109.0 71.6 62.9 New Mexico Water Quality Control Commission Groundwater Standard I. l Sulfate 74.7 D1 64.7 D1 111 D1 152 D1 600 770 71 65.3 75.5 62.1 62.7 64.7 67.5 77.1 78 72 8 450 99.1 108 9,96 103 102 104106 86 52 110 67 Nitrate - N 2.10 2.85 1.6 1.69 1.52 2.17 2.26 2.23 2.78 2.78 0.26 2.20 2.18 2.09 2.26 2.74 0.311.6 2.30 2.19 1.6 1.68 1.44 ł 10 1 Fluoride <1.00 1.40 <1.00 <1.00 1.142.00 1.93 1.73 1.77 1.60 1.24 1.040.82 0.670.62 0.62 1.45 1.541.39 1.2 1.2 1.4 1.44 0.7 1.4 1 ł Chloride 310 D1 285 D1 205 D1 251 D1 213 213 220 232 232 232 245 233 250 **600** 85 148 168 207 216 242 296 354 270 290 400 **360** 190 204 180190 200 Alkalinity Total 1,600 114 112 126 118 122 121 670 586 605 240 140 152 152 152 158 150 150 150 150 330 330 189 280 142 136 1 1 Bicarbonate Alkalinity 1,600 142 136 --126 118 122 114 112 112 121 670 586 605 - 140 152 152 152 152 152 158 150 150 151 151 151 150 189 330 330 330 ł Carbonate Alkalinity <1.00 <10.0 <10.0 <1.00 <1.00 <10.0 <10.0 <1.00 <1.00 <10.0 <1.0 <1.0 <1.0 <1.00 <1.0 <1.0 ≤1.0 <1.0 1.0 10 <10 <10 <10 ²10 . 1 1 Sample Date 11/16/06 11/15/07 5/15/02 11/26/03 5/12/04 11/16/04 5/17/05 11/17/05 11/15/06 5/30/07 11/14/07 5/14/985/17/02 10/22/02 5/22/03 11/26/03 5/13/04 11/17/045/17/05 11/17/05 5/14/98 2/15/01 10/23/02 5/22/03 5/9/06 5/9/06 5/30/07 2/15/01 Sample ID MW-9A 01-WM

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Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride	Fluoride	Nitrate - N	Sulfate	Calcium	Magnesium	Potassium	Sodium	TDS
				New Me	xico Water Qu	tality Control	Commission C	sroundwater 5	Standard				
					250	1.60	10	600					1,000
LT-WM	1/22/99	30	<1.0	30	46	2.30	4.20	94	33.0	7.0	9.10	58.0	370
	2/15/01	<1.0	156	156	37	2.40	2.40	120	64.0	1.9.1	7.83	50.1	360
	5/16/02	<1.0	160	160	31.9	2.13	2.33	98.8	63.5	17.2	4.83	47.0	444
	10/23/02	ŕ	I	1	37.2	I	I	102	1	I	1	1	447
	5/22/03	12	154	166	32.3	1.74	2.28	96.7	62.3	0.0	4.63	47.6	437
	11/26/03	<1.0	160	160	32.4	1.83	2.23	96,4	59.2	16.6	4.67	48.6	448
	5/12/04	<1.00	164	164	34.6	1.71	2.38	2.79	54.8	15.7	4.28	46.2	457
	11/16/04	<1.00	160	160	39	2.17	2.81	100	65.2	16.8	5.14	54.3	454
	5/17/05	÷	158	162	43.1	1.87	2.82	94.6	68.4	16.9	6.45	44.0	429
	11/17/05	<10.0	161	161	58.1	1.5	2.1	91.3 D1	75.000	17.700	4.550	64.700	700 N
	5/9/06	<10	180	180	37	1.8	1.7	100	54.100	16.200	3.260	46.900	456
	11/14/06	<10	170	170	¥	1.8	1.8	110	58.000	18.200	4.130	53.400	532
	5/30/07	<10	142	142	36	1.9	1.79	120	54.000	16.700	€	50.800	456
	11/14/07	<10.0	189	189	42.3	1.98	1.54	95.6 D1	57.200	17.400	<5.000	52.400	452
											ľ		
MW-12	5/15/02	<1.0	160	160	58.3	1.09	2.44	91.3	53.5	15.9	5.52	50.3	462
	10/23/02	J	ţ	I	65	I	I	102	I	ł	ł	:	477
	5/22/03	<1.0	148	148	91.1	1.04	2.30	87.7	74.2	21.0	4.89	57.6	516
	11/25/03	<1.0	142	142	93.1	1.18	2.36	90.9	74.7	20.9	5.41	52.5	548
	5/12/04	<1.00	458	458	72.9	1.04	2.35	86.7	58.1	19.0	5.92	51.8	489
	11/15/04	<1.00	184	184	79.8	1.39	2.83	88.8	59.7	21.5	16.50	77.4	512
	11/17/05	<10.0	151	151	109	0.93	0.12	94.6 D1	193.000	26.600	13.400	87.500	700 N
	11/16/06	<10	270	270	120	0.71	1.7	84	82.300	27.000	4.820	62.200	620
	11/16/07	<10.0	170	170	258 D1	1.21	1.55	10 161	77.200	42.700	11.000	154.000	1,270
MW-13	5/13/02	<1.0	100	100	517	<1.00	1.61	437	116.0	76.0	19.40	269.0	1,596
	10/23/02	;	1	1	549		1	370	ł	1	ł	I	1,740
	5/22/03	<1.0	186	186	944	<2.00	2.33	361	289.0	101.0	15.30	458.0	3,060
	11/25/03	<1.0	226	226	1,460	<2.00	2.22	372	369.0	117.0	20.00	478.0	3,445
	5/12/04	<1.00	234	234	1,550	<4.00	4.58	369	384.0	114.0	18.60	485.0	4,240
	11/15/04	<1.00	226	226	1,870	<2.00	4.92	384	510.0	164.0	16.50	627.0	3,600
	11/17/05	<10.0	201	201	722 D1	1.0	2.5	206 D1	786.000	91.600	19.700	276.000	2,350 N
	11/16/06	<10	1,500	1,500	2,000	<0.50 N	2.7	500 N	529.000	176.000	14.200	493.000	5,060
	11/16/07	<10.0	236	236	2,000 D1	0.33	3.05 D1	312 D1	361.000	105.000	11.400	553.000 D1	6,320

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un TDS		1,000	0 14,000	0.0 5,260	0.0 5,050	0 1,224	0 1,314	00 2,380 N	000 22,000		0 D1 5,280	0 D1 5,280 0 D1 5,360	0 D1 5,280 0 D1 5,360	0 D1 5,280 0 D1 5,360 0 4,310	0 D1 5,280 0 D1 5,360 0 4,310 0 3,535	0 D1 5,280 0 D1 5,5,60 0 4,310 0 3,535 0 4,175	0 D1 5,290 0 D1 5,360 0 4,310 0 3,535 0 4,175 0 3,915	0 D1 5,290 0 D1 5,360 0 4,310 0 4,310 0 3,535 0 3,915 00 7,350 N	0 D1 5,290 0 D1 5,360 0 4,310 0 4,310 0 3,535 0 3,915 00 7,350 N 00 5,270	0 D1 5,290 0 D1 5,360 0 4,310 0 4,310 0 3,535 0 3,915 00 7,350 N 00 5,270 00 5,270
ium Sodiu			0 3,29(0 1,180	0 1,080	0 252.0	0 382.0	0 493.00	0 5,580.0		00 1100.000	00 1100.000 00 1040.000	0 1100.000	0 1040.000 00 1040.000 00 1042.000 00 000 000 000 000 000 000 000 000	0 1100.000 00 1040.000 0 258.0 0 240.0	00 1100.000 00 1040.000 0 258.0 0 240.0 0 260.0	00 1100.000 00 1040.000 0 258.0 0 240.0 0 415.0	00 1100.000 00 1040.000 0 258.4 0 240.4 0 415.4 0 361.00	00 1100.000 00 1040.000 0 258. 0 240.0 0 361.00 0 361.00 0 361.00 0 437.00	00 1100.000 00 1040.000 0 258.1 0 258.1 0 415.4 00 361.00 00 4437.00 00 245.01 00 25.01 00 25.01
um Potassi			34.0	25.4	38.6	11.2	18.0	8.40	0 43.30		0 16.00	0 16.00 0 15.50	0 16.00 0 15.50	0 16.00 0 15.50 0 20.2	0 16.00 0 15.50 0 20.21 0 20.3.8) 16.00 0 15.50 0 20.2 0 23.89 0 21.6	16.00 0 15.50 20.2 20.2 23.38 21.6 21.5 18.5	0 16.00 0 15.50 0 25.51 0 23.88 0 23.38 0 23.38 18.5 18.51 0 18.5 13.16 13.16	0 16.00 0 15.50 15.50 23.80 2 23.80 18.51 21.60 13.1(5) 13.1(5) 13.1(5) 13.1(5)	16,00 15,56 15,56 12,38 12,338 13,16 13,16 13,16 13,16 13,16 13,16 13,16 13,16 11,21 11,21 11,124
Magnesi			521.0	145.0	147.0	23.4	43.5	70:900	694.00		137.00	137.00 133.00	137.00	137.00 133.00 <0.50	137.00 133.00 133.00 <0.50 <0.50	137.00 133.00 133.00 <0.50 <0.50 <0.50	137.00 133.00 133.00 <0.50 <0.50 <0.50 <0.50 <0.50	137.00 133.00 133.00 <0.50 <0.50 <0.50 <0.50 <0.50 16.60	137.00 133.00 2050 2050 2050 2050 2050 2050 2050 2	137.00 133.00 20.50 20.50 20.50 16.60 16.60 48.80 25.00
Calcium	er Standard		679.0	162.0	199.0	66.3	89.7	122.000	539.000		141.000	136.000	141.000	141.000 136.000 1,060.0	141.000 136.000 1,060.0 988.0	141.000 136.000 1,060.0 988.0 898.0	141.000 136.000 1,060.0 988.0 898.0 898.0 1180.0	141.000 136.000 1,060.0 988.0 898.0 1180.0 861.000	141.000 136.000 1,060.0 988.0 898.0 898.0 1180.0 861.000 861.000 975.000	141.000 136.000 988.0 988.0 1180.0 861.000 978.000 978.000 586.000
Sulfate	n Groundwate	600	840	345	324	109	121	166 D1	1,100	10 010	10 707	316 D1	316 DI	23.01 316 D1 23.9	23.2 JU 262 316 D1 23.9 38.3	232 D1 316 D1 23.9 38.3 67	232 D1 316 D1 23.9 38.3 67 116	232 D1 316 D1 23.9 38.3 67 116 175 D1	22.01 316.D1 23.9 38.3 67 116 1175.D1 370	22.01 316.01 38.3 67 116 175.01 370 370 370
Nitrate - N	ol Commission	10	7.00	4.23	20.00	2.65	3.23	1.4	<20 HC	3 74 D1	1/1 1/10	3.85 D1	3.85 D1	3.85 D1 2.43	2.43 2.43 5.81 5.81	3.85 D1 3.85 D1 2.43 5.81 3.19	3.85 D1 3.85 D1 2.43 5.81 3.19 <10.0	2.43 2.43 2.81 3.19 <10.0 0.60	3.85 D1 3.85 D1 5.81 5.81 5.81 5.81 5.81 5.81 5.81 5.8	2.45 3.85 D1 5.81 5.81 3.19 <10.0 0.60 1.9 1.52
Fluoride	Quality Contro	1.60	2.70	2.46	<4.00	1.32	1.65	1.0	<0.50	č	1.20	1.24	1.24	1.24	1.24 	1.24 -2.00 -2.00 -3.00	1.24 1.24 <2.00 <5.00 <3.00 <10.0	1.24 1.24 <2.00 <5.00 <3.00 <10.0 0.89	1.26 1.24 <2.00 <5.00 <3.00 <10.0 0.89 0.57	1.24 1.24 <5.00 <5.00 <10.0 0.89 0.57 0.57 0.49
Chloride	lexico Water C	250	8,700	2,410	1,990	491	633	895 D1	11,000	2,380.D1		2,620 D1	2,620 D1	2,620 D1 1,580	2,620 D1 1,580 1,480	2,620 D1 1,580 1,480 1,770	2,620 D1 1,580 1,480 1,770 2,280	2,620 D1 1,580 1,480 1,770 2,280 1,770 D1	2,620 D1 1,580 1,480 1,770 2,280 1,770 D1 2,500	2,620 D1 1,580 1,480 1,770 2,280 1,770 D1 2,500 1,680 D1
Total Alkalinity	New M		224	190	184	148	160	221	380	359		208	208	208	208 780 704	208 780 704 578	208 780 578 692	208 780 704 578 692 422	208 780 704 578 692 422 199	208 780 578 692 199 208
Bicarbonate Alkalinity		•	224	190	184	148	160	221	380	359	2018		2	<4.00	<4.00	 <4.00 <4.00 <4.00 	 <1.00 <1.00 <1.00 <1.00 <1.00 	 <4.00 <4.00 <4.00 <4.00 <10.0 	 <4.00 <4.00 <4.00 <10.0 150 	 <4.00 <4.00 <4.00 <4.00 <4.00 <10.0 <10.0 37.8
Carbonate Alkalinity			0	<1.0	<1.0	<1.00	<1.00	<10.0	<10	<10.0	<10.0			324	324 64	324 64 36.0	324 64 36.0 104.0	324 64 36.0 104.0 281	324 64 36.0 104.0 281 281	324 64 36.0 104.0 281 281 281
Sample Date			5/27/99	5/22/03	11/26/03	5/11/04	11/17/04	11/17/05	11/16/06	11/15/07	11/15/07	/ /	in fact for	5/22/03	5/22/03 11/26/03	5/22/03 11/26/03 5/13/04	5/22/03 11/26/03 5/13/04 11/17/04	5/22/03 5/22/03 5/13/04 11/17/04 11/17/05	5/22/03 5/22/03 5/13/04 11/17/04 11/17/05 11/17/05	5/22/03 5/22/03 11/26/03 5/13/04 11/17/04 11/17/05 11/16/06
Sample ID			RW-1								DUP			RW-2	RW-2	RW-2	RW-2	RW-2	RW-2	RW-2

Notes:

1. Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.

Results shown in mg/L.

3. N - See narrative in laboratory report for a detailed explanation.

 $4.\ \mbox{D1}$ - The analysis was performed at a dilution due to the high analyte concentration.

5. H - The analysis was performed past holding time.

6. C - Elevated detection limit due to matrix effect.

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

June 18, 2007

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

RE: Project: 2069969 RE: Project ID: COOPER-JAL

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on May 31, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Circly alovesan

Cindy Olavesen



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

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Pace Analytical® New Orleans Laboratory

Report of Laboratory Analysis Project Number: 2069969



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page 2 of 34



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



Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client: CRA MIDLAND

Project: COOPER-JAL

Project No.: 2069969

_	Sample ID	Lab ID	Matrix	Collection Date/Time	1	Received Date/Time	
	MW-8 53007	20524301	Water	05/30/2007	11:40	05/31/2007	10:00
	MW-9 53007	20524302	Water	05/30/2007	11:30	05/31/2007	10:00
	MW-9A 53007	20524303	Water	05/30/2007	11:25	05/31/2007	10:00
	MW-10 53007	20524304	Water	05/30/2007	11:50	05/31/2007	10:00
	MW-11 53007	20524305	Water	05/30/2007	10:45	05/31/2007	10:00
	DUP 53007	20524306	Water	05/30/2007		05/31/2007	10:00

6/18/2007 11:40:55

6/18/2007 11:40:55 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 Pennsylvania DEP (NELAC) 68-04202

ace Analytical * New Orleans Laboratory

Project Narrative

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

	Project:	<u>2069969</u>	
Sample Receipt Condition:			
All samples were received in accordance with EPA protocol.			
Holding Times:			
All holding times were met.			
Blanks:			
All blank results were below reporting limits.			
Laboratory Control Samples:			
All LCS recoveries were within QC limits.			

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

6/18/2007 11:41:21

1 11

6/18/2007 11:41:21 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202



Project Narrative

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: 2069969

Analytical Method	Batch	Sample used for QC
EPA 6010	86770	Project sample MW-8 53007
SM 2320B	86634	Batch sample from another client
SM 2540C	86681	Client sample MW1 53107 from project 2070014

For the sample used as the original for the $\ensuremath{\mathsf{DUP}}$ or $\ensuremath{\mathsf{MSD}}$ for the batch:

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

6/18/2007 11:41:24

6/18/2007 11:41:24 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dirinking Water - LA060023 Florida Dept. of Health and Hospitals / Dirinking Water - LA060023 Florida Dept. of Health Lenvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202
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ace Analytical * New Orleans Laboratory

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client: <u>CRA MIDLAND</u>
Site: None
Project No.: <u>2069969</u>
Matrix: <u>Water</u> % Moisture: <u>n/a</u>
Collected: <u>05/30/07</u> Received: <u>05/31/07</u>

	Reporting										Reg.	
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		Limit	
Calcium, Dissolved	EPA 6010	86770	1	54100		ug/L	5000	05-Jun-07	09-Jun-07 00:32	KJR		
Magnesium, Dissolved	EPA 6010	86770	1	19100		ug/L	5000	05-Jun-07	09-Jun-07 00:32	KJR		
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	09-Jun-07 00:32	KJR		
Sodium, Dissolved	EPA 6010	86770	1	59300		ug/L	5000	0 5-J un-07	09-Jun-07 00:32	KJR		

4 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size.

DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:27 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Favironmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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		Rend	orting		Reg
		Collected:	05/30/07	Received: <u>05/31/07</u>	
Description:	None	Matrix:	<u>Water</u>	% Moisture: <u>n/a</u>	
Lab ID:	20524302	Project No.:	<u>2069969</u>		
Project:	COOPER-JAL	Site:	None		
Client ID:	<u>MW-9 53007</u>	Client:	<u>CRA MIDL</u>	AND	

							mepor ung			
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis	Limit
Calcium, Dissolved	EPA 6010	86770	1	52200		ug/L	5000	05-Jun-07	09-Jun-07 00:48	KJR
Magnesium, Dissolved	EPA 6010	86770	1	15800		ug/L	5000	05-Jun-07	09-Jun-07 00:48	KJR
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	09-Jun-07 00:48	KJR
Sodium, Dissolved	EPA 6010	86770	1	44700		ug/L	5000	05-Jun-07	09-Jun-07 00:48	KJR

4 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size.

The other than 1 denotes sample rep ractor which accounts for a non-rotatine sample size. DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, we 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.

6/18/2007 11:41:27 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Diriking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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6/18/2007 11:41:27

Client ID: <u>MW-9A 53007</u>	Client: CRA MIDLAND
Project: <u>COOPER-JAL</u>	Site: None
Lab ID: <u>20524303</u>	Project No.: <u>2069969</u>
Description: None	Matrix: <u>Water</u> %Moisture: <u>n/a</u>
	Collected: 05/30/07 • Received: 05/31/07

							Reporting			Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis	Limit
Calcium, Dissolved	EPA 6010	86770	1	153000		ug/L	5000	05-Jun-07	11-Jun-07 15:15	KJR
Magnesium, Dissolved	EPA 6010	86770	1	36900		ug/L	5000	05- J un-07	11-Jun-07 15:15	KJR
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	11-Jun-07 15:15	KJR
Sodium, Dissolved	EPA 6010	86770	1	71800		ug/L	5000	05-Jun-07	11-Jun-07 15:15	KJR

4 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit. PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample.

Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable, Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

(a) insequances, specify 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.

6/18/2007 11:41:27 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Client ID:	<u>MW-10 53007</u>	Client:	CRA MIDLAN	ND
Project:	COOPER-JAL	Site:	None	
Lab ID:	<u>20524304</u>	Project No.:	<u>2069969</u>	
Description:	None	Matrix:	Water	%Moisture: <u>n/a</u>
		Collected:	05/30/07	Received: <u>05/31/07</u>

	Reporting										Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	86770	1	101000		ug/L	5000	05- J un-07	11-Jun-07 15:19	KJR	
Magnesium, Dissolved	EPA 6010	86770	1	28600		ug/L	5000	05-Jun-07	11-Jun-07 15:19	KJR	
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	11-Jun-07 15:19	KJR	
Sodium, Dissolved	EPA 6010	86770	1	62400		ug/L	5000	05-Jun-07	11-Jun-07 15:19	KJR	

4 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample.

DF denotes Diutron Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:27 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Client ID: MW	W-11 53007	Client:	CRA MIDL	AND
Project: CO	OOPER-JAL	Site:	None	
Lab ID: <u>205</u>	524305	Project No.:	<u>2069969</u>	
Description: Nor	one	Matrix:	Water	% Moisture: <u>n/a</u>
		Collected:	<u>05/30/07</u>	Received: <u>05/31/07</u>
	·			

						Reporting					Reg.
ParameterName	Method	Batch	DF	Result	Qu U	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	86770	1	54000		ug/L	5000	05-Jun-07	11-Jun-07 15:23	KJR	
Magnesium, Dissolved	EPA 6010	86770	1	16700		ug/L	5000	05-Jun-07	11-Jun-07 15:23	KJR	
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	11-Jun-07 15:23	KJR	
Sodium, Dissolved	EPA 6010	86770	1	50800		ug/L	5000	05-Jun-07	11-Jun-07 15:23	KJR	

4 narameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit. PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample.

Or denotes Diductor factor or man sample: Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:28 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dirnking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health (Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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		Rep	orting		Reg.
		Collected:	05/30/07	Received: <u>05/31/07</u>	
Description:	None	Matrix:	Water	% Moisture: <u>n/a</u>	
Lab ID:	<u>20524306</u>	Project No.:	<u>2069969</u>		
Project:	COOPER-JAL	Site:	None		
Client ID:	DUP 53007	Client:	CRA MIDL	AND	

ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis	Limit
Calcium, Dissolved	EPA 6010	86770	1	55500		ug/L	5000	05-Jun-07	11-Jun-07 15:27	KJR
Magnesium, Dissolved	EPA 6010	86770	1	19600		ug/L	5000	05-Jun-07	11-Jun-07 15:27	KJR
Potassium, Dissolved	EPA 6010	86770	1	ND		ug/L	5000	05-Jun-07	11-Jun-07 15:27	KJR
Sodium, Dissolved	EPA 6010	86770	1	65600		ug/L	5000	05-Jun-07	11-Jun-07 15:27	KJR

4 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample.

Dr denotes Diminer action in mar sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

(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.

6/18/2007 11:41:28 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Dinking Water - LA060023 Florida Dept. of Health MELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Received: 05/31/07

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New Orleans Laboratory	F
Client ID: <u>MW-8 53007</u>	Client: CRA MIDLAND
Project: <u>COOPER-JAL</u>	Site: None
Lab ID: <u>20524301</u>	Project No.: <u>2069969</u>
Description: None	Matrix: <u>Water</u> %Moisture: <u>n/a</u>

							Reporting			Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep. Aı	nalysis	Limit
Alkalinity, Carbonate (CaCO	SM 2320B	86634	1	ND		mg/L	10.0	31-May-07 31-N	4ay-07 15:15 TAE	
Alkalinity, Total	SM 2320B	86634	l	141.		mg/L	10.0	31-May-07 31-N	4ay-07 15:15 TAE	
Alkalinity,Bicarbonate (CaC	SM 2320B	86634	1	141.		mg/L	10.0	31-May-07 31-N	4ay-07 15:15 TAE	
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.74		mg/L	0.100	05-Jun-07 05	Jun-07 12:09	
Total Dissolved Solids	SM 2540C	86681	1	500.		mg/L	4.00	01-Jun-07 01	Jun-07 15:15 TAE	

Collected: 05/30/07

5 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Client ID: <u>MW-9 53007</u>	Client: <u>CRA MIDLAND</u>
Project: COOPER-JAL	Site: None
Lab ID: <u>20524302</u>	Project No.: <u>2069969</u>
Description: None	Matrix: <u>Water</u> % Moisture: <u>n/a</u>
	Collected: <u>05/30/07</u> Received: <u>05/31/07</u>

							Reporting				Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCC) SM 2320B	86634	1	ND		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity, Total	SM 2320B	86634	1	153.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity,Bicarbonate (CaC	SM 2320B	86634	1	153.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.69		mg/L	0.100	05-Jun-07	05-Jun-07 12:14		
Total Dissolved Solids	SM 2540C	86681	1	464.		mg/L	4.00	01-Jun-07	01-Jun-07 15:15	TAE	

5 parameter(s) reported

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

DF denotes Dilution Factor of final sample.

Dr denotes Diution Factor of that sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wel denotes result is not corrected for moisture and n/a denotes not applicable. (1a) pH (see stan 2.0 or greater than 12.5 is hazardous for corrorisity. (1b) Flash point less than 140 degrees F is hazardous for corrorisity.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Diriking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID:	MW-9A 53007	Client:	CRA MIDLAND
Project:	COOPER-JAL	Site:	None
Lab ID:	20524303	Project No.:	<u>2069969</u>
Description:	None	Matrix:	<u>Water</u> %Moisture: <u>n/a</u>
		Collected:	<u>05/30/07</u> Received: <u>05/31/07</u>

]	Reporting				Reg. Limit
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		
Alkalinity, Carbonate (CaCO	SM 2320B	86634	1	ND		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity, Total	SM 2320B	86634	1	586.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity,Bicarbonate (CaC	SM 2320B	86634	1	586.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.69		mg/L	0.100	05-Jun-07	05-Jun-07 12:15		•
Total Dissolved Solids	SM 2540C	86681	1	1450		mg/L	4.00	01-Jun-07	01-Jun-07 15:15	TAE	

5 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Havitonmental Quality - 88-0681 Louisiana Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

6/18/2007 11:41:31

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Client ID: <u>MW-10 53007</u>	Client: CRA MIDLAND
Project: COOPER-JAL	Site: None
Lab ID: <u>20524304</u>	Project No.: <u>2069969</u>
Description: None	Matrix: <u>Water</u> % Moisture: <u>n/a</u>
	Collected: <u>05/30/07</u> Received: <u>05/31/07</u>

							Reporting		Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep. Analysis	Limiț
Alkalinity, Carbonate (CaCO) SM 2320B	86634	1	ND		mg/L	10.0	31-May-07 31-May-07 15:15	TAE
Alkalinity, Total	SM 2320B	86634	1	340.		mg/L	10.0	31-May-07 31-May-07 15:15	TAE
Alkalinity,Bicarbonate (CaC	SM 2320B	86634	1	340.		mg/L	10.0	31-May-07 31-May-07 15:15	TAE
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.68		mg/L	0.100	05-Jun-07 05-Jun-07 12:16	
Total Dissolved Solids	SM 2540C	86681	1	820.		mg/L	4.00	01-Jun-07 01-Jun-07 15:15	TAE

5 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, we 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.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health neutral Napitals / Drinking Water - LA060023 Florida Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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6/18/2007 11:41:31

Client ID: <u>MW-11 53007</u>	Client: CRA MIDLAND
Project: <u>COOPER-JAL</u>	Site: None
Lab ID: 20524305	Project No.: <u>2069969</u>
Description: None	Matrix: <u>Water</u> % Moisture: <u>n/a</u>
	Collected: <u>05/30/07</u> Received: <u>05/31/07</u>

		Reporting									Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO	SM 2320B	86634	ļ	ND		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity, Total	SM 2320B	86634	1	142.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity,Bicarbonate (CaC	SM 2320B	86634	1	142.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.79		mg/L	0.100	05-Jun-07	05-Jun-07 12:17		
Total Dissolved Solids	SM 2540C	86681	1	456.		mg/L	4.00	01-Jun-07	01-Jun-07 15:15	TAE	

5 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size. DF denotes Dilution Factor of final sample. Reporting/Detection Limit is corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. (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.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health net Nospitals / Drinking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID:	DUP 53007	Client:	CRA MIE	DLAND
Project:	COOPER-JAL	Site:	None	
Lab ID:	20524306	Project No.:	<u>2069969</u>	
Description:	None	Matrix:	Water	% Moisture: <u>n/a</u>
		Collected:	05/30/07	Received: 05/31/07

							Reporting				Reg.
ParameterName	Method	Batch	DF	Result	Qu	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCo	O SM 2320B	86634	1	ND		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity, Total	SM 2320B	86634	1	161.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Alkalinity,Bicarbonate (CaC	5 SM 2320B	86634	1	161.		mg/L	10.0	31-May-07	31-May-07 15:15	TAE	
Nitrogen, Nitrate	SM 4500-NO3	86787	1	1.69		mg/L	0.100	05-Jun-07	05-Jun-07 12:18		
Total Dissolved Solids	SM 2540C	86681	1	540.		mg/L	4.00	01-Jun-07	01-Jun-07 15:15	TAE	

5 parameter(s) reported

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

PF other than 1 denotes sample Prep Factor which accounts for a non-routine sample size.

DF denotes Dilution Factor of final sample.

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

(1a) pH less than 2.0 or greater than 12.5 is hazardous for corrocivity.
(1b) Flash point less than 140 degrees F is hazardous for ignitibility.

6/18/2007 11:41:31 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Favironmental Quality - 68-0681 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 Pennsylvania DEP (NELAC) 68-04202



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

Pace Analytical * New Orleans Laboratory

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Project: 2069969

Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found ^o	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS MS/MS	May D RPI	Qu
Calaium Dice	06770	ND			10000	0270	07	10000 /	54100.00	61160	54250	71 *	2 *	12		72 115 75 1	15 1	
Calcium, Diss	00770	NDU	100	ug/L	10000	9270	95	10000.	94100.00	01100	34330	71 *	3	12		/3 - 113 /3 - 1	.5 2	, Qs
Magnesium, D	86770	. ND (000	ug/L	10000	9269	93	10000	19150.00	26520	23880	74 *	47 *	10		73 - 116 75 - 1	25 2) Q1
Potassium, Dis	86770	ND (000	ug/L	10000	8999	90	10000	4009.00	12500	11270	85	73 *	10		73 - 114 75 - 1	25 2)
Sodium, Disso	86770	ND(000	ug/L	10000	9188	92	10000 :	59340.00	66270	60870	69 *	15 *	8		64 - 122 75 - 1	25 2) Q3

* denotes recovery outside of QC limits.

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

6/18/2007 11:41:34

6/18/2007 11:41:34 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Diriking Water - LA060023 Florida Dept. of Health MELAC) - E87595 Kansas Dept. of Health_Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202



Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

							Project:	<u>206996</u>	<u>9</u>				
Parameter	Batch	Blank	ARL	Units	LCS Spike	LCS LCS Found %Rec	MS Sample Spike Found	MS Found	MSD MS MSD MSD Found %Rec %Rec RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Alkalinity, Tot	86634			mg/L	50	45.8 92	137.00			4	90 - 110 -	20	
Total Dissolve	86681	ND	4.00	mg/L	100	106 106	15560.00			3	80 - 120 -	20	

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

6/18/2007 11:41:37

6/18/2007 11:41:37 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Drinking Water - LA060023 Florida Dept. of Health nath NeLAC) - E87595 Kansas Dept. of Health _Environment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202



Report Qualifiers

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Project: 2069969

QC Qualifiers

Qualifier	Qualifier Description
QI	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount.

Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.

6/18/2007 11:41:40

6/18/2007 11:41:40 New Orleans Laboratory Certifications Louisiana Dept. of Environmental Quality (LELAP) - 02006 Arkansas Dept. of Health and Hospitals / Diriking Water - LA060023 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health (ELAC) - E87595 Kansas Dept. of Health Lenvironment - E-10266 U.S. Dept. of Agriculture Foreign Soil Permit - S-47270 Pennsylvania DEP (NELAC) 68-04202

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/ Section A Required Client Information	Section B Required Project Infi	ormation:	Section C Invoice Informati	ü			Ž.	967	ر م	1042	649
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77. 29202			Address: 1	he !!			the second second		N		N
Email To:	Purchase Order No.:		Pace Quote Ref	erence:		Шg	OCA HON	S HO	c Wi E	BOTHER AC.	r Metric
Phone w-686- 0086 Hax-686- 0186	Project Name:	er- Jal	Pace Project Ma	nager:		, 	Filter	d (Way be			
Requested Due Date/TAT: Normal	Project Number:	39123	Pace Profile #:				Requ	tested . 0	////		
Valid T Required Client Information MAIR	Matrix Codes 21X IKING WATER DW	OMP PE		Mb	Si NO	Preservative	y -	252	12/0		
	TE WATER WW DUCT P	C=CI E 1 X COL	COLLECTED	131 31	LECTI OF AINER A		30		12/2/10	Kloring	
# One Character per box. One One Character per box. MPE (A-Z, 0-9 /) MPE ARE Samples IDs MUST BE UNIQUE OTHE	Round Reversion		TIME DATE	IN CONTRACTOR	AT COL TNOD TNOD	изодо HCI HO3 HO3 H ² SO4	Methanol Methanol	A LEY A		Residual Pace	Project Num Lab
MM-8 53007		Wr G 5/30/	011 to	×	x که ۲		<u>x</u> x	* * * *		20525	(J 0)
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		RELINQUÌSHED.	BY / AFFILIATION	DATE TIME	l Acc	EP.TED-BY/	AFFILÍATÍO	TADNC	-TIME S	AMPLE CONE	ITION
Additional Comments:		1 seal (low	CRA	lablet 14	6			, 		N/A	N/A
		tank	222 ×	31-07 100	9	med	2 Plan	2-31-	7 1000 4	60 03 C	N/20
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		<u> </u>	PRINT Name of SAMPLEH:	Lock h	, Cole	ちょく				ni qn ceivec eceivec ece) beli
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A Pace Analytical		:	Page: 2 of 2
Section A	Section B Required Project Information:	Section C Invoice Information:	2069%9 1042642
	Report To: Luke Markham	Attention: Luke Marichan	Intersection of the second
Address S. Looo 250 W.	Copy To:	Company Name	UST RCRA Other
Million IT 29702		Day 350 miles 1 and 250 m miles 17	STATE OF A DIL DIN DMI DMN DNC
Email To:	Purchase Order No.:	Pace Quote Reference:	OH ISC WI KOTHER ALL MATICO
Phone Bi	Project Name: Conference Jal	Pace Project Manager:	
Requested Due Date/TAT:	Project Number: O39123	Pace Profile #:	Requested Requested Analysis:
Valid Section D Required Client Information	A Matrix Codes RIX RIX Codes CODE	N(reservatives a) and an and a fail and a
SAMPLE ID WAR			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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		AMPLER NAME AND SIGNATURE	icf ind ind ind ind ind ind ind ind
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Pace Analytical®

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

Analytical Report Number: 884568

Client: PACE ANALYTICAL SERVICES, INC.

