

March 29, 2012

Mr. Glenn von Gonten

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87504

#### Re: Comprehensive Groundwater Sampling Report for the Celero Energy II, LP, Rock Queen Unit Tract 11 Tank Battery, Located in Unit Letter G, Section 26, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1595).

#### Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tract 11 Tank Battery (Site) from May 2007 through December 2011. The Site is located approximately 21-1/2 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

#### FACILITY BACKGROUND

#### <u>Pit Closure</u>

On September 20, 2007, Highlander (Tetra Tech) submitted an Investigation and Characterization work plan (ICP) for an open pit at the Site. The ICP was subsequently approved by the New Mexico Oil Conservation Division (NMOCD).

The Tract 11 Tank Battery pit was dewatered and the residual sludge, tank bottom materials, and liner were removed in September 2007. Removed fluids were placed into an existing SWD system or taken for disposal, while the sludge, tank bottom materials, and liner were disposed of at Gandy-Marley, Inc.'s landfill site in Lovington, New Mexico. Upon completion of the removal of the fluids, sludge, and liner, the underlying soils were visually inspected for signs of impact. Approximately 960 cubic yards of soil were excavated and transported to Gandy-Marley, Inc. for disposal. The pit was excavated to a point where the

1910 North Big Spring, Midland, TX 79705 **Fax** 432.682.3946 www.tetratech.com



subsoil would support a soil boring rig.

On October 12, 2009, a report entitled *Assessment and Closure Report for the Pit located at the Rock Queen Unit Track 11 Tank Battery* was submitted to the NMOCD. The report detailed the closure of the former pit at the facility.

#### Groundwater Investigation

Between May 2007 and December 2010, Celero installed seven 2-inch monitor wells (MW-1 through MW-7) and one 5-inch recovery well (RW-1) to assess the groundwater quality at the Site. The lithology at the Site was relatively consistent with sandy limestone encountered to approximately 15 to 20 feet below ground surface (bgs) and very fine grain sand extending to approximately 140 to 155 feet bgs. From approximately 140 to 155 feet to the terminus of the borings (approximately 160 to 170 feet) the soils consisted of gray to red clay. See Appendix A for Boring Logs.

During the investigation, groundwater was encountered at depths of approximately 135 to 140 feet bgs. Monitor Well MW-1 was drilled into the surrounding underlying clay to 160 feet bgs and installed with 50 feet of 0.02 inch slotted screen. The remaining monitor wells were drilled to depths of 160 to 170 feet bgs and installed with 30 feet of 0.02 inch slotted screen. Recovery well RW-1 was drilled to a depth of 160 feet and installed with 30 feet of 0.035 inch slotted screen. From the top of the screens to the surface of the boring, the wells were completed with blank schedule 40 PVC casing. See Appendix B for monitor well installation diagrams.

During the investigation and subsequent sampling, the only constituent of concern detected in the groundwater above New Mexico Water Quality Control Commission (NMWQCC) standards was chlorides. No Phase Separated Hydrocarbons (PSH) or dissolved phase separated hydrocarbons have been measured or detected in any of the onsite monitor wells above NMWQCC standards. See Figure 3 detailing the monitor well locations.

#### Gauging and Monitor Well Sampling

On May 25, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling was initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for all but the May 25, 2007 sampling event. The hydraulic gradient indicates a southeasterly direction. Groundwater gradient maps for the sampling events are included as Figures 4 through 10. Gauging data is summarized in Table 1.

During the sampling events, each of the wells was purged utilizing either a submersible pump or by hand bailing and subsequently sampled for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+. The samples were properly preserved and submitted under proper chain-of-custody control to Trace Analysis Inc. of Lubbock, Texas. All water samples collected and analyzed were below the NMWQCC standard of 0.01 milligrams per liter (mg/L) of benzene. Chlorides for the sampling period ranged from 493 mg/L in monitor well MW-6 on July 27, 2011 to 122,000 mg/L in monitor well MW-1 on January 19, 2011. All the monitor wells during the sampling events exceeded the NMWQCC standard of 250 mg/L chlorides. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 11 through 18. Copies of the laboratory analyses are enclosed in Appendix C.

During purging activities, it was noted that all six monitor wells and one recovery well did not pump dry.

#### CONCLUSIONS

- On May 25, 2007, initial sampling began at the site. In 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged, and sampled. The samples were preserved and delivered to Trace Analysis, Inc. of Midland, Texas for analysis of BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+.
- 2. The hydraulic gradient indicates a southeasterly direction.
- 3. All wells tested below the NMQQCC standards of 0.01 mg/L for benzene.
- 4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells. The chloride concentrations at the site range from 493 mg/L in monitor well MW-6 on July 27, 2011 to 122,000 mg/L in monitor well MW-1 on January 19, 2011.

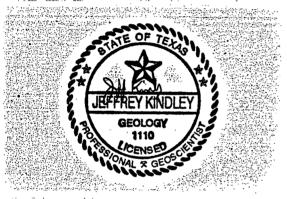
#### RECOMMENDATIONS

1. Quarterly groundwater monitoring and gauging will be continued throughout the year.



- 2. Additional monitor wells will be installed in order to further delineate the chloride plume at the site.
- 3. A remediation system consisting of either a low flow solar/electric pump or windmill system will be installed in recovery well RW-1. The recovered fluids will be collected in an above ground tank and utilized for possible water flooding purposes in the surrounding oilfield.