Lab Contact: Eric Wied

Project Name: CRA

Project Number: 2069969

Field ID	Matrix	Collection Date
MW-8 53007 20524301	WATER	05/30/07 11:40
MW-9 53007 20524302	WATER	05/30/07 11:30
MW-9A 53007 20524303	WATER	05/30/07 11:25
MW-10 53007 20524304	WATER	05/30/07 11:50
MW-11 53007 20524305	WATER	05/30/07 10:45
DUP 53007 20524306	WATER	05/30/07
	Field ID MW-8 53007 20524301 MW-9 53007 20524302 MW-9A 53007 20524303 MW-10 53007 20524304 MW-11 53007 20524305 DUP 53007 20524306	Field ID Matrix MW-8 53007 20524301 WATER MW-9 53007 20524302 WATER MW-9A 53007 20524303 WATER MW-10 53007 20524304 WATER MW-11 53007 20524305 WATER DUP 53007 20524306 WATER

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

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

REPORT OF LABORATORY ANALYSIS

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



Approval Signature

Mined

Date

06.15.07

Pace Analytical Services, Inc.	An	alytica	Report	Numbe	er: 884	568	1241 Bell Green Ba 920-469-1	evue Street iy, WI 54302 2436
Client : PACE	ANALYTICAL SERVIC	ES, INC.				Matrix	K Type : WATE	ER
Project Name : CRA						Collection	n Date: 05/30	/07
Project Number: 206996	9					Repor	t Date: 06/15	/07
Field ID : MW-8 5	53007 20524301					Lab Sample N	umber: 88456	8-001
INORGANICS								
Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	62	5.0	1	mg/L	N	06/08/07 08:00 AM	EPA 300.0	EPA 300.0
					Prep I	Date/Time:	A	nl By: GLL
Fluoride	1.2	0.50	1	mg/L		06/08/07 08:00 AM	EPA 300.0	EPA 300.0
					Prep	Date/Time:	A	nl By: GLL
Sulfate	120	40	10	mg/L		06/12/07 10:34 AM	EPA 300.0	EPA 300.0

Prep Date/Time:

Anl By: GLL

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Pace Analytical Services, Inc.	А	nalytical	Repor	t Number:	884568	1241 Bellevue Street Green Bay, Wi 54302 920-469-2436
Client: PACE ANALYT	ICAL SERVIO	CES, INC.			Matrix T	ype: WATER
Project Name : CRA					Collection D	ate: 05/30/07
Project Number: 2069969					Report D	ate: 06/15/07
Field ID : MW-9 53007 20)524302				Lab Sample Num	ber: 884568-002
INORGANICS						
Test	Result	EQL	Dilution	Units	Code Anl Date/Time Pi	rep Method Anl Method
Chloride	35	5.0	1	mg/L	06/08/07 09:01 AM EF	PA 300.0 EPA 300.0
					Prep Date/Time:	Anl By: GLL
Fluoride	2.1	0.50	1	mg/L	06/08/07 09:01 AM EF	PA 300.0 EPA 300.0
					Prep Date/Time:	Anl By: GLL
Sulfate	110	40	10	mg/L	06/12/07 11:11 AM EF	PA 300.0 EPA 300.0
		_			Prep Date/Time:	Anl By: GLL

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Services, Inc.	al	Analytical	Report	Numb	er: 884	568	Green E 920-469	Bay, WI 54302 9-2436
Client :	PACE ANALYTICAL SE	RVICES, INC.				Matrix	K Type: WA	TER
Project Name :	CRA					Collection	n Date: 05/3	0/07
Project Number :	2069969					Repoi	rt Date: 06/1	5/07
Field ID :	MW-9A 53007 2052430	3				Lab Sample N	umber: 884	568-003
INORGANICS								
Test	Res	ult EQL	Dilution	Units	Code	Anl Date/Time	Prep Metho	d Aní Method
Chloride	400	50	10	mg/L		06/12/07 11:23 AM	EPA 300.0	EPA 300.0
					Prep [Date/Time:		Anl By: GLL
Fluoride	0.70	0.50	1	mg/L		06/08/07 09:13 AM	EPA 300.0	EPA 300.0
					Prep [Date/Time:		Anl By: GLL
Sulfate	83	40	10	mg/L		06/12/07 11:23 AM	EPA 300.0	EPA 300.0

Prep Date/Time:

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1241 Bellevue Street

Anl By: GLL

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Pace Analytic Services, Inc.	al	Analytic	al Repor	t Number	: 884	568	1241 Bell Green Ba 920-469-2	evue Street y, WI 54302 2436
Client : Project Name : Project Number : Field ID :	PACE ANALYTICAL SI CRA 2069969 MW-10 53007 2052430	ERVICES, INC				Matri: Collectio Repor Lab Sample N	k Type: WATE n Date: 05/30/ t Date: 06/15/ umber: 88456	ER 107 107 8-004
INORGANICS								
Test	Res	ult EQL	_ Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method
Chloride	200	50	10	mg/L		06/12/07 11:35 AM	EPA 300.0	EPA 300.0
					Prep	Date/Time:	A	nl By: GLL
Fluoride	1.4	0.50) 1	mg/L		06/08/07 09:26 AM	EPA 300.0	EPA 300.0

mg/L

06/08/07 09:26 AM EPA 300.0

06/12/07 11:35 AM EPA 300.0

Prep Date/Time:

Prep Date/Time:

EPA 300.0

EPA 300.0

Anl By: GLL

Anl By: GLL

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Fluoride

Sulfate

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Pace Analytic Services, Inc.	al	Analytical	Report	Number:	884	568	1241 Bell Green Ba 920-469-2	evue Street y, WI 54302 2436
Client :	PACE ANALYTICAL SE	RVICES, INC.				Matrix	Type : WATE	R
Project Name :	CRA					Collection	n Date: 05/30/	07
Project Number :	2069969					Repor	t Date: 06/15/	'07
Field ID : MW-11 53007 20524305						Lab Sample N	umber: 88456	8-005
INORGANICS					_			
Test	Resu	ilt EQL	Dilution	Units	Code	AnI Date/Time	Prep Method	Anl Method
Chloride	36	5.0	1	mg/L		06/08/07 09:38 AM	EPA 300.0	EPA 300.0
_					Prep	Date/Time:	А	nl By: GLL
Fluoride	1.9	0.50	1	mg/L		06/08/07 09:38 AM	EPA 300.0	EPA 300.0

Prep Date/Time:

Prep Date/Time:

06/12/07 11:47 AM EPA 300.0

Anl By: GLL

Anl By: GLL

EPA 300.0

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Sulfate

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Pace Analytical Services, Inc.	Ar	nalytical	Report	t Numb	er: 884	568	1241 Bell Green Ba 920-469-3	evue Street iy, WI 54302 2436	
Client: PACE ANALYT	ICAL SERVIC	CES, INC.				Matri	x Type : WATE	ĒR	
Project Name: CRA						Collectio	n Date: 05/30/	/07	
Project Number: 2069969						Repor	rt Date : 06/15/	/07	
Field ID : DUP 53007 205	24306					Lab Sample N	umber: 88456	8-006	
INORGANICS									
Test	Result	EQL	Dilution	Units	Code	Anl Date/Time	Prep Method	Anl Method	
Chloride	70	5.0	1	mg/L		06/08/07 09:50 AM	EPA 300.0	EPA 300.0	
					Prep [Prep Date/Time: Ani By: (
Fluoride	1.2	0.50	1	mg/L		06/08/07 09:50 AM	EPA 300.0	EPA 300.0	

mg/L

Prep Date/Time:

Prep Date/Time:

06/12/07 11:59 AM EPA 300.0

10

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120

Sulfate

EPA 300.0

EPA 300.0

Anl By: GLL

Anl By: GLL

Qualifier Codes

Flag Applies To Explanation Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, Α Inorganic 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. в Inorganic The analyte has been detected between the method detection limit and the reporting limit. B Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, Organic 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. С All Elevated detection limit. D All Analyte value from diluted analysis or surrogate result not applicable due to sample dilution. Е Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established Inorganic 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 F 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. The result is estimated because the concentration is less than the lowest calibration standard concentration utilized in the initial G All calibration. The method detection limit is less than the reporting limit specified for this project. Alł Preservation, extraction or analysis performed past holding time. н This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was HF Inorganic performed in the laboratory beyond the recommended holding time. All J Concentration detected equal to or greater than the method detection limit but less than the reporting limit. κ Organic Detection limit may be elevated due to the presence of an unrequested analyte. All Т Elevated detection limit due to low sample volume M Organic Sample pH was greater than 2 Ν All Spiked sample recovery not within control limits. 0 Organic Sample received overweight. p Organic The relative percent difference between the two columns for detected concentrations was greater than 40%. Q The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due All 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. υ 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. Ζ This compound was separated in the check standard but it did not meet the resolution criteria as set forth in SW846. Organics Laboratory Control Spike recovery not within control limits. ጲ All 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. The analyte was not detected at or above the reporting limit. < All 1 Inorganic Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria. 2 Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria. Inorganic 3 BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion. Inorganic 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. BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to 5 Inorganic reanalyze and try to correct the deficiency. BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze 6 Inorganic and try to correct the deficiency. 7 BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to Inorganic reanalyze and try to correct the deficiency Sample was received unpreserved. Sample was preserved either at the time of receipt or at the time of sample preparation. 8 Inorganic 9 Sample was received with insufficient preservation. Acid was added either at the time of receipt or at the time of sample Inorganic preparation.

Pace Analytical Services, Inc.		A	nal	ysi	s Summary by Laboratory	1241 Bellevue Street Green Bay, WI 54302			
Test Group Name	884568-001	884568-002	884568-003	884568-005	884568-006				
CHLORIDE	В	в	В	в в	3 В				
FLUORIDE	В	в	в	вв	3 B				
SULFATE	В	в	В	8 B	3 B				
Code TX Certification									

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Not Certified

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Sulfate	Fluoride	Chloride	Sulfate	Fluoride	Chloride	Test Name		MW-8 53007 20524301 MW-9A 53007 20524303 MW-11 53007 20524305	Client Sample ID		Analytical Meth	Prep Method:	QC Batch Num	Lab Section:	Batch:	Pace Analytic Services, Inc
< 4	< 0.5	^ 5	< 4	< 0.5	л 5	Result Conc	Method Blank	0103		:	od. T	ш	ber: 2	5	8	
16.000	2.000	20.000	16.00	2.0	20.0	Spiked Conc	LCS	884568- 884568- 884568-	Lab Sa		PA 300	PA 300	1645	IETCHI	34568	
16.2	2	19.9	16.2	2	19.9	Conc		001 003	mple ti	i	0	Ö		S		
101.4	101.0	99.4	101.4	101.0	99.4	Recovery % C		M B B	MB							
1	1	1	1	1	1	Spiked Conc	LCSD		ō							
i	1	ł	1	1	1	LCSD Conc										
				1	1	Recovery % (
1	1	1	l			RPD % C			CI							
90	90	06	90	90	06	% [C	° -	/-9 530 /-10 53 P 5300	ent S:							ရ
110	110	110	110	110	110	%UCL	CS/LC	107 205 1007 20 17 2052	ample							Sc.
20	20	20	20	20	20	RPD %	SD	24302 52430 4306	ō							
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938.) < 5.9	3224	116	1.2	62.	Resu Cor	Parer	884561 884561 884561	Lab S	MSD		n MS	LCS	MB	QC Typ	
00 1600	200	1.0 2000	.7 160	2 2.0	0 20.	It Spik		8-002 8-004 8-006	ample	M 88		88	×	×	96 CI	
.0 255	0 21	.0 547	0 271	3.:	3 83	C Co		222		4569-0 N-8 53	N-0 00	4569-0	CG219	CG219	ient Sa	
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90	92	g	92)6	36	с %		-					S			11 Bell en Ba 1-469-2 ∵ 920-
11) : 11) 11			3 11	L UC	MS/I Control									evue (ý, WI 2436 469-88
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Parent Result is reported down to MDL in order to allow Validation of this worksheet C = QC Code, see Qualifer Sheet Conc = mg/L unless otherwise noted The %R and RPD results are calculated from raw data values with more significant figures than are reported on this form. QC Batch Number: 21645 Report Date: 6/15/2007

Sa	mpleCondition	n Upón Receipt	
Pace Analytical Client Name	: tace -		Project #
Courier, Fed Ex UPS USPS Clie Tracking #:	nt Commercial	Pace Other	Optionali 2008 Action Proj Duebaje - 11 - 21 - 21 - 21 - 21 - 21 - 21 - 2
Thermometer Lised	Type of Ice Wet	Blue None	
	Biological Tissue	is Frozen: Yes No.	Date and initials of person examining
Temp should be above freezing to 6°C		Comments:	contents: $\frac{HO}{CF}$ $\frac{16/67}{167}$
Chain of Custody Present:	Yes DNo DN/A	1.	e and the second s
Chain of Custody Filled Out:		2.	
Chain of Custody Relinquished:	Yes DNo DN/A	3.	
Sampler Name & Signature on COC:		4.	· · · · · · · · · · · · · · · · · · ·
Samples Arrived within Hold Time:	ÓYes □No □N/A	5.	
Short Hold Time Analysis (<72hr):		6.	
Rush Turn Around Time Requested:		7. 6/14	
Sufficient Volume:		8.	
Correct Containers Used:		9.	
-Pace Containers Used:	PYes No N/A		
Containers Intact:		10.	
Filtered volume received for Dissolved tests		11.	
Sample Labels match COC:	Xes DNo DN/A	12.	
-Includes date/time/ID/Analysis Matrix:	<u>u</u>		
All containers needing preservation have been checked.	DYes DNo DN/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.			
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes □No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:		14.	
Headspace in VOA Vials (>6mm):	□Yes ZNO □N/A	15.	
Trip Blank Present:	□Yes INo □N/A	16.	
Trip Blank Custody Seals Present	□Yes □No ₽N/A		
Pace Trip Blank Lot # (if purchased):			
Client Notification/ Resolution:		· · · · · · · · · · · · · · · · · · ·	Field Data Required? Y / N
Person Contacted:	Date/	Time:	
Comments/ Resolution:		••••••••••••••••••••••••••••••••••••••	
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Project Manager Review:	med	····	Date: 06.07.07

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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)

Additional Comments:			40052900 40052900 4	M W - 9 A 53007	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Section D Required Client Information MATRIX SAMPLE ID WATER One Character per box. (A-Z, 0-9 / .) Samples IDs MUST BE UNIQUE OTHER TISSUE	Phone Proje 1. ジェービント・ カン ヴィー・ Fax Requested Due Date/TAT: 人しいかの Valid Matrix C	Tン、オペンの3 Email To: Purc	Company, DEN Reported	Section A Required Client Information:
RELINQUISHED BY /AFEIEIATION DATE IMME ACC		WT C	006 NTG 5/30/07 1045 21.62×	004 WT ~ 5/30/07 1125 24.1 2 x	001 wr G 5/30/07 1140 24.5 2 x 0027 wr G 5/30/07 1130 26.7 2 x	MATRIX CODE MATRIX CODE SAMPLE TYPE G=GRADE C=COMP DATE TIME DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Unpreserved	t Name: - (usy er - Te) Pace Project Manager: t Number: 039/23 Pace Profile #:	Address: ', Se Order No.: Pace Quote Reference:	To: Attention: Attention: Luke Markham To: Company Name: Company Name:	CHAIN-OF-CUSTODY The Chain-of-Custody is a LEGAL DOC ion B Section C red Project Information:
DATE Signed (MM/DD/YN) Temp in 2 Custody Samples Intact All DDD/YN All DDD/YN All DDD/YN Temp in 2 Custody Samples Intact			×++++++ ×++++++ 306	× × × × × × × × × × × × × × × × × × ×	x x + + x + + x + + + + + + + + + + + +	H2SO4 HNO3 HCI NaOH Na2S2O3 Methanol Other CC AY K2 / CAY AY K2 /	Filtered (V(1) 2) Requested 2 An Analysis: 3 3	SHELLOCATION OH SC WI BOTHER Area Meters	Image: State of the state o	I Analytical Request Document N CUMENT. All relevant fields must be completed accurately. N Control of



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

November 30, 2007

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

RE: Project: 2076070 RE: Project ID: COOPER JAL

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on November 16, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Circly alovesa

Cindy Olavesen



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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Ver. 145

Project: <u>2076070</u>

Client: CRA MIDLAND

Project ID: COOPER JAL

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
MW6 111507	20569470	Water	11/15/07 12:35	11/16/07 10:20
MW7 111507	20569471	Water	11/15/07 11:15	11/16/07 10:20
MW8 111507	20569472	Water	11/15/07 10:50	11/16/07 10:20
MW10 111507	20569473	Water	11/15/07 11:30	11/16/07 10:20
RW1 111507	20569474	Water	11/15/07 12:10	11/16/07 10:20
RW2 111507	20569475	Water	11/15/07 11:45	11/16/07 10:20
DUP	20569476	Water	11/15/07 00:00	11/16/07 10:20

11/30/2007 11:27:23

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



Project Narrative

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076070</u>

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times:

All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples: All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.