If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

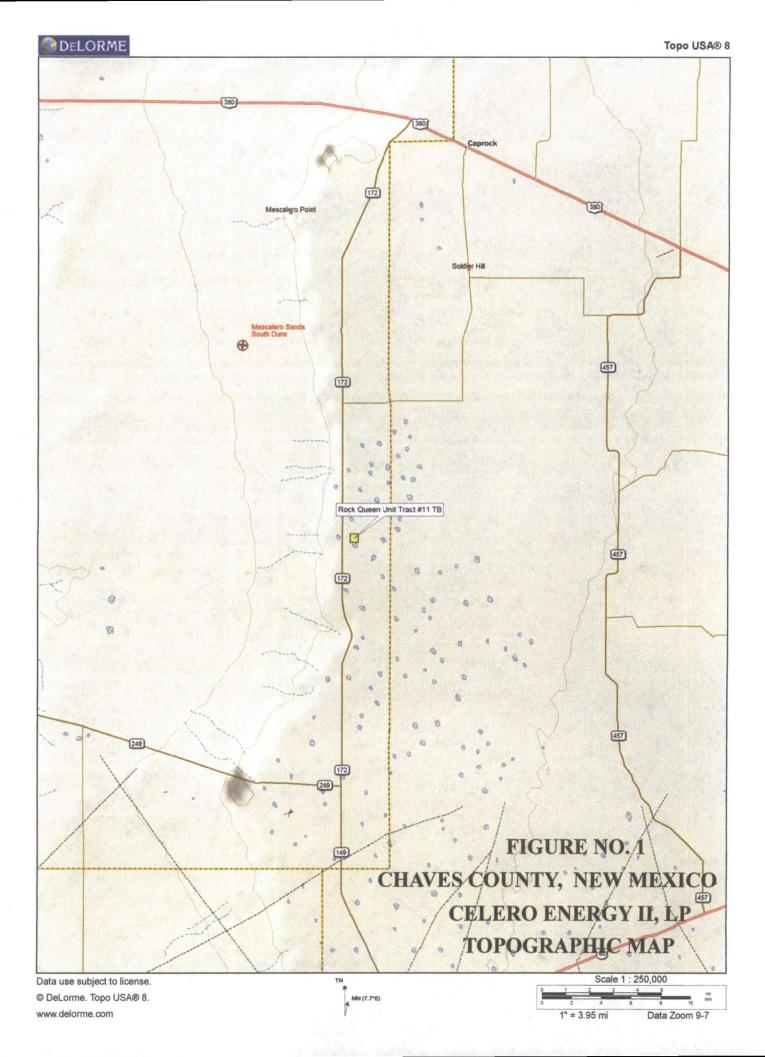


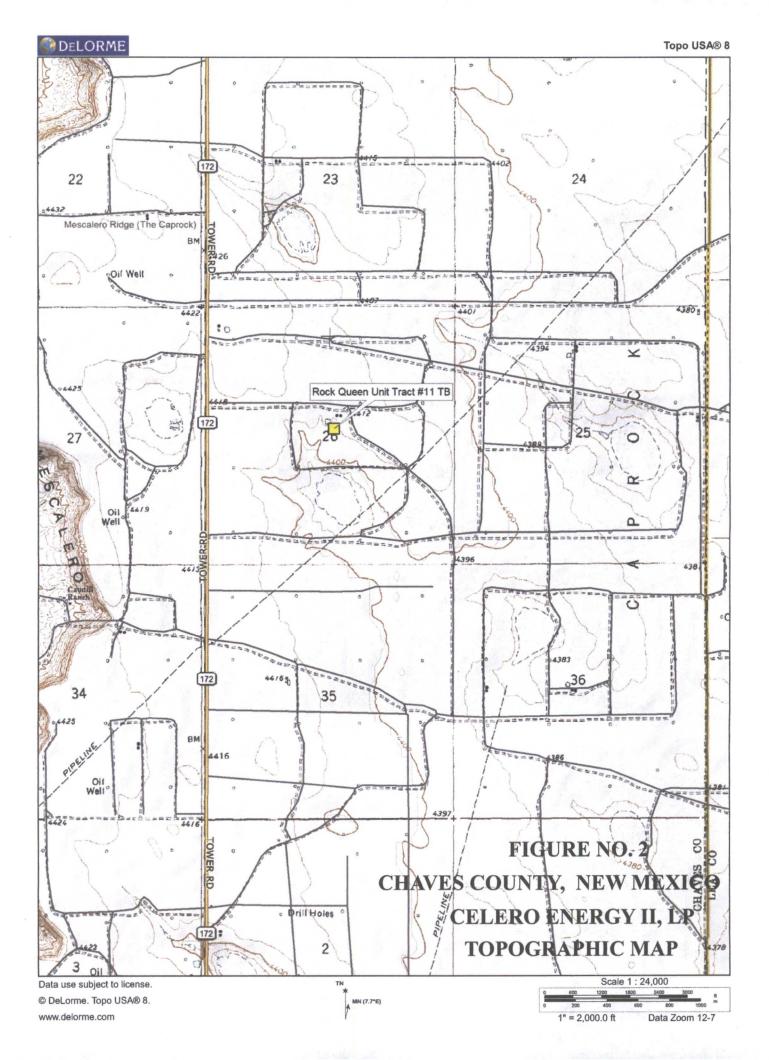
Respectfully submitted, Tetra Tech, Inc.

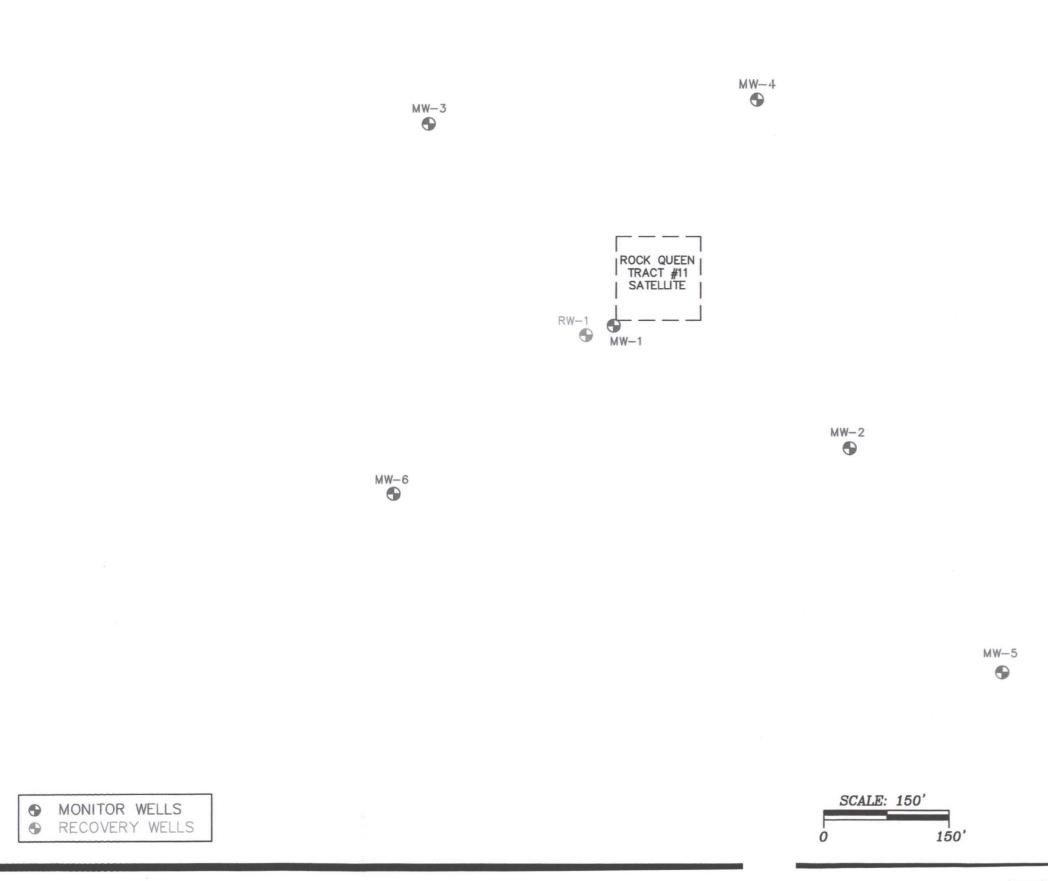
Jeffrey Kindley, P.G. Senior Environmental Geologist

cc: Bruce Woodard - Celero Energy II, LP

## **FIGURES**







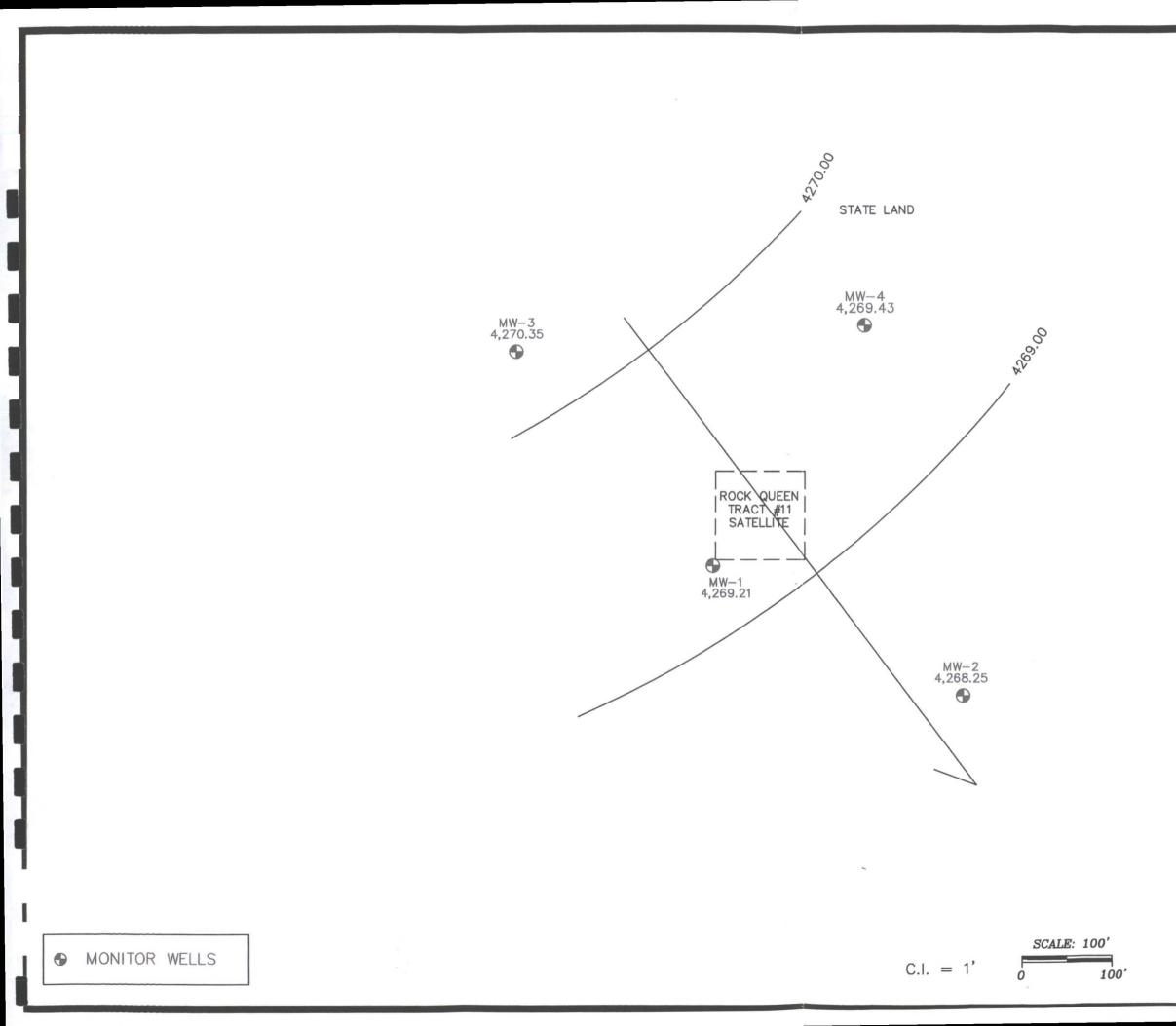
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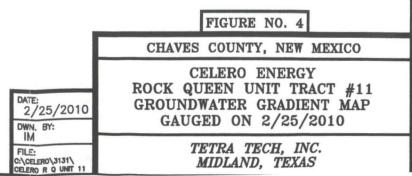
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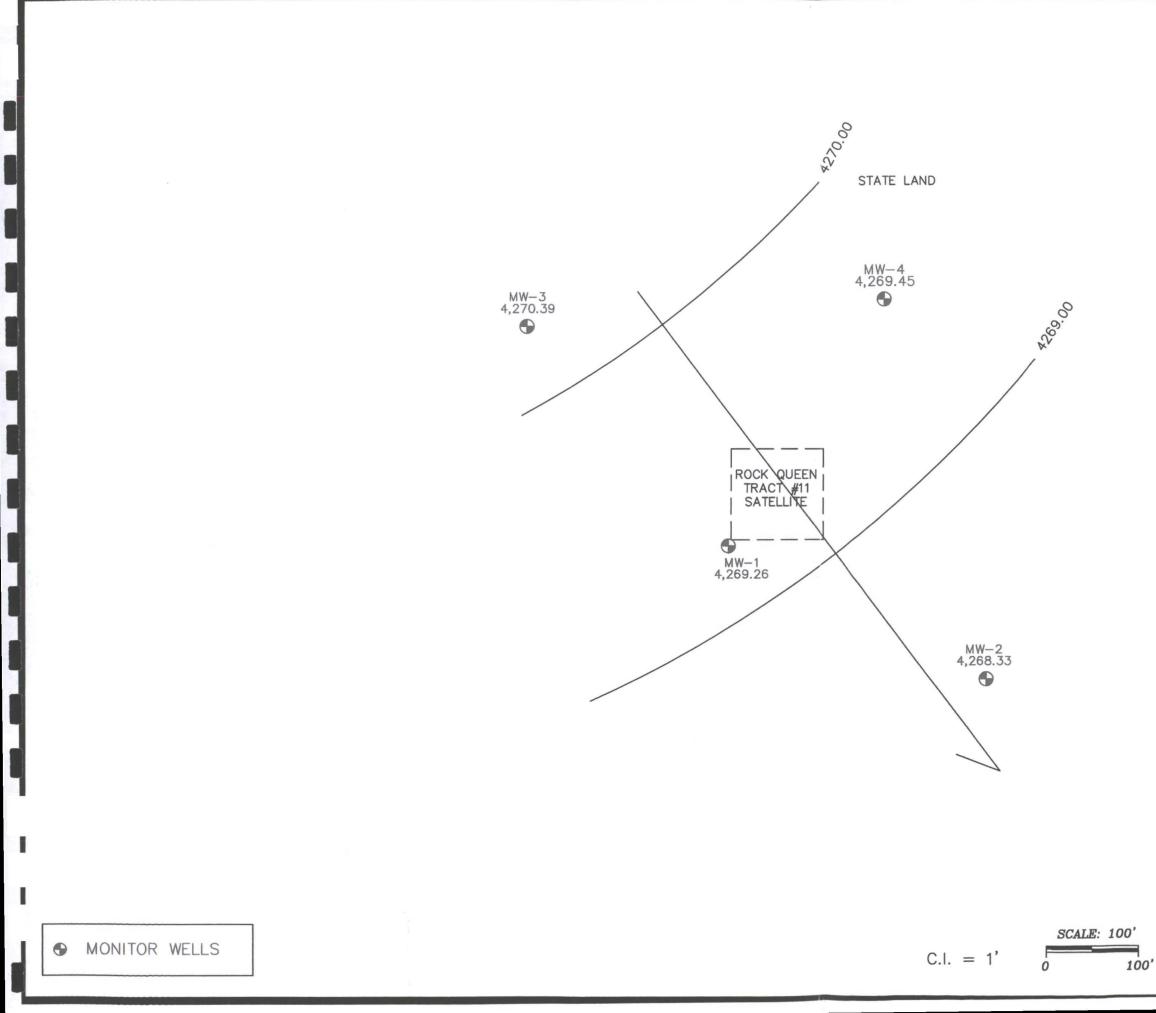