Project Narrative

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Project: 2076070

Analytical Method	Batch	Sample used for QC
 EPA 6010	94708	Client sample MW 2 111407 from project 2076025
SM 2320B	94300	Batch sample from another client
SM 2540C	94314	Project sample MW6 111507
SM 4500-NO3 F	94293	Client sample MW 9A 111407 from project 2076025
EPA 375.4	94301	Project sample MW6 111507
SM 4500-Cl E	94302	Project sample MW6 111507

11/30/2007 11:27:57

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

Project sample means a sample from this project was used.

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



Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW6 111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569470</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

% Moisture: n/a

Received: 11/16/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1		84100	ug/L	5000	28-Nov-07	29-Nov-07 15:49	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		25200	ug/L	5000	28-Nov-07	29-Nov-07 15:49	KJR	
Potassium, Dissolved	· EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 15:49	KJR	
Sodium, Dissolved	EPA 6010	94708	1		62100	ug/L	5000	28-Nov-07	30-Nov-07 00:18	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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

11/30/2007 11:28:00



Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW7 111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569471</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

% Moisture: n/a

Received: <u>11/16/07</u>

				Reg.							
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	14	4000	ug/L	5000	28-Nov-07	29-Nov-07 15:54	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	5	9500	ug/L	5000	28-Nov-07	29-Nov-07 15:54	KJR	
Potassium, Dissolved	EPA 6010	94708	1		9950	ug/L	5000	28-Nov-07	29-Nov-07 15:54	KJR	
Sodium, Dissolved	EPA 6010	94708	1	14	8000	ug/L	5000	28-Nov-07	30-Nov-07 00:22	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health (NELAC) - E87595 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 11:28:00

face Analytical New Orleans Laboratory

Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW8 111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569472</u> Description: <u>None</u> Client: CRA MIDLAND

Project: <u>2076070</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

% Moisture: <u>n/a</u>

Received: <u>11/16/07</u>

						Reporting	eporting				
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis	L	Jimit
Calcium, Dissolved	EPA 6010	94708	1		52100	ug/L	5000	28-Nov-07	29-Nov-07 15:59	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		17200	ug/L	5000	28-Nov-07	29-Nov-07 15:59	KJR	
Potassium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 15:59	KJR	
Sodium, Dissolved	EPA 6010	94708	1	2	49800	ug/L	5000	28-Nov-07	30-Nov-07 00:26	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87395 Kansas Dept. of Health (NELAC) - 68-04202 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 11:28:00


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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: MW10 111507 Project ID: COOPER JAL Lab ID: 20569473 Description: None Client: CRA MIDLAND

Project: <u>2076070</u>

Site: None

Matrix: Water

Collected: 11/15/07

% Moisture: <u>n/a</u>

Received: 11/16/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	10)4000	ug/L	5000	28-Nov-07	29-Nov-07 16:04	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	3	33400	ug/L	5000	28-Nov-07	29-Nov-07 16:04	KJR	
Potassium, Dissolved	EPA 6010	94708	1		6010	ug/L	5000	28-Nov-07	29-Nov-07 16:04	KJR	
Sodium, Dissolved	EPA 6010	94708	1	8	34700	ug/L	5000	28-Nov-07	30-Nov-07 00:31	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 11:28:00

page 8 of 36



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 RW1 111507

 Project ID:
 COOPER JAL

 Lab ID:
 20569474

 Description:
 None

Client: CRA MIDLAND

Project: <u>2076070</u>

Site: None Matrix: Water

% Moisture: <u>n/a</u>

Collected: <u>11/15/07</u>

Received: <u>11/16/07</u>

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	14	1000	ug/L	5000	28-Nov-07	29-Nov-07 16:09	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	13	7000	ug/L	5000	28-Nov-07	29-Nov-07 16:09	KJR	
Potassium, Dissolved	EPA 6010	94708	١	۱	6000	ug/L	5000	28-Nov-07	29-Nov-07 16:09	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI 110	00000	ug/L	25000	28-Nov-07	30-Nov-07 09:26	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>RW2 111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569475</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076070

Collected: 11/15/07

Site: None

Matrix: Water

%Moisture: <u>n/a</u>

Received: 11/16/07

	Reporting												
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit		
Calcium, Dissolved	EPA 6010	94708	1	58	36000	ug/L	5000	28-Nov-07	29-Nov-07 16:14	KJR			
Magnesium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 16:14	KJR			
Potassium, Dissolved	EPA 6010	94708	1	1	1200	ug/L	5000	28-Nov-07	29-Nov-07 16:14	KJR			
Sodium, Dissolved	EPA 6010	94708	1	24	45000	ug/L	5000	28-Nov-07	30-Nov-07 00:35	KJR			
4													

4 parameter(s) reported

11/30/2007 11:28:00

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers' are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>DUP</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569476</u> Description: <u>None</u> Client: CRA_MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

%Moisture: <u>n/a</u>

Received: 11/16/07

							Reporting			R	Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis	Li	imit
Calcium, Dissolved	EPA 6010	94708	1	1	36000	ug/L	5000	28-Nov-07	29-Nov-07 16:30	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	1	33000	ug/L	5000	28-Nov-07	29-Nov-07 16:30	KJR	
Potassium, Dissolved	EPA 6010	94708	1		15500	ug/L	5000	28-Nov-07	29-Nov-07 16:30	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI 1	040000	ug/L	25000	28-Nov-07	30-Nov-07 09:33	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

5.5

 Client ID:
 MW6 111507

 Project ID:
 COOPER JAL

 Lab ID:
 20569470

 Description:
 None

Client: CRA MIDLAND

Project: <u>2076070</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: <u>11/15/07</u>

%Moisture: <u>n/a</u>

Received: 11/16/07

		Reporting									Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		284.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		284.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		284.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94302	1		162.	mg/L	1.00	16-Nov-07	16-Nov-07 17:29	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.35	mg/L	0.100	16-Nov-07	16-Nov-07 17:04	MHM	
Sulfate	EPA 375.4	94301	5	DI	96.3	mg/L	5.00	16-Nov-07	16-Nov-07 15:35	MHM	
Total Dissolved Solids	SM 2540C	94314	1		630.	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Pernuit - S-47270

ace Analytical New Orleans Laboratory

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW7 111507

 Project ID:
 COOPER JAL

 Lab ID:
 20569471

 Description:
 None

Client: CRA MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: <u>11/15/07</u>

%Moisture: <u>n/a</u>

Received: 11/16/07

]	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94302	10	DI	458.	mg/L	10.0	16-Nov-07	16-Nov-07 17:31	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.39	mg/L	0.100	16-Nov-07	16-Nov-07 17:05	МНМ	
Sulfate	EPA 375.4	94301	5	D1	176.	mg/L	5.00	16-Nov-07	16-Nov-07 15:35	MHM	
Total Dissolved Solids	SM 2540C	94314	1		1880	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW8111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569472</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076070

Collected: 11/15/07

Site: None

Matrix: <u>Water</u>

% Moisture: <u>n/a</u>

Received: 11/16/07

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		159.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		159.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94300	1		159.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloridè	SM 4500-CI	94302	1		43.1	mg/L	1.00	16-Nov-07	16-Nov-07 17:29	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	ı		1.56	mg/L	0.100	16-Nov-07	16-Nov-07 17:08	MHM	
Sulfate	EPA 375.4	94301	5	DI	94.2	mg/L	5.00	16-Nov-07	16-Nov-07 15:35	MHM	
Total Dissolved Solids	SM 2540C	94314	1		540.	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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11/30/2007 11:28:04



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: MW10111507
Project ID: COOPER JAL
Lab ID: 20569473
Description: None

Client: CRA MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

%Moisture: <u>n/a</u>

Received: 11/16/07

						:	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94302	10	DI	251.	mg/L	10.0	16-Nov-07	16-Nov-07 17:31	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.44	mg/L	0.100	16-Nov-07	16-Nov-07 17:09	MHM	
Sulfate	EPA 375.4	94301	5	DI	152.	mg/L	5.00	16-Nov-07	16-Nov-07 15:35	МНМ	
Total Dissolved Solids	SM 2540C	94314	1		1010	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

1. S.

Client ID: <u>RW1 111507</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569474</u> Description: <u>None</u>

Client:	CRA	MIDL	AND

Project: <u>2076070</u>

Site: None

Matrix: Water

Collected: 11/15/07

%Moisture: <u>n/a</u>

Received: 11/16/07

			Reporting								Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		359.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		359.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		359.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94302	100	DI	2380	mg/L	100.	16-Nov-07	16-Nov-07 17:46	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	5	DI	3.74	mg/L	0.500	16-Nov-07	16-Nov-07 18:01	МНМ	
Sulfate	EPA 375.4	94301	50	DI	252.	mg/L	50.0	16-Nov-07	16-Nov-07 17:34	MHM	
Total Dissolved Solids	SM 2540C	94314	1		5280	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	
8 parameter(s) reported											

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: RW2 111507 Project ID: COOPER JAL Lab ID: 20569475 Description: None Client: CRA MIDLAND

Project: 2076070

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/15/07

% Moisture: <u>n/a</u>

Received: 11/16/07

	Reporting										Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		170.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		208.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		37.8	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94302	10	DI	1680	mg/L	10.0	16-Nov-07	16-Nov-07 17:29	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.52	mg/L	0.100	16-Nov-07	16-Nov-07 17:11	MHM	
Sulfate	EPA 375.4	94301	5	DI	166.	mg/L	5.00	16-Nov-07	16-Nov-07 15:38	MHM	
Total Dissolved Solids	SM 2540C	94314	1		5590	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

2.4

Client ID: <u>DUP</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569476</u> Description: <u>None</u> Client: CRA MIDLAND

Project: <u>2076070</u>

Site: None

Matrix: Water

Collected: <u>11/15/07</u>

% Moisture: <u>n/a</u>

Received: 11/16/07

	Reporting										Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		208.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		208.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		208.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94302	100	D1	2620	mg/L	100.	16-Nov-07	16-Nov-07 17:46	MHM	
Nitrogen, Nitrate	SM 4500-N	94293	5	DI	3.85	mg/L	0.500	16-Nov-07	16-Nov-07 18:02	MHM	
Sulfate	EPA 375.4	94301	50	DI	316.	mg/L	50.0	16-Nov-07	16-Nov-07 17:34	MHM	
Total Dissolved Solids	SM 2540C	94314	1		5360	mg/L	4.00	19-Nov-07	19-Nov-07 13:00	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 11:28:04

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Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076070</u>

Parameter Bate	h Blank	ARL	Units	LCS Spike	LCS LCS Found %Rec	MS Sample Spike Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Calcium, Diss 9470	8 ND	100	ug/L	10000	10610 106	10000-49500.00	443200	456100	0 *	66 *	3'*		78 - 118 75 - 158	2	Q3
Magnesium, D 9470	8 ND	000	ug/L	10000	10510 105	10000 51600.00	155800	157300	41 *	56 *	1		78 - 116 75 - 135	3	Q3
Potassium, Dis 9470	8 ND	100	ug/L	10000	10450 105	10000 16170.00	26150	26470	100	103	1		77 - 117 21 - 149	2	
Sodium, Disso 9470	8 ND)00	ug/L	10000	10230 102	10000-08000.00	1047000	1024000	0 *	0 *	2		76 - 121 75 - 190	2	Q3

11/30/2007 11:28:07

* denotes recovery outside of QC limits.

ND denotes Not Detected at or above the adjusted reporting limit or PQL. MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

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



Inorganics Quality Control

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Project: <u>2076070</u>

					LCS	LCS LCS	S MS	Sample	MS	MSD MS MSD MSD	DUP	QC Limits	Max Qu
Parameter	Batch	Blank	ARL	Units	Spike	Found %Re	c Spike	Found	Found	Found %Rec %Rec RPD	RPD	LCS MS/MSD	RPD
Nitrogen, Niti	94293	ND	0.100	mg/L	1.21	1.124 93						90 - 110 -	
Alkalinity, To	ot 94300			mg/Ĺ	50	48 96		44.20			0	90 - 110 -	20
Sulfate	94301	ND	1.00	mg/L	34.2	33.59 98	10	96.32	95.26	0 *	3	90 - 110 75 - 125	20 D1,Q3
Chloride	94302	ND	1.00	mg/L	72.1	78.87 109	100	162.40	221.4	59 *	0	90 - 110 75 - 125	20 D1,Q1
Total Dissolve	e 94314	ND	4.00	mg/L	100	102 102		630.00			2	80 - 120 -	20

11/30/2007 11:28:10

* denotes recovery outside of QC limits.

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

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

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

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Qualifier Summary

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076070</u>

Qualifier	Qualifier Description
DI	The analysis was performed at a dilution due to the high analyte concentration.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.

11/30/2007 11:28:13

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

San Pace Analytical 1000 Riverbend. Blvd., S St. Rose, LA 70087	nple Condition	2076070 20-CHEV_CRAT
		S □ DHI □ USPS □ Customer □ Other
Custody Seal on Cooler/Box Present: [see		.Custody Seals intact: ⊡Yes □No
Therometer Therm Fisher IR 1 Used: d Therm Fisher IR 2	Type of Ice:	ef Blue None Samples on ice: [see COC]
Cooler Temperature: [see COC]	Temp should be ab	Date and Initials of person examining contents: //-/6-?
Temp must be measured from Temperature blank when	present	Comments:
Temperature Blank Present"?		1
Chain of Custody Present:	DYes DNO DN/A	2
Chain of Custody Complete:	ØYes □No □N/A	3
Chain of Custody Relinquished:		4
Sampler Name & Signature on COC:	Yes No N/A	5
Samples Arrived within Hold Time:		6
Sufficient Volume:	Yes No N/A	7
Correct Containers Used:		8
Filtered vol. Rec. for Diss. tests	· DRAM	9 Lab Filter
Sample Labels match COC:	Pres No N/A	10
All containers received within manafacture's		11
All containers needing preservation have been checked (except VOA, coliform, & O&G).	Yes No N/A	12
All containers preservation checked found to be compliance with EPA recommendation.	n ØYes □No □N/A	If No, was preserative added? □Yes □No 13 If added record lot no.: HNO3 H2SO4
Samples checked for dechlorination:	es 🗆 No 🗗 N/A	14
Headspace in VOA Vials (>6mm):	'es □No IZN/A	14
Trip Blank Present: QYes D		16
Trip Blank Custody Seals Present Seal Yes	lo 🖓 N/A	17
Pace Trip Blank Lot # (if purchased): <u>N/A</u>		18
Client Notification/ Resolution:		
Person Contacted:		Date/Time:
Comments/ Resolution:		
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		· · · · · · · · · · · · · · · · · · ·
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a contract the contract of the contract of the contract become of the contract become of the contract of the c	740151	To Be Completed by Pace Analytical and Client Section C	Quote Reference:	Project Manager.	Project # 2076070	Profile #;		TON SAC NOT	LECT CON CONTRACTION AND AND AND AND AND AND AND AND AND AN	N X X X Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z					SCH K K K K	X X X X	*			TE TIME TACCEPTED BY MAFFILIATION PATER TIMES	ial 1635	10 1030 10 cm 10 le 1/10 10:30	0	SIGNATURE		DATE Signed: (MM / DD / YY)	DE FOR INSTRUCTIONS
HAIN-OF-CUSTODY / Ar		Page: / of /	Client Information (Check quote/contract):	Requested Due Date: "TAT: 54 aler d	 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.			All Second All Second	11.16 1235 2X	11-15 11 15 31	11-15 1050 3	11-15 1130 3	11-15 1210 3	11-15 1145 31	-1/45 - 3)	× - 1			LITEM RELINQUISHED BY?/ AFFILIATION DA	Joy Micles/CRA IL	400 0 0 million	>	SAMPLER NAME AND	PHINT Name of SAMPLER	SIGNATURE OF SAMPLER	SEE REVERSE SIC
	Required Client Information: Section B	Report To: Lupe Markham	Copy To:	Invoice To:	P.O.	Project Name: Couper Jal / (EMC	Project Number 039123	Valid Matrix Codes + MATRIX WATER WT SOIL SL	WPL OL				1-m		1 W 1					SHIPPING DATE NO OF COOLERS		1					
		Required Client Information: Section A	Company CRA	Address Address A 200 0 750 W.	Midland, TX 79703		Phone Phone Fex 686-0186	Section D Required Client Information:	Cone character per box. A A A A A A	E MW 6 II I S 0 7	2 MW 7 1 1 1 6 0 7	2 mw 8 11 1507	A MC/0 1 1 1 5 0 7	5 8 4 1 1 1 5 0 7	00 R W 2 11 11 5 07		18 7 E M D			SHIPMENT WETHOD	Dedey	SAMPLE CONDITION SAMPLE NOTES		Received on Ice ON	Sealed Cooler CVN	Samples Intact V/N Additional Comments:	ORIGINAL



Central Analytical Laboratories 2315 N. Causeway Blvd, Suite 150, Metairie, LA 70001 (504) 297-3400 Toll Free (866) 388-3400 Fax: (504) 297-3410

DELIVER TO: Pace Analytical Services, Inc. 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Attn: Karen Brown

REPORT OF ANALYSIS

ANALYSES PERFORMED BY Central Analytical Laboratories

Report Date : 11/26/2007 **Report Number :** E2076070

Report Date : 11/26/2007

Page 1 of 12

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3

Central Analytical Laboratories

Client: Pace Analytical Services, Inc.