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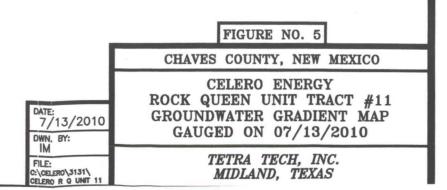
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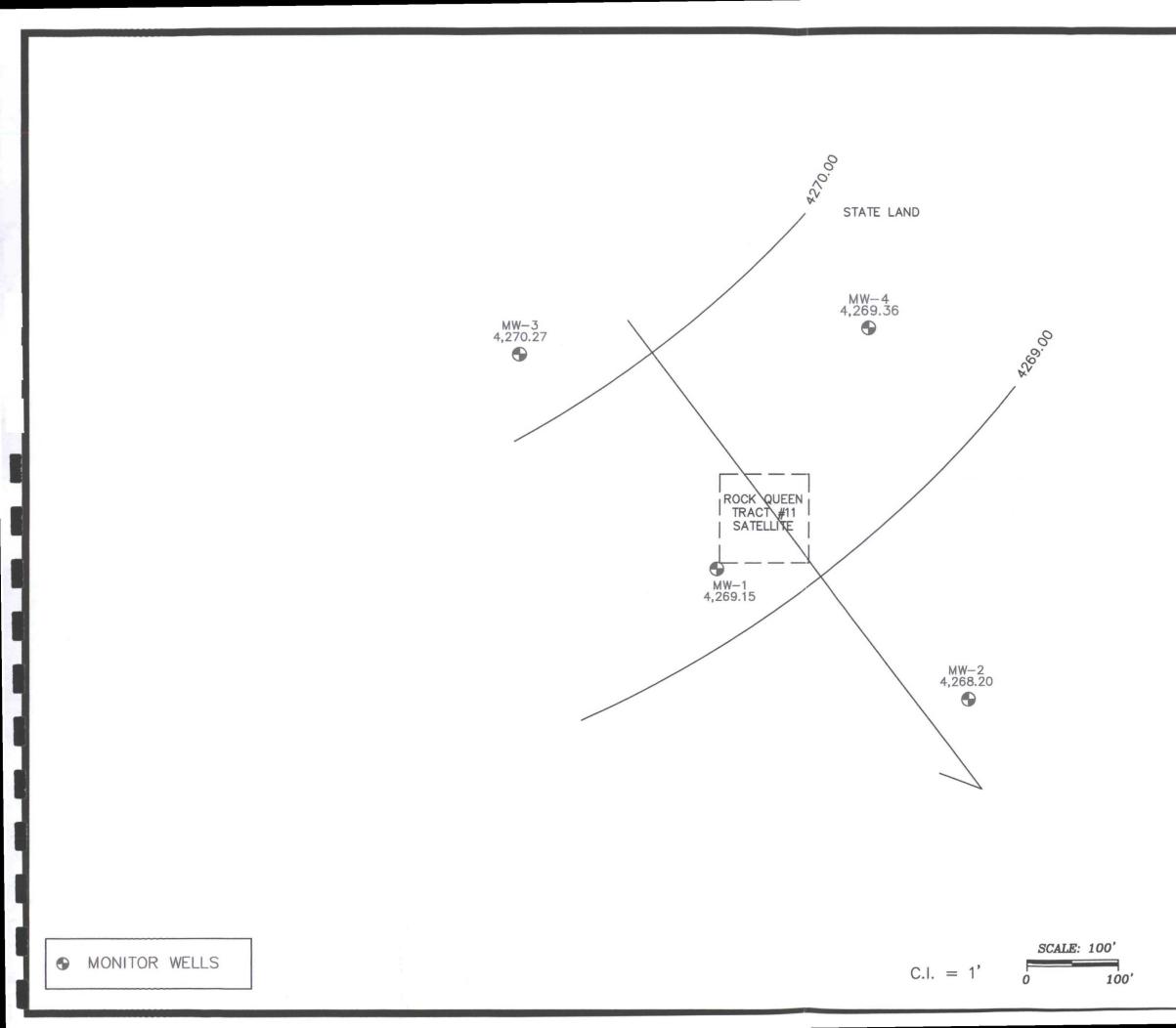
	FIGURE NO. 3
	CHAVES COUNTY, NEW MEXICO
DATE: 6/4/10 DWN, BY:	CELERO ENERGY ROCK QUEEN UNIT TRACT #11 SITE MAP
JJ FILE: C:\CELERO\3131\ CELERO R Q UNIT 11	TETRA TECH, INC. MIDLAND, TEXAS