Report Number: E2076070

Sample Description Summary

Sample Description	Matrix	Collection	Date/Time	CAL Sample	D Submittal	Date/Time
20569470 - MW6 111507	WATER	11/15/2007	12:35	CE33180	11/20/2007	11:15
20569471 - MW7 111507	WATER	11/15/2007	11:15	CE33181	11/20/2007	11:15
20569472 - MW8 111507	WATER	11/15/2007	10:50	CE33182	11/20/2007	11:15
20569473 - MW10 111507	WATER	11/15/2007	11:30	CE33183	11/20/2007	11:15
20569474 - RW1 111507	WATER	11/15/2007	12:10	CE33184	11/20/2007	11:15
20569475 - RW2 111507	WATER	11/15/2007	11:45	CE33185	11/20/2007	11;15
20569476 - DUP	WATER	11/15/2007	11:57	CE33186	11/20/2007	11:15



Central Analytical Laboratories

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Client: Pace Analytical Services, Inc.

Report Number: E2076070

Sample analyses are performed according to U. S. Environmental Protection Agency approved methods, or ot methods cited in this report. Any deviations from, additions to, or exclusions from the designated test method noted in the "CASE NARRATIVE". Unless noted in the "CASE NARRATIVE", all quality control criteria w within method control limits.

Results contained herein apply only to the item(s) tested.

If chain of custody documentation was provided, it is documented as an attachment to this report.

Central Analytical Laboratories reserves the right to subcontact those tests for which we are not capable or accredited. Tests which are subcontracted are indicated on the Test Report as "SUB" under the Analyst head

Unless client requests otherwise, all samples will be stored for thirty days after the issue of an Analytical Repo

Central Analytical Laboratories is accredited by the Louisiana Environmental Laboratory Accreditation Program (LELAP). The results shown in this report are certified to be in accordance with the terms of LAC 33:I unless otherwise stated. Analyses for which Central Analytical Laboratories is not accredited, or which h been subcontracted to an unaccredited laboratory are noted in this report; such results are not covered by our accreditation.

This report shall not be reproduced except in full, without written approval by Central Analytical Laboratoric All results are considered confidential by Central Analytical Laboratories.

John M. Reuther Laboratory Manager



Central Analytical Laboratories

2315 N. Causeway Blvd., Suite 150, Metairie, LA 70001 (504) 297-3400 Toll Free: (866) 388-3400 Fax: (504) 297-3410

Client: Pace Analytical Services, Inc.

Report Number : E2076070

CASE NARRATIVE

INORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria. Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met.

Analysis Comments: The quantitative results of Fluoride for CE33181-CE33183 (these samples were analyzed in batch FLRIDL-18454) and CE33184-CE33186 (these samples were analyzed in batch FLRIDL-18455) are below the lowest calibration standard of 2.00 mg/l. The results of samples are reported and qualified by the following data from batches FLRIDL-18454 and FLRIDL-18455: 1) Acceptable (LRB) Lab Reagent Blanks (<2 times MDL), 2) Acceptable analyte recoveries of the (LCS) Lab Control Samples in both batches (100% and 103%), 3) Acceptable analyte recoveries of the (CCV) Continuing Calibration Verification standard at the end of each sample batch (104% and 103%), 4) Acceptable analyte recoveries of Laboratory Fortified Matrix (LFM) samples in both batches (92% and 102%) and the relative percent deviation between the LFM samples and duplicates (1.17% and 0.43%).

ORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met. Analysis Comments:

Report Date : 11/26/2007

Page 4 of 12

National Institute of Oilseed Products National Oilseed Processors Association Louisiana Department of Agriculture American Oil Chemists Society Louisiana Department of Environmental Quality Russian Committee for Standardization (Gosstandart) Japanese Ministry of Health and Welfare Association of Official Analytical Chemists United States Department of Agriculture



Central Analytical Laboratories

Analysis Results

Description:	20569470 - MW6 111507	Sampled By: N. MILLER
CAL Number:	CE33180	Sample Date: 11/15/2007
Submit Date:	11/20/2007	Sample Time: 12:35 PM
Submit Time:	11:15 AM	Sample Type: WATER
Methodology:	Standard Methods for the Examination of Methods for Chemical Analysis of Water Test Methods for Evaluating Solid Wast Edition, July 1992	f Water and Wastewater, APHA, 20th Edition r and Waste, EPA-600/4-79-020, March 1983 e, Physical, Chemical Methods, EPA SW-846, Third

Analyte	Result	Units	MDL	Method	Analyst	Start Da	te	End Date
Fluoride	51	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007

Report Date : 11/26/2007

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Analysis Results

Analyte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the Methods for Chemical An Test Methods for Evaluati Edition, July 1992	Examination of alysis of Water ng Solid Waste	Water and and Waste , Physical,	Wastewater, APHA, 2 , EPA-600/4-79-020, 1 Chemical Methods, El	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	11:15 AM	
CAL Number:	CE33181			Sample Date:	11/15/2007	
Description:	20569471 - MW7 1115	07		Sampled By:	N. MILLER	

v	ACOUNT							
Fluoride	1.20	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007



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Analysis Results

Description:	20569472 - MW8 111	507		Samp	oled By:	N. MILL	ER	
CAL Number:	CE33182			Samp	le Date:	11/15/20	07	
Submit Date:	11/20/2007			Samp	ole Time	: 10:50 AN	Л	
Submit Time:	11:15 AM			Samp	le Type	WATER		
Methodology:	Standard Methods for th Methods for Chemical A Test Methods for Evalua Edition, July 1992	e Examination of analysis of Water ating Solid Waste	Water and and Waste , Physical,	Wastewate , EPA-600/4 Chemical M	r, APHA, 4-79-020, 1ethods, F	20th Edition March 1983 PA SW-846	n 5, Thir	d
Analyte	Result	Units	MDL	Method	Analyst	Start Da	ite	End Date
Fluoride	1.33	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007

Report Date : 11/26/2007

Page 7 of 12

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Analysis Results

Description:	20569473 - MW10 11	1507		Samp	oled By:	N. MILL	ER	
CAL Number:	CE33183			Samp	ole Date	: 11/15/20	07	
Submit Date:	11/20/2007			Samp	ole Tim	e: 11:30 Al	M	
Submit Time:	11:15 AM			Samp	ole Type	e: WATER		
Methodology:	Standard Methods for the Methods for Chemical A Test Methods for Evalua Edition, July 1992	e Examination of Analysis of Water ating Solid Waste	f Water and and Waste , Physical,	Wastewate , EPA-600/4 Chemical M	er, APHA 4-79-020 Methods,	, 20th Editio , March 1983 EPA SW-846	n 3 5, Thir	d
Analyte	Result	Units	MDL	Method	Analys	t Start Da	ate	End Date
Fluoride	1.44	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007

Page 8 of 12



Analysis Results

Analyte	Docult	Units	MDL	Method Analyst	Start Date	End Da
Methodology:	Standard Methods for the Methods for Chemical Ar Test Methods for Evaluat Edition, July 1992	Examination of nalysis of Water ing Solid Waste	Water and and Waste, Physical, (Wastewater, APHA, EPA-600/4-79-020, I Chemical Methods, E	20th Edition March 1983 PA SW-846, Th	uird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	12:10 PM	
CAL Number:	CE33184			Sample Date:	11/15/2007	
Description:	20569474 - RW1 1115	07		Sampled By:	N. MILLER	

Analyte	Result	Units	MDL	Method A	nalyst	Start Da	te	End Date
Fluoride	1.26	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007

Report Date : 11/26/2007

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Analysis Results

Description:	20569475 - RW2 111	507		Samp	led By:	N. MILL	ER	
CAL Number:	CE33185			Samp	le Date:	11/15/20	07	
Submit Date:	11/20/2007			Samp	ole Time	: 11:45 AN	M	
Submit Time:	11:15 AM			Samp	le Type	: WATER		
Methodology:	Standard Methods for th Methods for Chemical A Test Methods for Evalua Edition, July 1992	e Examination of Analysis of Water ating Solid Waste	Water and and Waste , Physical,	Wastewate , EPA-600/4 Chemical M	r, APHA 4-79-020, fethods, I	20th Edition March 1983 PA SW-846	n 3 5, Thir	d
Analyte	Result	Units	MDL	Method	Analys	Start Da	ite	End Date
Fluoride	0.49	mg/L	0.05	340.2	CB	11/21/2007	9:50	11/21/2007

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Fluoride

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Analysis Results

Analyte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the Methods for Chemical An Test Methods for Evaluati Edition, July 1992	Examination of alysis of Water ng Solid Waste	Water and and Waste, , Physical, (Wastewater, APHA, , EPA-600/4-79-020, I Chemical Methods, E	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	11:57 AM	
CAL Number:	CE33186			Sample Date:	11/15/2007	
Description:	20569476 - DUP			Sampled By:	N. MILLER	

0.05

340.2

mg/L

Report Date : 11/26/2007

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CB 11/21/2007 9:50 11/21/2007

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Central Analytical Laboratories

QC Batch Results

Fluoride

Batch Name:	FLRIDL-18454	Batch Number:	18454	QA Sample ID:	CE32736
	AnalysisStart	Date 11/21/2007	AnalysisEnd	Date 11/21/2007	
	AnalysisStart	Time 9:50 AM	Analyst:	СВ	
	Fluoride		2:9	mg/L	
	Fluoride - LFM Re	esult	12,90	mg/L	
	Fluoride - LFM Du	upl Result	12.75	mg/L	
	Fluoride - Blank		Not detected	mg/L	
	Fluoride-LFM Am	ount	10,00	mg/L	
	Fluoride - LFM %	Recovery	99.2	%	
	Fluoride-Relative	% Dev	1.2	%	
	Fluoride - LCS Re	esult	5,02	mg/L	
	Fluoride - LCS An	nount	5,00	mg/L	
	Fluoride - LCS %	Recovery	100	%	
Fluonido					

<u>Fluoride</u>

Ratch Name	FLRIDL-18455	Ratch Number	1845
Datch Name:	FLKIDL-10455	Datch Number:	1045

55

QA Sample ID: CE33186

AnalysisStartDate 11/21/2007 AnalysisStartTime 9:50 AM	AnalysisEndDa Analyst:	ate 11/21/2007 CB
Fluoride	1,24	mg/L
Fluoride - LFM Result	11,47	mg/L
Fluoride - LFM Dupl Result	11.42	mg/L
Fluoride - Blank	0:07	mg/L
Fluoride-LFM Amount	10,00	mg/L
Fluoride - LFM % Recovery	102	%
Fluoride-Relative % Dev	0.4	%
Fluoride - LCS Result	5,14	mg/L
Fluoride - LCS Amount	5,00	mg/L
Fluoride - LCS % Recovery	103	%
		······

Report Date : 11/26/2007

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FNO-SM-003;1



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

November 30, 2007

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

RE: Project: 2076109 RE: Project ID: COOPER JAL

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Circly alovesan

Cindy Olavesen



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Sample Cross Reference

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

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006 Se free

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Project: <u>2076109</u>

Client: <u>CRA MIDLAND</u>

Project ID: COOPER JAL

	Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time	
_	MW 1 111607	20569692	Water	11/16/07 11:30	11/17/07 08:20	
	MW 3 111607	20569693	Water	11/16/07 11:15	11/17/07 08:20	
	MW 12 111607	20569694	Water	11/16/07 10:55	11/17/07 08:20	
	MW 13 111607	20569695	Water	11/16/07 10:30	11/17/07 08:20	

11/30/2007 17:55:41

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



Project Narrative

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: 2076109

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times: All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples: All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Pace Analytical ® New Orleans Laboratory

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 1. Stor

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Project: <u>2076109</u>

Analytical Method	Batch	Sample used for QC	
 EPA 6010	94708	Client sample MW 2 111407 from project 2076025	
SM 2540C	94426	Project sample MW 1 111607	
SM 2320B	94464	Batch sample from another client	
EPA 375.4	94357	Project sample MW 1 111607	
SM 4500-CI E	94358	Project sample MW 1 111607	
SM 4500-NO3 F	94789	Batch sample from another client	

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

Project sample means a sample from this project was used.

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

Batch sample means a sample from the a different client was used.

11/30/2007 17:56:15

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 1 111607

 Project ID:
 COOPER JAL

 Lab ID:
 20569692

 Description:
 None

Client: CRA MIDLAND

Project: <u>2076109</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: <u>11/16/07</u>

% Moisture: <u>n/a</u>

Received: <u>11/17/07</u>

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	15	54000	ug/L	5000	28-Nov-07	29-Nov-07 16:35	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	18	37000	ug/L	5000	28-Nov-07	29-Nov-07 16:35	KJR	
Potassium, Dissolved	EPA 6010	94708	1	5	54000	ug/L	5000	28-Nov-07	29-Nov-07 16:35	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI 21	00000	ug/L	25000	28-Nov-07	30-Nov-07 09:38	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 17:56:18



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

1000000

Client ID: MW 3 111607 Project ID: COOPER JAL Lab ID: 20569693 Description: None Client: CRA MIDLAND

Project: <u>2076109</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/16/07

% Moisture: <u>n/a</u>

Received: <u>11/17/07</u>

Analyte			DF				Reporting				Reg.
	Method	Batch		Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	50800		ug/L	5000	28-Nov-07	29-Nov-07 16:42	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		16300	ug/L	5000	28-Nov-07	29-Nov-07 16:42	KJR	
Potassium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 16:42	KJR	
Sodium, Dissolved	EPA 6010	94708	1		50600	ug/L	5000	28-Nov-07	30-Nov-07 00:39	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW 12 111607</u> Project ID: COOPER JAL Lab ID: 20569694 Description: None

Client: CRA MIDLAND

Project: 2076109

Site: None Matrix: <u>Water</u>

% Moisture: n/a

Collected: 11/16/07

Received: 11/17/07

Analyte							Reporting				Reg
	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	77200		ug/L	5000	28-Nov-07	29-Nov-07 16:47	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	42700		ug/L	5000	28-Nov-07	29-Nov-07 16:47	KJR	
Potassium, Dissolved	EPA 6010	94708	1	11000		ug/L	5000	28-Nov-07	29-Nov-07 16:47	KJR	
Sodium, Dissolved	EPA 6010	94708	1	154000		ug/L	5000	28-Nov-07	30-Nov-07 00:45	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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

page 7 of 27

11/30/2007 17:56:18
Pace Analytical[®] New Orleans Laboratory

Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: MW 13 111607 Project ID: COOPER JAL Lab ID: 20569695 Description: None Client: CRA MIDLAND

Project: 2076109

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/16/07

% Moisture: n/a

Received: <u>11/17/07</u>

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1		361000	ug/L	5000	28-Nov-07	29-Nov-07 16:52	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		105000	ug/L	5000	28-Nov-07	29-Nov-07 16:52	KJR	
Potassium, Dissolved	EPA 6010	94708	1.		11400	ug/L	5000	28-Nov-07	29-Nov-07 16:52	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI	553000	ug/L	25000	28-Nov-07	30-Nov-07 09:43	KJR	
4											

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water.- LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Pernnit - S-47270

11/30/2007 17:56:19

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 1 111607

 Project ID:
 COOPER JAL

 Lab ID:
 20569692

 Description:
 None

Client: CRA MIDLAND

Project: 2076109

Site: <u>None</u> Matrix: <u>Water</u>

% Moisture: n/a

Collected: <u>11/16/07</u> **Rece**

Received: 11/17/07

]	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94464	1		ND	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94464	1		255.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Total	SM 2320B	94464	1		255.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity,Bicarbonate (CaCO3)) SM 2320B	94464	1		255.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Chloride	SM 4500-CI	94358	100	Dl	4250	mg/L	100.	19-Nov-07	19-Nov-07 13:38	TAE	
Nitrogen, Nitrate	SM 4500-N	94789	5	DI	3.90	mg/L	0.500	30-Nov-07	30-Nov-07 11:43	МНМ	
Sulfate	EPA 375.4	94357	50	DI	602.	mg/L	50.0	19-Nov-07	19-Nov-07 15:12	TAE	
Total Dissolved Solids	SM 2540C	94426	1		10900	mg/L	4.00	20-Nov-07	20-Nov-07 15:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture'results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 17:56:21

Pace Analytical[®] New Orleans Laboratory

Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Client ID: <u>MW 3 111607</u> Project ID: <u>COOPER JAL</u> Lab ID: <u>20569693</u> Description: <u>None</u> Client: CRA MIDLAND

Project: <u>2076109</u>

Site: <u>None</u> Matrix: <u>Water</u> Collected: <u>11/16/07</u>

% Moisture: <u>n/a</u>

Received: 11/17/07

]	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94464	1		ND	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94464	1		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Total	SM 2320B	94464	١		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94464	1		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Chloride	SM'4500-CI	94358	1		39.7	mg/L	1.00	19-Nov-07	19-Nov-07 11:49	TAE	
Nitrogen, Nitrate	SM 4500-N	94789	1		1.58	mg/L	0.100	30-Nov-07	30-Nov-07 11:44	MHM	
Sulfate	EPA 375.4	94357	5	DI	88.2	mg/L	5.00	19-Nov-07	19-Nov-07 11:55	TAE	
Total Dissolved Solids	SM 2540C	94426	1		570.	mg/L	4.00	20-Nov-07	20-Nov-07 15:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 17:56:21

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ace Analytical * New Orleans Laboratory

Sample Results

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: MW 12 111607 Project ID: COOPER JAL Lab ID: 20569694 Description: None Client: CRA MIDLAND

Project: 2076109

Site: <u>None</u> Matrix: <u>Water</u>

07 Maintennes

Collected: <u>11/16/07</u>

% Moisture: <u>n/a</u>

Received: 11/17/07

						H	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94464	1		ND	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94464	1		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Total	SM 2320B	94464	1		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94464	1		170.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Chloride	SM 4500-CI	94358	10	DI	258.	mg/L	10.0	19-Nov-07	19-Nov-07 12:00	TAE	
Nitrogen, Nitrate	SM 4500-N	94789	1		1.55	mg/L	0.100	30-Nov-07	30-Nov-07 11:45	MHM	
Sulfate	EPA 375.4	94357	5	DI	191.	mg/L	5.00	19-Nov-07	19-Nov-07 11:55	TAE	
Total Dissolved Solids	SM 2540C	94426	1		1270	mg/L	4.00	20-Nov-07	20-Nov-07 15:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 17:56:21

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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 Client ID:
 MW 13 111607

 Project ID:
 COOPER JAL

 Lab ID:
 20569695

 Description:
 None

Client:CRA_MIDLANDProject:2076109Site:NoneMatrix:Water%1Collected:11/16/07

%Moisture: <u>n/a</u>

Received: <u>11/17/07</u>

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94464	1		ND	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94464	1	-	236.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity, Total	SM 2320B	94464	1		236.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94464	1		236.	mg/L	10.0	21-Nov-07	21-Nov-07 10:20	TAE	
Chloride	SM 4500-Cl	94358	10	DI	2000	mg/L	10.0	19-Nov-07	19-Nov-07 13:29	TAE	
Nitrogen, Nitrate	SM 4500-N	94789	5	DI	3.05	mg/L	0.500	30-Nov-07	30-Nov-07 13:14	МНМ	
Sulfate	EPA 375.4	94357	50	DI	312.	mg/L	50.0	19-Nov-07	19-Nov-07 15:12	TAE	
Total Dissolved Solids	SM 2540C	94426	1		6320	mg/L	4.00	20-Nov-07	20-Nov-07 15:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

11/30/2007 17:56:22



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

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Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076109</u>

Parameter Ba	atch	Blank	ARL	Units	LCS Spike	LCS LCS Found %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	MSD RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Calcium, Diss 94	4708	ND	100	ug/L	10000	10610 106	10000-	49500.00	443200	456100	0 *	66 *	3*		78 - 118 75 - 158	2	Q3
Magnesium, D 94	4708	ND)00	ug/L	10000	10510 105	10000	51600.00	155800	157300	41 *	56 *	1		78 - 116 75 - 135	3	Q3
Potassium, Dis 94	4708	ND)00	ug/L	10000	10450 105	10000	16170.00	26150	26470	100	103	1		77 - 117 21 - 149	2	
Sodium, Disso 94	4708	ND)00	ug/L	10000	10230 102	10000	08000.00	1047000	1024000	0 *	0 *	2		76 - 121 75 - 190	2	Q3

11/30/2007 17:56:24

* denotes recovery outside of QC limits. ND denotes Not Detected at or above the adjusted reporting limit or PQL.

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

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



Inorganics Quality Control

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Project: <u>2076109</u>

					LCS	LCS LCS	MS	Sample	MS	MSD MS MSD MSD	DUP	QC Limits	Max Qu
Parameter	Batch	Blank	ARL	Units	Spike	Found %Rec	Spike	Found	Found	Found %Rec %Rec RPD	RPD	LCS MS/MSD	RPD
Sulfate	94357	ND	1.00	mg/L	34.2	33.24 97	10	602.40	546.8	. 0 *	1	90 - 110 75 - 125	20 D1,Q3
Chloride	94358	ND	1.00	mg/L	72.1	75.94 105	100	4253.00	4168	0 *	1	90 - 110 75 - 125	20 D1,Q3
Total Dissolv	e 94426	ND	4.00	mg/L	100	114 114	l	0940.00			1	80 - 120 -	20
Alkalinity, To	ot 94464			mg/L	50	48 96		1447.00			15	90 - 110 -	20
Nitrogen, Nit	r 94789	ND	0.100	mg/L			1	0.07	1.008	94	0	- 80 - 120	20
Nitrogen, Nit	r 94789			mg/L	1.21	1.135 94						90 - 110 -	
Nitrogen, Nit Nitrogen, Nit	r 94789 r 94789	ND	0.100	mg/L mg/L	1.21	1.135 94	1	0.07	1.008	94	0	- 80 - 120 90 - 110 -	20

11/30/2007 17:56:27

* denotes recovery outside of QC limits.

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

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

Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 08-04202 U.S. Dept. of Agricultural Foreign Soit Permit - S-47270



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Qualifier Summary

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: 2076109

Qualifier	Qualifier Description
DI	The analysis was performed at a dilution due to the high analyte concentration.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.

11/30/2007 17:56:30

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

San Pace Analytical 1000 Riverbend. Bivd., S Sl. Rose, LA 70087	nple Conditi uite F	2076109 20-CHEV_CRAT
Courier: Pace Courier Hackbarth	Pred X (UPS DHL USPS Customer Other
Custody Seal on Cooler/Box Present: [see		Custody Seals intact: Lifes DNo
Therometer Therm Fisher IR 1 Used: Differ Therm Fisher IR 2	Type of Ice:	Wet Blue None Samples on ice: [see COC]
Cooler Temperature: [see COC]	Temp should	be above freezing to 6°C
Temp must be measured from Temperature blank when	present	Comments:
Temperature Blank Present"?		1
Chain of Custody Present:	Pres DNo	□N/A 2
Chain of Custody Complete:	Pres DNo	□N/A 3
Chain of Custody Relinquished:	Dres No	□N/A 4
Sampler Name & Signature on COC:	ØYes ONO	□N/A 5
Samples Arrived within Hold Time:	QYes DNO	□N/A 6
Sufficient Volume:	Pres No	
Correct Containers Used:	QYes INO	IN/A 8
Filtered vol. Rec. for Diss. tests	0 🗆 Ñ/A	9 hat filler
Sample Labels match COC:	Dres DNo	□N/A 10
precautionary and/or expiration dates.	Dives Divo	
All containers needing preservation have been checked (except VOA, coliform, & O&G).	Pres Dip	JUIA 12
All containers preservation checked found to be i compliance with EPA recommendation.	n ZYas DNo	If No, was preserative added? □Yes □No If added record lot no.: HNO3 H2SO4
Samples checked for dechlorination:	es 🗆 No 📮 📈 A	14
Headspace in VOA Vials (>6mm):	es 🗆 No 🖾 N/A	14
Trip Blank Present: OYes N		16
Trip Blank Custody Seals Present Yes N	o data	17
Pace Trip Blank Lot # (if purchased): <u>N/A</u>		18
Client Notification/ Resolution: Person Contacted: Comments/ Resolution:		Date/Time:
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Central Analytical Laboratories 2315 N. Causeway Blvd: Suite 150, Metairie, LA 70001 (504) 297-3400 Toll Free: (866) 388-3400 Fax: (504) 297-3410

DELIVER TO: Pace Analytical Services, Inc. 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Attn: Karen Brown

REPORT OF ANALYSIS

ANALYSES PERFORMED BY Central Analytical Laboratories

 Report Date :
 11/26/2007

 Report Number :
 E2076109

Page 1 of 9

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Client: Pace Analytical Services, Inc.

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Report Number: E2076109

Sample Description Summary

Sample Description	Matrix	Collection	Date/Time	CAL Sample l	D Submittal	Date/Time
20569692 - MWL E11607	WATER	11/16/2007	11:30	CE33173	11/20/2007	11:15
20569693 - MW3 1 1 1607	WATER	11/16/2007	11:15	CE33174	11720/2007	11:15
20569694 - MW12 111607	WATER	11/16/2007	10:55	CE33175	11/20/2007	11:15
20,559895 - MW13 111607	WATER	11/16/2007	10:30	CE33176	11/20/2007	11,15



Client: Pace Analytical Services, Inc.

Report Number: E2076109

والسناء

Sample analyses are performed according to U. S. Environmental Protection Agency approved methods, or ot methods cited in this report. Any deviations from, additions to, or exclusions from the designated test method noted in the "CASE NARRATIVE". Unless noted in the "CASE NARRATIVE", all quality control criteria w within method control limits.

Results contained herein apply only to the item(s) tested.

If chain of custody documentation was provided, it is documented as an attachment to this report.

Central Analytical Laboratories reserves the right to subcontact those tests for which we are not capable or accredited. Tests which are subcontracted are indicated on the Test Report as "SUB" under the Analyst head

Unless client requests otherwise, all samples will be stored for thirty days after the issue of an Analytical Repo

Central Analytical Laboratories is accredited by the Louisiana Environmental Laboratory Accreditation Program (LELAP). The results shown in this report are certified to be in accordance with the terms of LAC 33:I unless otherwise stated. Analyses for which Central Analytical Laboratories is not accredited, or which h been subcontracted to an unaccredited laboratory are noted in this report; such results are not covered by our accreditation.

This report shall not be reproduced except in full, without written approval by Central Analytical Laboratoric All results are considered confidential by Central Analytical Laboratories.

John M. Reuther Laboratory Manager

Page 3 of 9



Central Analytical Laboratories

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Client: Pace Analytical Services, Inc.

Report Number : E2076109

CASE NARRATIVE

INORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria. Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met.

Analysis Comments: The quantitative results of Fluoride for CE33174-CE33176 are below the lowest calibration standard of 2.00 mg/L. The results of samples are reported and qualified by the following data from batch FLRIDL-18452: 1) Acceptable (LRB) Lab Reagent Blank (<2 times MDL), 2) Acceptable analyte recovery of the (LCS) Lab Control Sample (99.8%), 3) Acceptable analyte recovery of the (CCV) Continuing Calibration Verification standard at the end of sample batch (101%), 4) Acceptable analyte recovery of Laboratory Fortified Matrix (LFM) samples (average recovery of 95%) and the relative percent deviation between the LFM sample duplicates (1.91%).

ORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met. Analysis Comments:

Report Date : 11/26/2007

Page 4 of 9

National Institute of Oilseed Products National Oilseed Processors Association Louisiana Department of Agriculture American Oil Chemists Society Louisiana Department of Environmental Quality Russian Committee for Standardization (Gosstandart) Japanese Ministry of Health and Welfare Association of Official Analytical Chemists United States Department of Agriculture



Analysis Results

Analyte	Desult	Units	MDL.	Method Analyst	Start Date	En
Methodology:	Standard Methods for the Methods for Chemical A Test Methods for Evalua Edition, July 1992	e Examination of nalysis of Water a ting Solid Waste,	Water and V and Waste, I Physical, Cl	Vastewater, APHA, 2 EPA-600/4-79-020, N hemical Methods, EI	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	11:30 AM	
CAL Number:	CE33173			Sample Date:	11/16/2007	
Description:	20569692 - MW1 111	607		Sampled By:	N. MILLER	

Analyte	Result	Units	MDL	Nietnou A	Analyst	Start Da	te	End Date
Fluoride	3.7	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

Page 5 of 9

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Analysis Results

Analyte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the I Methods for Chemical Ana Test Methods for Evaluatin Edition, July 1992	Examination of alysis of Water ag Solid Waste	Water and and Waste , Physical,	Wastewater, APHA, 2 , EPA-600/4-79-020, 1 Chemical Methods, El	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	11:15 AM	
CAL Number:	CE33174			Sample Date:	11/16/2007	
Description:	20569693 - MW3 11160	07		Sampled By:	N. MILLER	

Analyce	Result	Omts		MICHIUU A	шагузс	Start Da	ic	Enu Datt
Fluoride	0.93	mg/L	0.05	340.2	CB	11/20/2007	11:00) 11/20/2007



Analysis Results

Analyte	Docult	Units	MDL	Method Analyst	Start Date	End I
Methodology:	Standard Methods for the Methods for Chemical An Test Methods for Evaluat Edition, July 1992	e Examination of nalysis of Water ting Solid Waste	Water and and Waste, Physical, (Wastewater, APHA, EPA-600/4-79-020, D Chemical Methods, El	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:15 AM			Sample Type:	WATER	
Submit Date:	11/20/2007			Sample Time:	10:55 AM	
CAL Number:	CE33175			Sample Date:	11/16/2007	
Description:	20569694 - MW12 111	1607		Sampled By:	N. MILLER	

Analyte	Result	Units	MDL .	Method A	maryst	Start Da	le .	End Date
Fluoride	1.21	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

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Analysis Results

Description:	20569695 - MW13 11	1607		Samp	oled By:	N. MILI	ER.	
CAL Number:	CE33176			Samp	ole Date	: 11/16/20	07	
Submit Date:	11/20/2007			Samp	le Tim	e: 10:30 Al	M	
Submit Time:	11:15 AM			Samp	ole Type	: WATER		
Methodology:	Standard Methods for th Methods for Chemical A Test Methods for Evalua Edition, July 1992	e Examination of analysis of Water ating Solid Waste	Water and and Waste, Physical,	Wastewate , EPA-600/4 Chemical M	r, APHA 4-79-020 1ethods,	., 20th Editio , March 1983 EPA SW-846	n 3 5, Thiro	d
Analyte	Result	Units	MDL	Method	Analys	t Start Da	ate	End Date
Fluoride	0.33	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007



Central Analytical Laboratories

QC Batch Results

<u>Fluoride</u>

Batch Name:	FLRIDL-18452	Batch Number:	18452	QA Sample ID:	CE32754
	AnalysisStar	Date 11/20/2007	AnalysisEnd	Date 11/20/2007	
	AnalysisStar	Time 11:00 AM	Analyst:	СВ	
	Fluoride		1,49	mg/L	
	Fluoride - LFM R	esult	11.10	mg/L	
	Fluoride - LFM D	upl Result	10.89	mg/L	
	Flucride - Blank		Not detected	mg/L	
	Fluóride-LFW Am	iount	10:00	mg/L	
	Fluoride - LFM %	Recovery	95:0	%	
	Fluoride-Relative	% Dev	1.9		
	Fluonde · LCS R	eșúļt	4.99	mg/L	
	Fluoride - LCS Ai	mount		mg/L	
	Fluoride - LCS %	Recovery	99:8	%	

Report Date : 11/26/2007

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//-2.6-17 Date/Time_//:19 //-2027 Date/Time	Trians / C.	mw 13	CLIENT SAMPLE ID MUUIIII MUUIIIIIII MUUIIIIIIIII		SU SU
D.M.M. Deceived L P.Q.U.S.L. Received J		11607	1607	reight Carrie trbill #: 2N #:	BCONTR
M. Renter 1130 07 M. Renter 115			SAMELIC INATERTIMA 111-X-17 1115 1115 105	2076/	LACTING CHAIN
Linkerve			MATRIX	<u>09</u> <u>Cu</u>	-OF-CU
			/ / /	<u>istody Seals</u> : <u>mples</u> : Inta <u>oler Temper</u>	STODY
			ANALYTE/ METHON	Intact / B ict / Broken , <u>ature (°C):</u>	T 201
			SAMPLE COMALENTS	/ Missing	HUNDA Prince Anna (1911)
	<u>, 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</u>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CE33173		d Serrices, fin, hand Bhal, Sidle F I, Rosa, LA, 71087 har 504,452,0235 far 504,452,0235

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

November 30, 2007

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

RE: Project: 2076025 RE: Project ID: COOPER JAL/039123

Dear Luke Markham:

Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Circly aloveran

Cindy Olavesen



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Sample Cross Reference

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Project: 2076025

Client: <u>CRA MIDLAND</u> Project ID: <u>COOPER JAL/039123</u>

	Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
** * 14811 ###	MW 2 111407	20569168	Water	11/14/07 14:10	11/15/07 10:00
	MW 2A 111407	20569169	Water	11/14/07 14:10	11/15/07 10:00
	MW 4 111407	20569170	Water	11/14/07 12:50	11/15/07 10:00
	MW 4A 111407	20569171	Water	11/14/07 12:50	11/15/07 10:00
	MW 5 111407	20569172	Water	11/14/07 13:35	11/15/07 10:00
	MW 5A 111407	20569173	Water .	11/14/07 13:35	11/15/07 10:00
	MW 9 111407	20569174	Water	11/14/07 12:00	11/15/07 10:00
	MW 9A 111407	20569175	Water	11/14/07 12:00	11/15/07 10:00
	MW 11 111407	20569176	Water	11/14/07 11:30	11/15/07 10:00

11/30/2007 11:25:45

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

Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: 2076025

Sample Receipt Condition:

All samples were received in accordance with EPA protocol.

Holding Times: All holding times were met.

Blanks:

All blank results were below reporting limits.

Laboratory Control Samples:

All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.