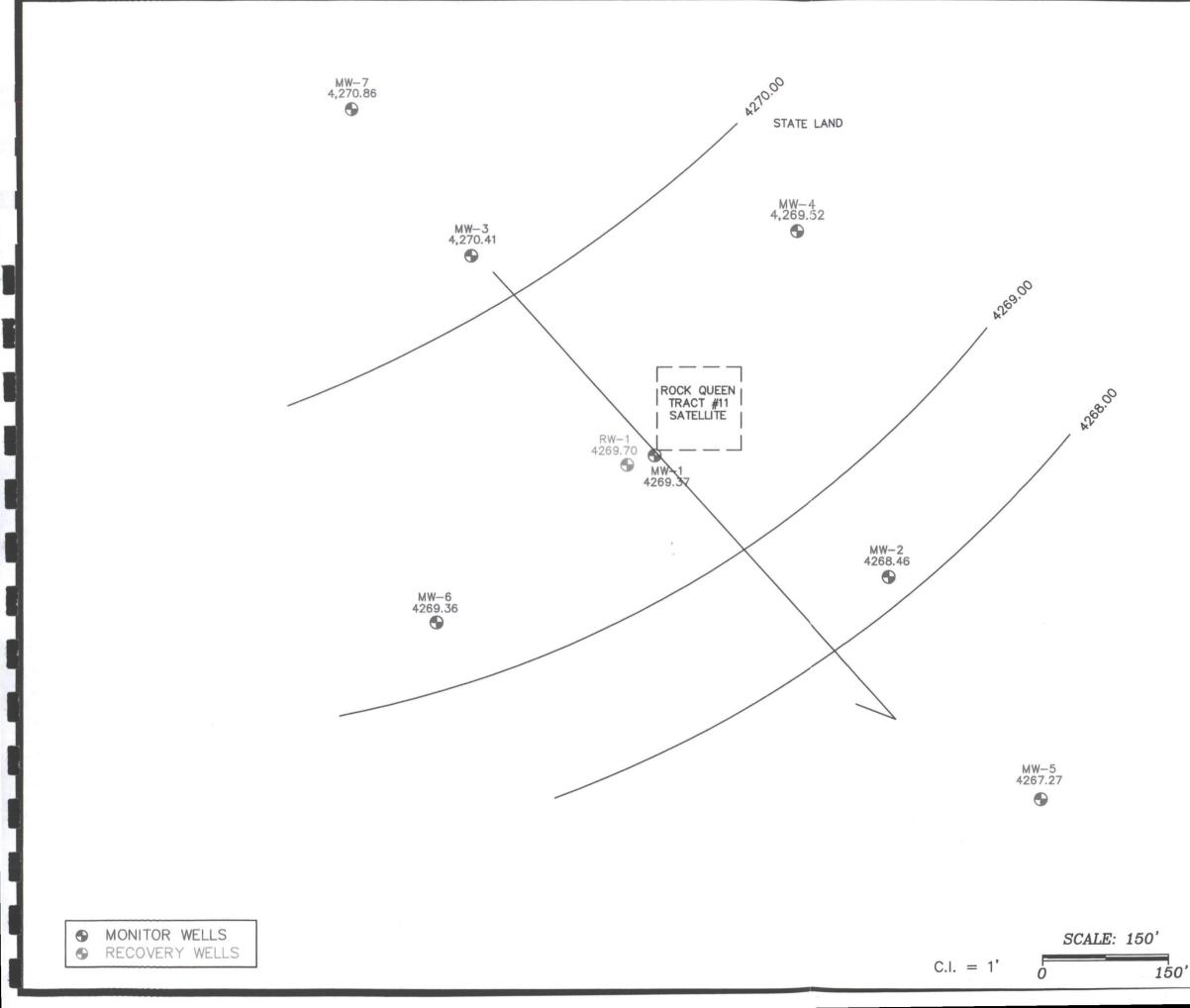


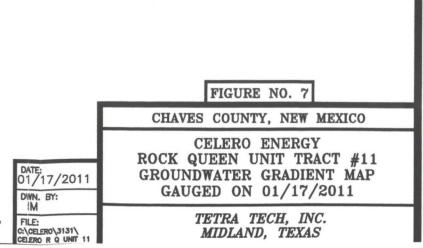


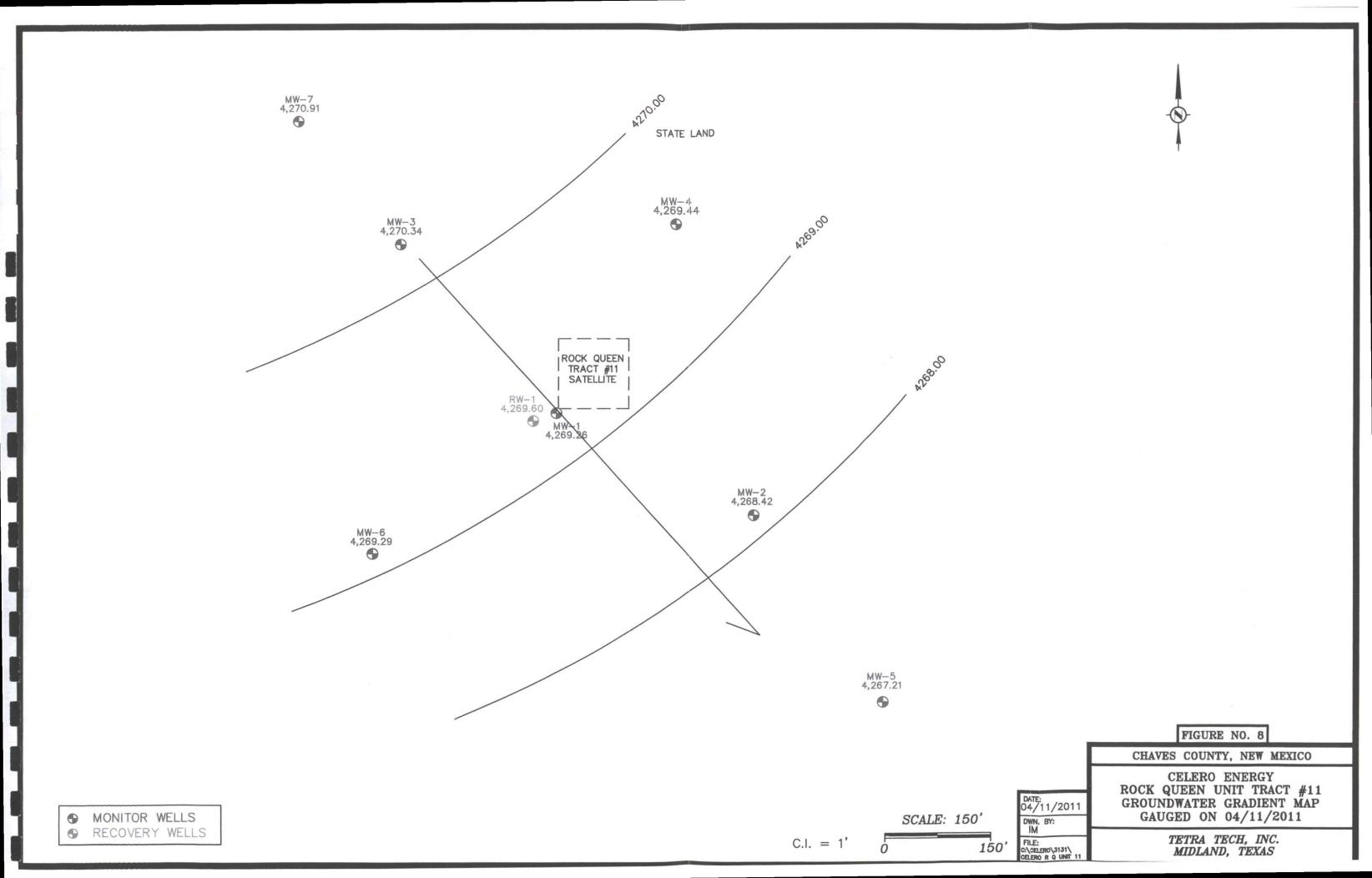