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

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Project: <u>2076025</u>

Analytical Method	Batch	Sample used for QC
 EPA 6010	94708	Project sample MW 2 111407
SM 2540C	94285	Batch sample from another client
SM 2320B	94300	Batch sample from another client
EPA 375.4	94224	Batch sample from another client
SM 4500-Cl E	94225	Batch sample from another client
SM 4500-NO3 F	94292	Batch sample from another client
SM 4500-NO3 F	94293	Project sample MW 9A 111407

11/30/2007 11:26:20

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

Project sample means a sample from this project was used. Client sample means a sample from the same client but in a different project was used. Batch sample means a sample from the a different client was used. ace Analytical New Orleans Laboratory

Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: MW 2 111407 Project ID: COOPER JAL/039123 Lab ID: 20569168 Description: None

Client: CRA MIDLAND

Project: 2076025

Site: None

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	44	19000	ug/L	5000	28-Nov-07	29-Nov-07 14:35	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	15	52000	ug/L	5000	28-Nov-07	29-Nov-07 14:35	KJR	
Potassium, Dissolved	EPA 6010	94708	ł	1	6200	ug/L	5000	28-Nov-07	29-Nov-07 14:35	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI 13	10000	ug/L	25000	28-Nov-07	29-Nov-07 23:31	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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

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Matrix: Water % Moisture: n/a Collected: 11/14/07

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

> Phone: 504,469.0333 Fax: 504,469.0555 LELAP # 02006

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 Client ID:
 MW 2A 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569169

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: None

Collected: <u>11/14/07</u>

Matrix: <u>Water</u> %N

%Moisture: <u>n/a</u>

Received: <u>11/15/07</u>

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	(56600	ug/L	5000	28-Nov-07	29-Nov-07 14:56	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	;	15300	ug/L	5000	28-Nov-07	29-Nov-07 14:56	KJR	
Potassium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 14:56	KJR	
Sodium, Dissolved	EPA 6010	94708	١	4	45400	ug/L	5000	28-Nov-07	29-Nov-07 23:45	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 4 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569170

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: None

%Moisture: <u>n/a</u>

Matrix: <u>Water</u> Collected: <u>11/14/07</u>

Received: <u>11/15/07</u>

					•		Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	11	70000	ug/L	5000	28-Nov-07	29-Nov-07 15:01	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	38	32000	ug/L	5000	28-Nov-07	29-Nov-07 15:01	KJR	
Potassium, Dissolved	EPA 6010	94708	1	4	48000	ug/L	5000	28-Nov-07	29-Nov-07 15:01	KJR	
Sodium, Dissolved	EPA 6010	94708	5	DI 47	60000	ug/L	25000	28-Nov-07	30-Nov-07 09:14	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW 4A 111407</u> Project ID: <u>COOPER JAL/039123</u> Lab ID: <u>20569171</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076025

Site: None

Collected: 11/14/07

Matrix: Water

% Moisture: <u>n/a</u>

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	20	05000	ug/L	5000	28-Nov-07	29-Nov-07 15:06	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	· ·	44900	ug/L	5000	28-Nov-07	29-Nov-07 15:06	KJR	
Potassium, Dissolved	EPA 6010	94708	1		7330	ug/L	5000	28-Nov-07	29-Nov-07 15:06	KJR	
Sodium, Dissolved	EPA 6010	94708	1	3	34000	ug/L	5000	28-Nov-07	29-Nov-07 23:49	KJR	

4 parameter(s) reported

11/30/2007 11:26:23

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 5 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569172

 Description:
 None

Client: CRA MIDLAND

Project: <u>2076025</u>

Site: <u>None</u> Matrix: <u>Water</u>

%Moisture: <u>n/a</u>

Collected: <u>11/14/07</u>

Received: <u>11/15/07</u>

	Reporting											
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis	Limit	t	
Calcium, Dissolved	EPA 6010	94708	1	8	12000	ug/L	5000	28-Nov-07	29-Nov-07 15:11	KJR		
Magnesium, Dissolved	EPA 6010	94708	1	2	40000	ug/L	5000	28-Nov-07	29-Nov-07 15:11	KJR		
Potassium, Dissolved	EPA 6010	94708	1		23300	ug/L	5000	28-Nov-07	29-Nov-07 15:11	KJR		
Sodium, Dissolved	EPA 6010	94708	5	D1 1	850000	ug/L	25000	28-Nov-07	30-Nov-07 09:21	KJR		

4 parameter(s) reported

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

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. 11/30/2007 11:26:23

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New Orleans Laboratory	
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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

99 19 19

Client ID: <u>MW 5A 111407</u> Project ID: <u>COOPER JAL/039123</u> Lab ID: <u>20569173</u>

Description: None

Client: CRA MIDLAND

Project: <u>2076025</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/14/07

% Moisture: <u>n/a</u>

Received: <u>11/15/07</u>

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1		73700	ug/L	5000	28-Nov-07	29-Nov-07 15:26	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		14000	ug/L	5000	28-Nov-07	29-Nov-07 15:26	KJR	
Potassium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 15:26	KJR	
Sodium, Dissolved	EPA 6010	94708	1		44200	ug/L	5000	28-Nov-07	29-Nov-07 23:53	KJR	
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parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 9 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569174

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/14/07

% Moisture: <u>n/a</u>

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1		74100	ug/L	5000	28-Nov-07	29-Nov-07 15:32	KJR	
Magnesium, Dissolved	EPA 6010	94708	l	:	39400	ug/L	5000	28-Nov-07	29-Nov-07 15:32	KJR	
Potassium, Dissolved	EPA 6010	94708	1		8730	ug/L	5000	28-Nov-07	29-Nov-07 15:32	KJR	
Sodium, Dissolved	EPA 6010	94708	1	14	41000	ug/L	5000	28-Nov-07	29-Nov-07 23:57	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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ace Analytical New Orleans Laboratory

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW 9A 111407</u> Project ID: <u>COOPER JAL/039123</u> Lab ID: <u>20569175</u> Description: <u>None</u> Client: CRA MIDLAND

Project: 2076025

Matrix: Water

Collected: 11/14/07

Site: None

% Moisture: <u>n/a</u>

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	1	15	3000	ug/L	5000	28-Nov-07	29-Nov-07 15:38	KJR	
Magnesium, Dissolved	EPA 6010	94708	1	3	35400	ug/L	5000	28-Nov-07	29-Nov-07 15:38	KJR	
Potassium, Dissolved	EPA 6010	94708	1		5030	ug/L	5000	28-Nov-07	29-Nov-07 15:38	KJR	
Sodium, Dissolved	EPA 6010	94708	1	7	70700	ug/L	5000	28-Nov-07	30-Nov-07 00:02	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 11 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569176

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: None

Collected: <u>11/14/07</u>

Matrix: Water

% Moisture: <u>n/a</u>

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Calcium, Dissolved	EPA 6010	94708	I	:	57200	ug/L	5000	28-Nov-07	29-Nov-07 15:44	KJR	
Magnesium, Dissolved	EPA 6010	94708	1		17400	ug/L	5000	28-Nov-07	29-Nov-07 15:44	KJR	
Potassium, Dissolved	EPA 6010	94708	1		ND	ug/L	5000	28-Nov-07	29-Nov-07 15:44	KJR	
Sodium, Dissolved	EPA 6010	94708	1	:	52400	ug/L	5000	28-Nov-07	30-Nov-07 00:14	KJR	

4 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 08-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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11/30/2007 11:26:23



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 2 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569168

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/14/07

%Moisture: <u>n/a</u>

Received: 11/15/07

							Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		178.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	l		178.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		178.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94225	100	DI	3280	mg/L	100.	15-Nov-07	15-Nov-07 15:04	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	1		1.93	mg/L	0.100	16-Nov-07	16-Nov-07 16:49	МНМ	
Sulfate	EPA 375.4	94224	50	DI	462.	mg/L	50.0	15-Nov-07	15-Nov-07 14:50	TAE	
Total Dissolved Solids	SM 2540C	94285	1		9110	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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11/30/2007 11:26:26



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 2A 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569169

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: None

% Moisture: n/a

Matrix: <u>Water</u> Collected: <u>11/14/07</u>

moisture. <u>In a</u>

Received: <u>11/15/07</u>

	Reporting										
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	۱		170.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		170.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		170.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94225	1		74.6	mg/L	1.00	15-Nov-07	15-Nov-07 14:06	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	1		1.51	mg/L	0.100	16-Nov-07	16-Nov-07 16:50	МНМ	
Sulfate	EPA 375.4	94224	5	D١	66.8	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		504.	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004

11/30/2007 11:26:27

Arkunsas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW 4 111407</u> Project ID: <u>COOPER JAL/039123</u> Lab ID: <u>20569170</u>

Description: None

Client:CRA MIDLANDProject:2076025Site:NoneMatrix:Water%1Collected:11/14/07

% Moisture: <u>n/a</u>

Received: <u>11/15/07</u>

						I	Reporting			Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis	Limi
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		255.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE
Alkalinity, Total	SM 2320B	94300	1		255.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE
Alkalinity,Bicarbonate (CaCO3)) SM 2320B	94300	1		255.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE
Chloride	SM 4500-Cl	94225	100	Dì	14800	mg/L	100.	15-Nov-07	15-Nov-07 15:44	TAE
Nitrogen, Nitrate	SM 4500-N	94292	5	DI	7.15	mg/L	0.500	16-Nov-07	16-Nov-07 17:57	MHM
Sulfate	EPA 375.4	94224	50	DI	1410	mg/L	50.0	15-Nov-07	15-Nov-07 15:00	TAE
Total Dissolved Solids	SM 2540C	94285	1		36300	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. 11/30/2007 11:26:27

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 4A 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569171

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: None

Collected: 11/14/07

Matrix: <u>Water</u> %

% Moisture: <u>n/a</u>

Received: <u>11/15/07</u>

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		311.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		311.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94300	1		311.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94225	10	DI	845.	mg/L	10.0	15-Nov-07	15-Nov-07 14:17	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	5	DI	3.60	mg/L	0.500	16-Nov-07	16-Nov-07 17:58	MHM	
Sulfate	EPA 375.4	94224	5	D1	167.	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		2650	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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Client ID: <u>MW 5 111407</u> Project ID: <u>COOPER JAL/039123</u> Lab ID: <u>20569172</u> Description: <u>None</u> Client: CRA MIDLAND

Project: <u>2076025</u>

Site: <u>None</u> Matrix: <u>Water</u>

Collected: 11/14/07

%Moisture: <u>n/a</u>

Received: 11/15/07

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		161.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B .	94300	1		161.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94300	1		161.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94225	100	DI	5790	mg/L	100.	15-Nov-07	15-Nov-07 15:04	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	5	D1	4.01	mg/L	0.500	16-Nov-07	16-Nov-07 17:59	MHM	
Sulfate	EPA 375.4	94224	50	DI	668.	mg/L	50.0	15-Nov-07	15-Nov-07 15:00	TAE	
Total Dissolved Solids	SM 2540C	94285	1		16300	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

11/30/2007 11:26:27

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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Sample Results

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 5A 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569173

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: <u>None</u> Matrix: <u>Water</u>

% Moisture: <u>n/a</u>

Collected: <u>11/14/07</u>

Received: <u>11/15/07</u>

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		227.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	I		227.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity,Bicarbonate (CaCO3)	SM 2320B	94300	1		227.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94225	1		54.4	mg/L	1.00	15-Nov-07	15-Nov-07 14:06	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	1		1.45	mg/L	0.100	16-Nov-07	16-Nov-07 16:56	мнм	
Sulfate	EPA 375.4	94224	5	DI	68.7	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		528.	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu fists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. 11/30/2007 11:26:27

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

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Client ID: <u>MW 9 111407</u>

Project ID: COOPER JAL/039123

Lab ID: <u>20569174</u>

Description: None

Client: CRA MIDLAND
Project: 2076025
Site: None

Matrix: Water

Collected: <u>11/14/07</u>

Received: <u>11/15/07</u>

% Moisture: <u>n/a</u>

						1	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		151.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		151.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE.	
Alkalinity,Bicarbonate (CaCO3) SM 2320B	94300	1		151.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-CI	94225	1		186.	mg/L	1.00	15-Nov-07	15-Nov-07 14:07	TAE	
Nitrogen, Nitrate	SM 4500-N	94292	1		1.48	mg/L	0.100	16-Nov-07	16-Nov-07 16:57	MHM	
Sulfate	EPA 375.4	94224	5	DI	156.	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		808.	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	
8 parameter(s) reported											

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

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For mojsture results, wet denotes result is not corrected for mojsture and n/a denotes not applicable.

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

11/30/2007 11:26:27

Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 08-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

 Client ID:
 MW 9A 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569175

 Description:
 None

Client: CRA MIDLAND

Project: <u>2076025</u>

Site: None

%Moisture: <u>n/a</u>

Matrix: <u>Water</u> Collected: <u>11/14/07</u>

<u>nioistaret <u>na</u></u>

Received: <u>11/15/07</u>

						J	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		605.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		605.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	L		605.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94225	10	DI	285.	mg/L	10.0	15-Nov-07	15-Nov-07 14:17	TAE	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.52	mg/L	0.100	16-Nov-07	16-Nov-07 17:00	МНМ	
Sulfate	EPA 375.4	94224	5	D1	64.7	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		1430	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. Louisiana Dept. of Environmental Quality (LELAP) - 02006 Louisiana Dept. of Health and Hospitals / Drinking Water - LA050004 Arkansas Dept. of Environmental Quality - LA050004 Florida Dept. of Health (NELAC) - E87595 Kansas Dept. of Health Environmental - E-10266 Pennsylvania DEP (NELAC) 68-04202 U.S. Dept. of Agricultural Foreign Soil Permit - S-47270

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> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

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 Client ID:
 MW 11 111407

 Project ID:
 COOPER JAL/039123

 Lab ID:
 20569176

 Description:
 None

Client: CRA MIDLAND

Project: 2076025

Site: <u>None</u> Matrix: <u>Water</u> Collected: <u>11/14/07</u>

% Moisture: <u>n/a</u>

Received: <u>11/15/07</u>

]	Reporting				Reg.
Analyte	Method	Batch	DF	Qu	Result	Units	Limit	Prep.	Analysis		Limit
Alkalinity, Carbonate (CaCO)	SM 2320B	94300	1		ND	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Hydroxide (CaCO)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Total	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Alkalinity, Bicarbonate (CaCO3)	SM 2320B	94300	1		189.	mg/L	10.0	16-Nov-07	16-Nov-07 15:40	TAE	
Chloride	SM 4500-Cl	94225	1		42.3	mg/L	1.00	15-Nov-07	15-Nov-07 14:07	TAE	
Nitrogen, Nitrate	SM 4500-N	94293	1		1.54	mg/L	0.100	16-Nov-07	16-Nov-07 17:03	MHM	
Sulfate	EPA 375.4	94224	5	D1	95.6	mg/L	5.00	15-Nov-07	15-Nov-07 14:12	TAE	
Total Dissolved Solids	SM 2540C	94285	1		452.	mg/L	4.00	16-Nov-07	16-Nov-07 13:30	SMS2	

8 parameter(s) reported

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

Limits are corrected for sample size, dilution and moisture content if applicable. Qu lists qualifiers. Specific qualifiers are defined at the end of the report. For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable. Regulatory limit may denote an actual regulatory limit or a client-requested notification limit. 11/30/2007 11:26:27

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



Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076025</u>

				LCS	LCS LCS	MS Sample	MS	MSD	MS	MSD	MSD	DUP	QC Limits	Max	Qu
Parameter Batch	Blank	ARL	Units	Spike	Found %Rec	Spike Found	Found	Found	%Rec	%Rec	RPD	RPD	LCS MS/MSD	RPD	_
Calcium, Diss 94708	ND	000	ug/L	10000	10610 106	10000-49500.00	443200	456100	0 *	66 *	3 *		78 - 118 75 - 158	2	Q3
Magnesium, D 94708	ND)00	ug/L	10000	10510 105	10000 51600.00	155800	157300	41*	56 *	1		78 - 116 75 - 135	3	Q3
Potassium, Dis 94708	ND)00	ug/L	10000	10450 105	10000 16170.00	26150	26470	100	103	I		77 - 117 21 - 149	2	
Sodium, Disso 94708	ND)00	ug/L	10000	10230 102	10000,08000.00	1047000	1024000	0 *	0 *	2		76 - 121 75 - 190	2	Q3

11/30/2007 11:26:31

* denotes recovery outside of QC limits. ND denotes Not Detected at or above the adjusted reporting limit or PQL.

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

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

^race Analytical New Orleans Laboratory

Inorganics Quality Control

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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076025</u>

Parameter B	atch	Blank	ARL	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD MS MSD MSD Found %Rec %Rec RPD	DUP RPD	QC Limits LCS MS/MSD	Max RPD	Qu
Sulfate 94	4224	ND	1.00	mg/L	34.2	33.91	99	10	0.00	13.26	133 *	0	90 - 110 75 - 125	20	QI
Chloride 94	4225	ND	1.00	mg/L	72.1	78	108	100	35.88	156.3	120	0	90 - 110 75 - 125	20	
Total Dissolve 94	4285	ND	4.00	mg/L	100	106	106		568.00			0	80 - 120 -	20	
Nitrogen, Nitr 94	4292	ND	0.100	mg/L				1	0.66	1.422	76 *	5	- 80 - 120	20	QI
Nitrogen, Nitr .94	4292			mg/L	1.21	1.124	93						90 - 110 -		
Nitrogen, Nitr 94	4293	ND	0.100	mg/L	1.21	1.124	93						90 - 110 -		
Alkalinity, Tot 94	4300			mg/L	50	48	96		44.20			0	90 - 110 -	20	

* denotes recovery outside of QC limits.

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

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

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

11/30/2007 11:26:34

57 5 74



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

> Phone: 504.469.0333 Fax: 504.469.0555 LELAP # 02006

Project: <u>2076025</u>

Qualifier	Qualifier Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.