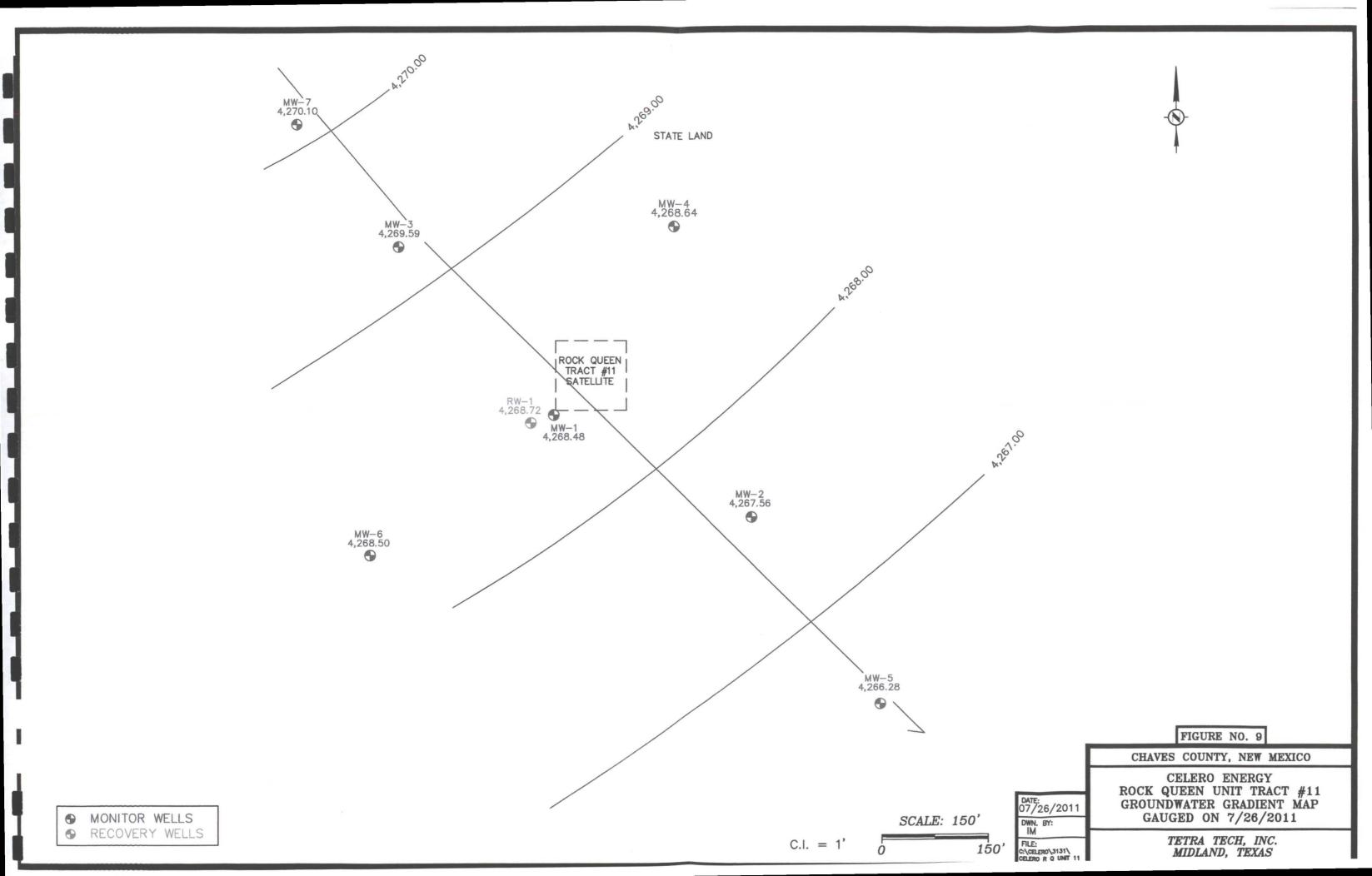


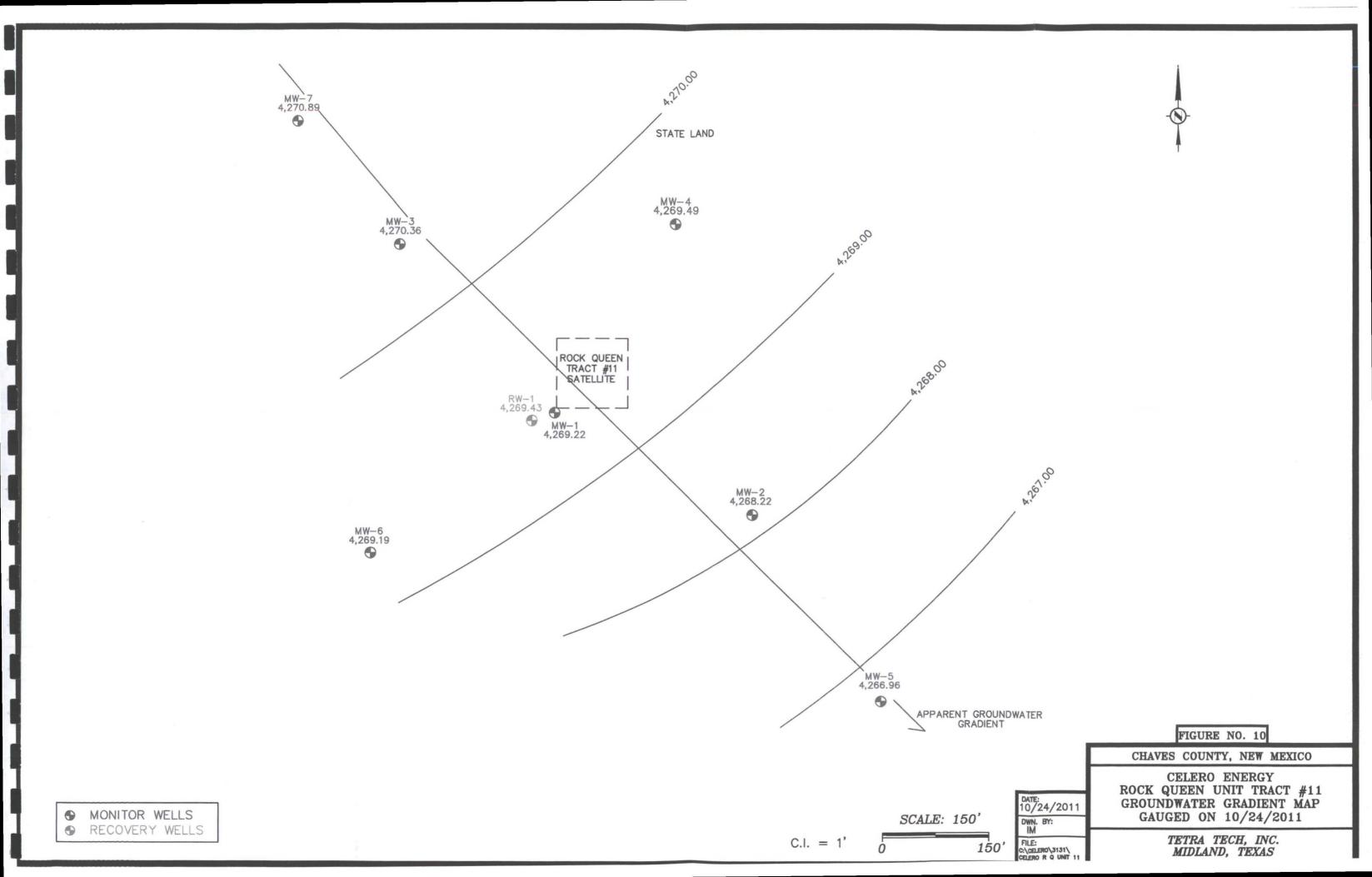


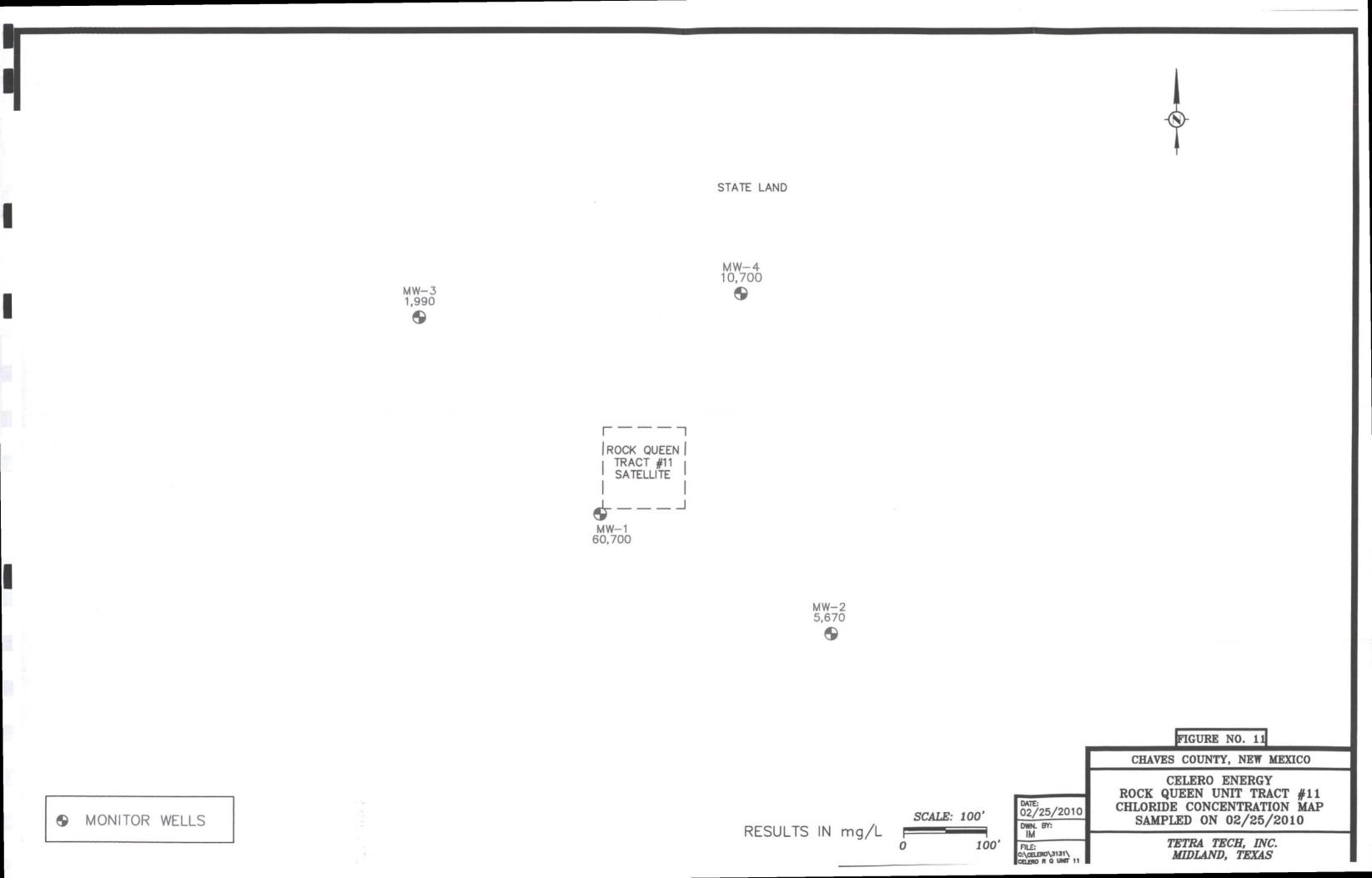


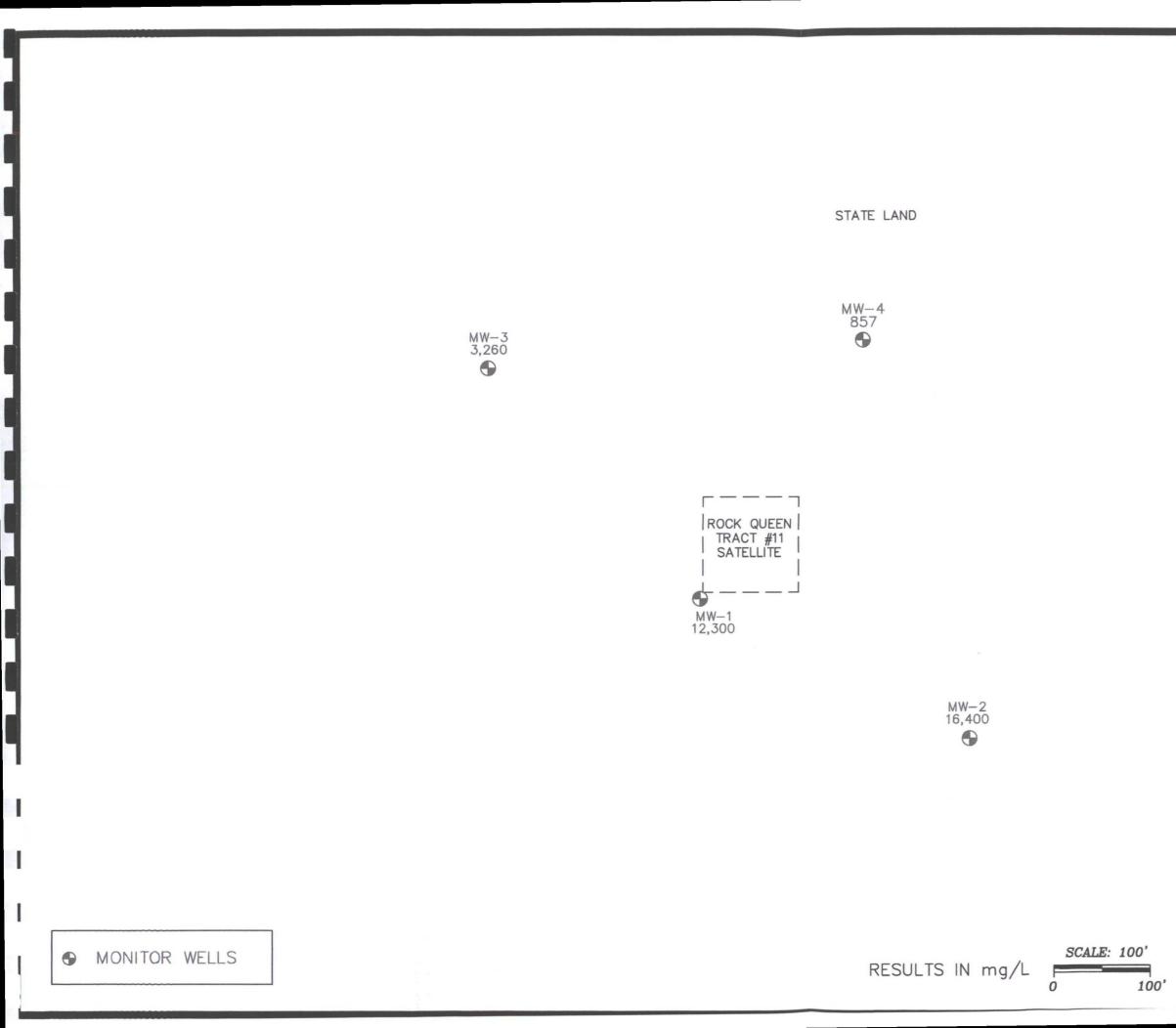


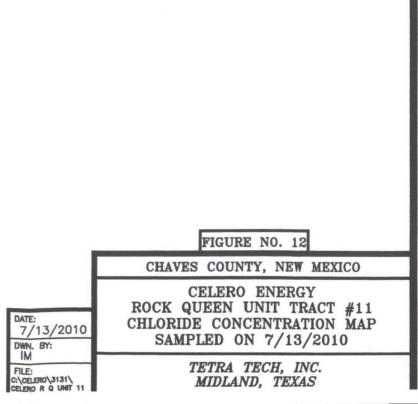


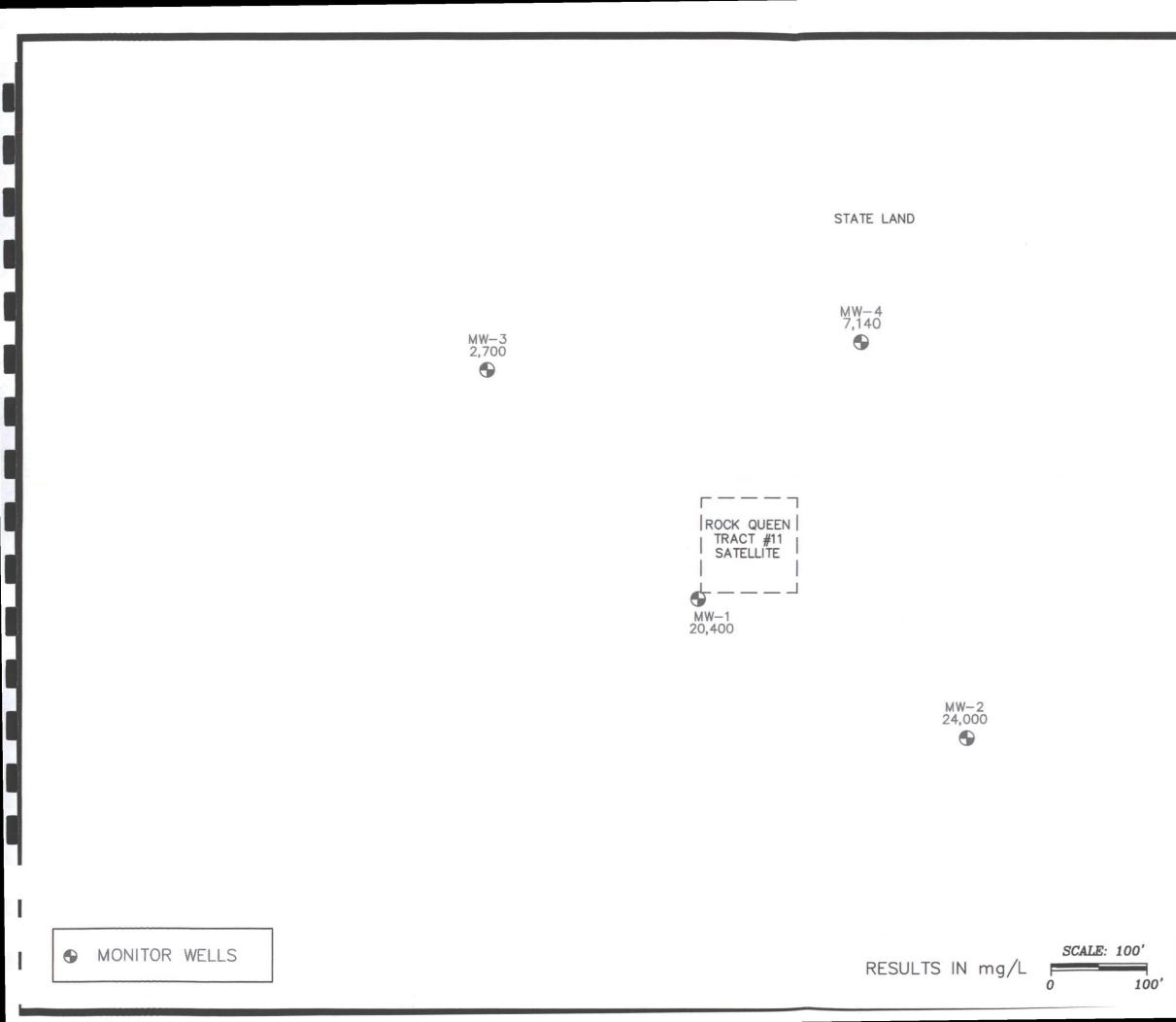