11/30/2007 11:26:37

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

Pace Analytical 1000 Riverbist. Rose, LA	Sample Conditi and. Blvd., Sulte F 70087	2076025	20-CHEV_CRAT
Courier: 🗆 Pace Courier 🗆 Hack	barth 🛛 Fed X		USPS 🛛 Customer 🖓 Other
Custody Seal on Cooler/Box Present:	[see COC]		Custody Seals intact: □Xes □No
TherometerD Therm Fisher IR 1Used:D Therm Fisher IR 2	Type of Ice:	Wet Blue None	Samples on ice: [see COC]
Cooler Temperature: [see COC]	Temp should b	above freezing to 6°C	Date and Initials of person examining contents:
Temp must be measured from Temperature bl	ank when present	Comments:	
Temperature Blank Present"?	Tyes Data DN/A	1	
Chain of Custody Present:	Dres DNo	N/A 2	
Chain of Custody Complete:	Pres No C	N/A 3	
Chain of Custody Relinquished:	QYes DNo	N/A 4	
Sampler Name & Signature on COC:	ZYes DNo D	N/A 5	
Samples Arrived within Hold Time:	Dres DNO D	N/A 6	
Sufficient Volume:	Tres No C	N/A 7	
Correct Containers Used:	Dres No C	N/A 8	
Filtered vol. Rec. for Diss. tests	IYes DNO BARA 2 M	Plat	eller
Sample Labels match COC:	Thes INO I	N/A 10	
All containers received within manafactur precautionary and/or expiration dates.	e's Dres DNo D	N/A 11	m.
All containers needing preservation have checked (except VOA, coliform, & O&G).	been Dres DNo D	N/A 12	
All containers preservation checked four compliance with EPA recommendation.	nd to be in the loss of the lo	If No, was pres	erative added? □Yes □No I lot no.: HNO3 H2SO4
Samples checked for dechlorination:	DYes DNO DIVA	14	
Headspace in VOA Vials (>6mm):	Yes No HATA	14	
Trip Blank Present:	Yes INO DATA	16	
Trip Blank Custody Seals Present	Yes INO DATA	17	
Pace Trip Blank Lot # (if purchased):	N/A	18	
Client Notification/ Resolution: Person Contacted:			Date/Time:
		<u></u>	

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CHAIN-OF-CUSTODY I Anal The Chain-of-Custody is a LEGAL DOCUMENT. All section C montention: Section C montention: Section C montention: CHAIN-OF-CUSTODY I Anal section C montention: Section C montention: Company Name: Company Name: Composition: Company Name: Company Name: Composition: Company Name: Composition: Company Name: Company Name: Composition: Company Name: Company Name: Composition: Company Name: Company Name: Composition: Company Name: Company Name: Company Name: Composition: Company Name: Company Na

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Central Analytical Laboratories 2315 N. Causeway Blvd, Suite 150, Metairie, LA 70001 (504) 297-3400, Toll Free: (866) 388-3400 Fax: (504) 297-3410

DELIVER TO: Pace Analytical Services, Inc. 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Attn: Karen Brown

REPORT OF ANALYSIS

ANALYSES PERFORMED BY

Central Analytical Laboratories

 Report Date :
 11/26/2007

 Report Number :
 E2076025

Report Date : 11/26/2007

Page 1 of 14

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Central Analytical Laboratories

Client: Pace Analytical Services, Inc.

Report Number: E2076025

Sample Description Summary

Sample Description	Matrix	Collection	Date/Time	CAL Sample	ID Submittal	Date/Time
20569168 / MW2 111407	WATER	11/14/2007	14:10	CE32748	11/16/2007	10:40
20569169 / MW2A 111407	WATER	11/14/2007	14:10	CE32749	11/16/2007	10:40
20569170 / MW4 111407	WATER	11/14/2007	12:50	CE32750	11/16/2007	10:40
20569171 / MW4A 111407	WATER	11/14/2007	12:50	CE32751	11/16/2007	10:40
20569172 / MW5 111407	WATER	11/14/2007	13:35	CE32752	11/16/2007	10:40
20569173 / MW5A 111407	WATER	11/14/2007	13:35	CE32753	11/16/2007	10:40
20569174 / MW9 111407	WATER	11/14/2007	12:00	CE32754	11/16/2007	10:40
20569175 / MW9A 111407	WATER	11/14/2007	12:00	CE32755	11/16/2007	10:40
20569176 / MW11 111407	WATER	11/14/2007	11:30	CE32756	11/16/2007	10:40



Client: Pace Analytical Services, Inc. **Report Number:** E2076025 - 196° -

Sample analyses are performed according to U.S. Environmental Protection Agency approved methods, or ot methods cited in this report. Any deviations from, additions to, or exclusions from the designated test method noted in the "CASE NARRATIVE". Unless noted in the "CASE NARRATIVE", all quality control criteria w within method control limits.

Results contained herein apply only to the item(s) tested.

If chain of custody documentation was provided, it is documented as an attachment to this report.

Central Analytical Laboratories reserves the right to subcontact those tests for which we are not capable or accredited. Tests which are subcontracted are indicated on the Test Report as "SUB" under the Analyst head

Unless client requests otherwise, all samples will be stored for thirty days after the issue of an Analytical Repo

Central Analytical Laboratories is accredited by the Louisiana Environmental Laboratory Accreditation Program (LELAP). The results shown in this report are certified to be in accordance with the terms of LAC 33:I unless otherwise stated. Analyses for which Central Analytical Laboratories is not accredited, or which h been subcontracted to an unaccredited laboratory are noted in this report; such results are not covered by our accreditation.

This report shall not be reproduced except in full, without written approval by Central Analytical Laboratori All results are considered confidential by Central Analytical Laboratories,

John M. Reuther Laboratory Manager



Central Analytical Laboratories

2315 N. Causeway Bivd., Suite 150, Metairie, LA 70001 (504) 297-3400 Toll Free: (866) 388-3400 Fax: (504) 297-3410

Client: Pace Analytical Services, Inc.

Report Number : E2076025

CASE NARRATIVE

INORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria. Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met.

Analysis Comments: The quantitative results of Fluoride for CE32748-CE32753 (these samples were analyzed in batch FLRIDL-18451) and CE32754-CE32756 (these samples were analyzed in batch FLRIDL-18452) are below the lowest calibration standard of 2.00 mg/L. The results of samples are reported and qualified by the following data from batches FLRIDL-18451 and FLRIDL-18452: 1) Acceptable (LRB) Lab Reagent Blanks (<2 times MDL), 2) Acceptable analyte recoveries of the (LCS) Lab Control Samples in both batches (97% and 99.8%), 3) Acceptable analyte recoveries of the (CCV) Continuing Calibration Verification standards at the end of each sample batch (97% and 101%), 4) Acceptable analyte recoveries of Laboratory Fortified Matrix (LFM) samples in both batches (95%) and the relative percent deviation between the LFM samples and duplicates (1.2% and 1.9%).

ORGANIC QUALITY CONTROL

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were found to be within quality control criteria for the method.

Spike/Duplicate: Spike and Duplicate recoveries were found to be within acceptable limits of precision and accuracy.

Laboratory Quality Control Samples: All analyses met the quality control criteria of the method. Calibration Verifications: All criteria established for the method were met. Analysis Comments:

Report Date : 10/29/2007

Page 4 of 9

National Institute of Oilseed Products National Oilseed Processors Association Louisiana Department of Agriculture American Oil Chemists Society Louisiana Department of Environmental Quality Russian Committee for Standardization (Gosstandart) Japanese Ministry of Health and Welfare Association of Official Analytical Chemists United States Department of Agriculture

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Central Analytical Laboratories

Analysis Results

Description:	20569168 / MW2 111407	Sampled By:	PACE
CAL Number:	CE32748	Sample Date:	11/14/2007
Submit Date:	11/16/2007	Sample Time:	2:10 PM
Submit Time:	11:14 AM	Sample Type:	WATER
Methodology:	Standard Methods for the Examination Methods for Chemical Analysis of Wate Test Methods for Evaluating Solid Was Edition, July 1992	of Water and Wastewater, APHA, 2 er and Waste, EPA-600/4-79-020, N ste, Physical, Chemical Methods, EF	20th Edition March 1983 PA SW-846, Third
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Analyte	Result	Units	MDL	Method A	nalyst	Start Da	te	End Date
Fluoride	0.76	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

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Analysis Results

Description:	20569169 / MW2A 1	11407		Samp	oled By:	PACE		
CAL Number:	CE32749			Samp	ole Date	: 11/14/20	07	
Submit Date:	11/16/2007			Samp	ole Time	: 2:10 PM		
Submit Time:	11:14 AM			Samp	ole Type	: WATER		
Methodology:	Standard Methods for the Methods for Chemical A Test Methods for Evaluate Edition, July 1992	e Examination of Analysis of Water ating Solid Waste	Water and and Waste, , Physical,	Wastewate , EPA-600/4 Chemical M	r, APHA 4-79-020, 1ethods, I	, 20th Édition March 1983 EPA SW-846	n } 5, Thire	d
Analyte	Result	Units	MDL	Method	Analys	t Start Da	ıte	End Date
Fluoride	0.58	mg/L	0.05	340.2	СВ	11/20/2007	11:00	11/20/2007



Central Analytical Laboratories

Analysis Results

Description:	20569170 / MW4 111407	Sampled By:	PACE
CAL Number:	CE32750	Sample Date:	11/14/2007
Submit Date:	11/16/2007	Sample Time:	12:50 PM
Submit Time:	11:14 AM	Sample Type:	WATER
Methodology:	Standard Methods for the Examinatio Methods for Chemical Analysis of Wa Test Methods for Evaluating Solid W Edition, July 1992	n of Water and Wastewater, APHA, 2 ater and Waste, EPA-600/4-79-020, N aste, Physical, Chemical Methods, EP	20th Edition March 1983 PA SW-846, Third

Analyte	Result	Units	MDL	Method A	nalyst	Start Da	te	End Date
Fluoride	0.54	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

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Analysis Results

Analyte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the Methods for Chemical An Test Methods for Evaluati Edition, July 1992	Examination of alysis of Water ng Solid Waste	Water and and Waste, , Physical, (Wastewater, APHA, 2 , EPA-600/4-79-020, 1 Chemical Methods, El	20th Edition March 1983 PA SW-846, Th	ird
Submit Time:	11:14 AM			Sample Type:	WATER	
Submit Date:	11/16/2007			Sample Time:	12:50 PM	
CAL Number:	CE32751			Sample Date:	11/14/2007	
Description:	20569171 / MW4A 111	407		Sampled By:	PACE	

0.05

340.2 CB 11/20/2007 11:00 11/20/2007

mg/L



Analysis Results

Description:	20569172 / MW5 111407	Sampled By:	PACE
CAL Number:	CE32752	Sample Date:	11/14/2007
Submit Date:	11/16/2007	Sample Time:	1:35 PM
Submit Time:	11:14 AM	Sample Type:	WATER
Methodology:	Standard Methods for the Examination of Methods for Chemical Analysis of Wate Test Methods for Evaluating Solid Wast Edition, July 1992	of Water and Wastewater, APHA, 2 r and Waste, EPA-600/4-79-020, N e, Physical, Chemical Methods, EF	20th Edition March 1983 PA SW-846, Third
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Analyte	Result	Units	MDL	Method A	nalyst	Start Da	te]	End Date
Fluoride	0.37	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

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Analysis Results

Analvte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the Methods for Chemical Ar Test Methods for Evaluat Edition, July 1992	Examination of aalysis of Water ing Solid Waste	f Water and and Waste, , Physical,	Wastewater, APHA, EPA-600/4-79-020, l Chemical Methods, El	20th Edition March 1983 PA SW-846, Th	iird
Submit Time:	11:14 AM			Sample Type:	WATER	
Submit Date:	11/16/2007			Sample Time:	1:35 PM	
CAL Number:	CE32753			Sample Date:	11/14/2007	
Description:	20569173 / MW5A 11	1407		Sampled By:	PACE	

Analyte	Result	Units	MDL	Method A	Analyst	Start Date	End Date
Fluoride	0.66	mg/L	0.05	340.2	CB	11/20/2007 11	:00 11/20/200



Analysis Results

Description:	20569174 / MW9 111407	Sampled By:	PACE
CAL Number:	CE32754	Sample Date:	11/14/2007
Submit Date:	11/16/2007	Sample Time:	12:00 PM
Submit Time:	11:14 AM	Sample Type:	WATER
Methodology:	Standard Methods for the Examination of V Methods for Chemical Analysis of Water a Test Methods for Evaluating Solid Waste, Edition July 1992	Water and Wastewater, APHA, 2 and Waste, EPA-600/4-79-020, N Physical, Chemical Methods, El	20th Edition March 1983 PA SW-846, Third

Analyte	Result	Units	MDL	Method A	nalyst	Start Da	te	End Date
Fluoride	1.49	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

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Central Analytical Laboratories

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Analysis Results

Analyte	Result	Units	MDL	Method Analyst	Start Date	End Date
Methodology:	Standard Methods for the I Methods for Chemical Ana Test Methods for Evaluatin Edition, July 1992	Examination of alysis of Water ng Solid Waste	Water and and Waste , Physical,	Wastewater, APHA, 2 , EPA-600/4-79-020, N Chemical Methods, EI	20th Edition March 1983 PA SW-846, Th	ird.
Submit Time:	11:14 AM			Sample Type:	WATER	
Submit Date:	11/16/2007			Sample Time:	12:00 PM	
CAL Number:	CE32755			Sample Date:	11/14/2007	
Description:	20569175 / MW9A 111	407		Sampled By:	PACE	

mg/L

0.05

340.2

CB 11/20/2007 11:00 11/20/2007



Analysis Results

Description:	20569176 / MW11 111407	Sampled By:	PACE
CAL Number:	CE32756	Sample Date:	11/14/2007
Submit Date:	11/16/2007	Sample Time:	11:30 AM
Submit Time:	11:14 AM	Sample Type:	WATER
Methodology:	Standard Methods for the Examination of W Methods for Chemical Analysis of Water a Test Methods for Evaluating Solid Waste, Edition, July 1992	Vater and Wastewater, APHA, 2 nd Waste, EPA-600/4-79-020, N Physical, Chemical Methods, EF	20th Edition March 1983 PA SW-846, Third

Analyte	Result	Units	MDL	Method	Analyst	Start Da	te	End Date
Fluoride	1.98	mg/L	0.05	340.2	CB	11/20/2007	11:00	11/20/2007

Report Date : 11/26/2007

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Central Analytical Laboratories

QC Batch Results

<u>Fluoride</u>

Batch Name:	FLRIDL-18451	Batch Number:	18451	QA Sample ID:	CE32648
	AnalysisStar	tDate 11/20/2007	AnalysisEn	dDate 11/20/2007	
	AnalysisStar	tTime 11:00 AM	Analyst:	СВ	
	Fluoride		3,0	mg/L	
	Fluoride - LFM R	esult	12.55	mg/L	
	; Fluoride - LFM D	upl Result	12.40	mg/L	
	Fluor/de - Blank	1999 - Angelander an	Not detected	mg/L	
	Fluoride-LFM Am	ount	10,00	mg/L	
	Fluoride - LFM %	Recovery	<u>94,8</u>	%	
	Fluoride-Relative	% Dev	1.2	%	
	Fluoride - LCS Re	esult	4.85	mg/L	
	Fluoride - LCS Ar	nount	5.00	mg/L	
	Fluoride - LCS %	Recovery	97.0	%	
Fluorido			l	l	

<u>Fluoride</u>

Batch Name:	FLRIDL-18452	Batch Number:	184
Daten Name.	FLRIDL-10432	Daten Humber.	104

452

QA Sample ID: CE32754

AnalysisStartDate 11/20/2007	AnalysisEndD	ate 11/20/2007
AnalysisStartTime 11:00 AM	Analyst:	СВ
Fluoride	1,49	mg/L
Flugrige - LFM Result	11,10	mg/L
Fluoride - LFM Dupl Result	10:89	mg/L
Flionide - Blank	Not detected	mg/L
Fluoride-LFM Amount	10,,00	mg/L
Fluoride - LFM % Recovery	95:0	%
Fluoride-Relative % Dev	1.9	%
Fluoride - LCS Result	4,99	mg/L
Fluoride - LCS Amount	5,00	mg/L
Fluoride - LCS % Recovery	99.8	%

Report Date : 11/26/2007

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AIN-OF-CUST	Custody Seals: Infact / Br Samples: Infact / Broken / CQS Cooler Temperature (°C): V/G WT Swnievze McMiNNW V/G WT J 258 258 258 258 258 258 258 260 260 260 260 260 260 260 260 260 260	AIN-OF-CUSTURY (2000 http: Custody Seals: Intact / Broken / Missing CQS_Cooler Temperature (°C): U.C. Samples: Intact / Broken / Missing CQS_Cooler Temperature (°C): U.C. SAMELER ARALYINK SAMELER MALLINK SAMELER MALLINK	UKALAGAA, MAANIMI, eccived for subconfractor by the ATTENTION OF KAD	11.11 1.11 1.10 1.11			# 2076 SAMPLED	Carrier: CA
	UUY v Seals: Infact / Br s: Infact / Broken / Temperature (°C): Angularity METRODE METRODE C. Angularity Angularity C.	VSeals: Intact / Broken / Missing S: Intact / Broken / Missing Temperature (°C): () () () Temperature (°C): () () () Temperature (°C): () () () () Temperature (°C): () () () () () () () () () () () () ()	EN BROWN. If the har	Traject Comme	200	335 225 335 335 335 335 335 335 335 335	Mar MATUR SAT	IAIN-OF-CUST

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