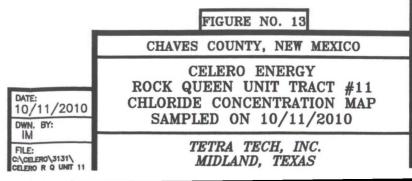


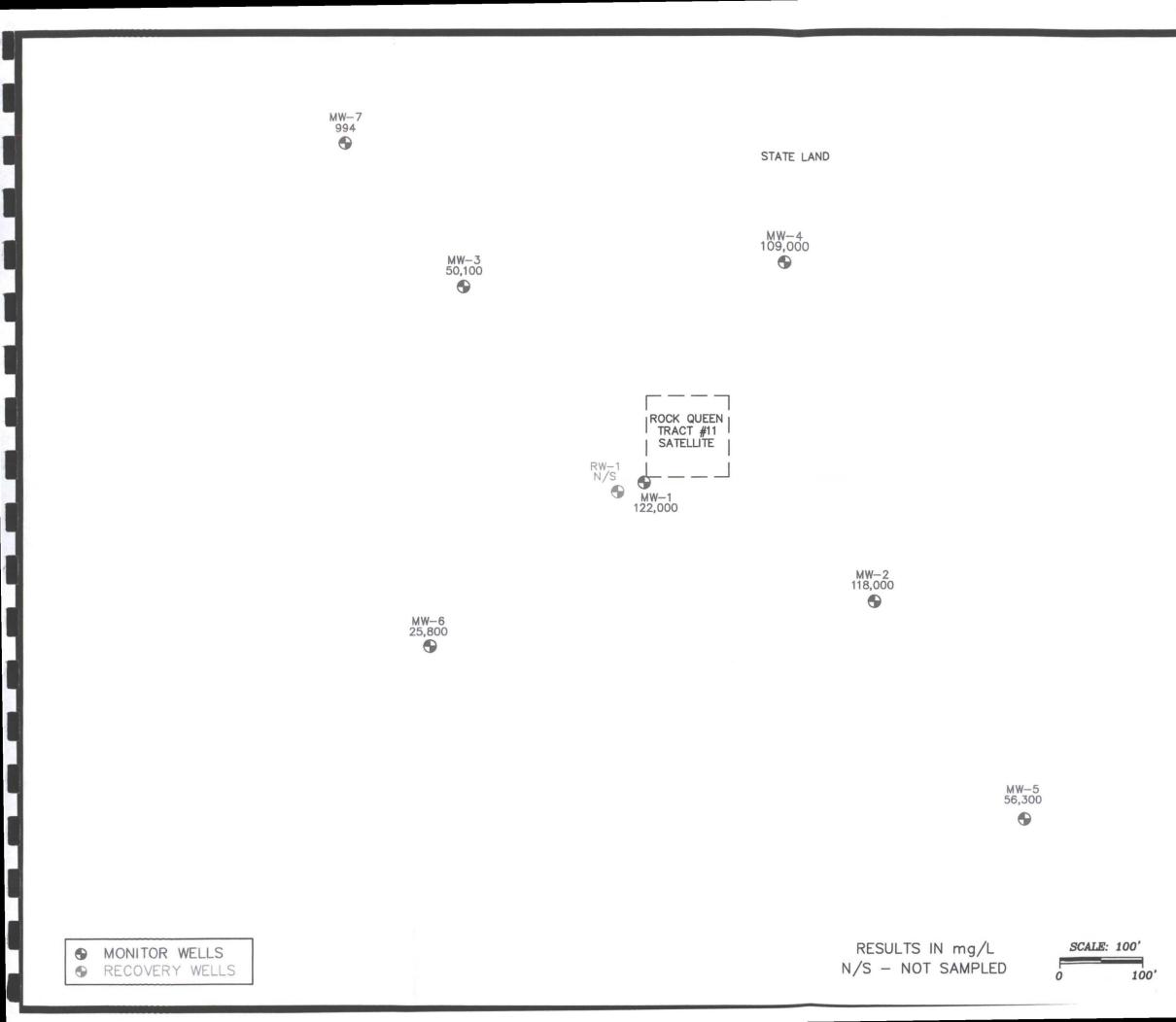


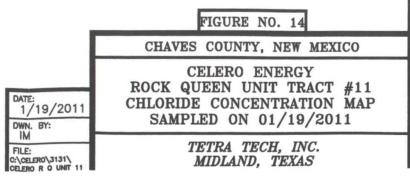


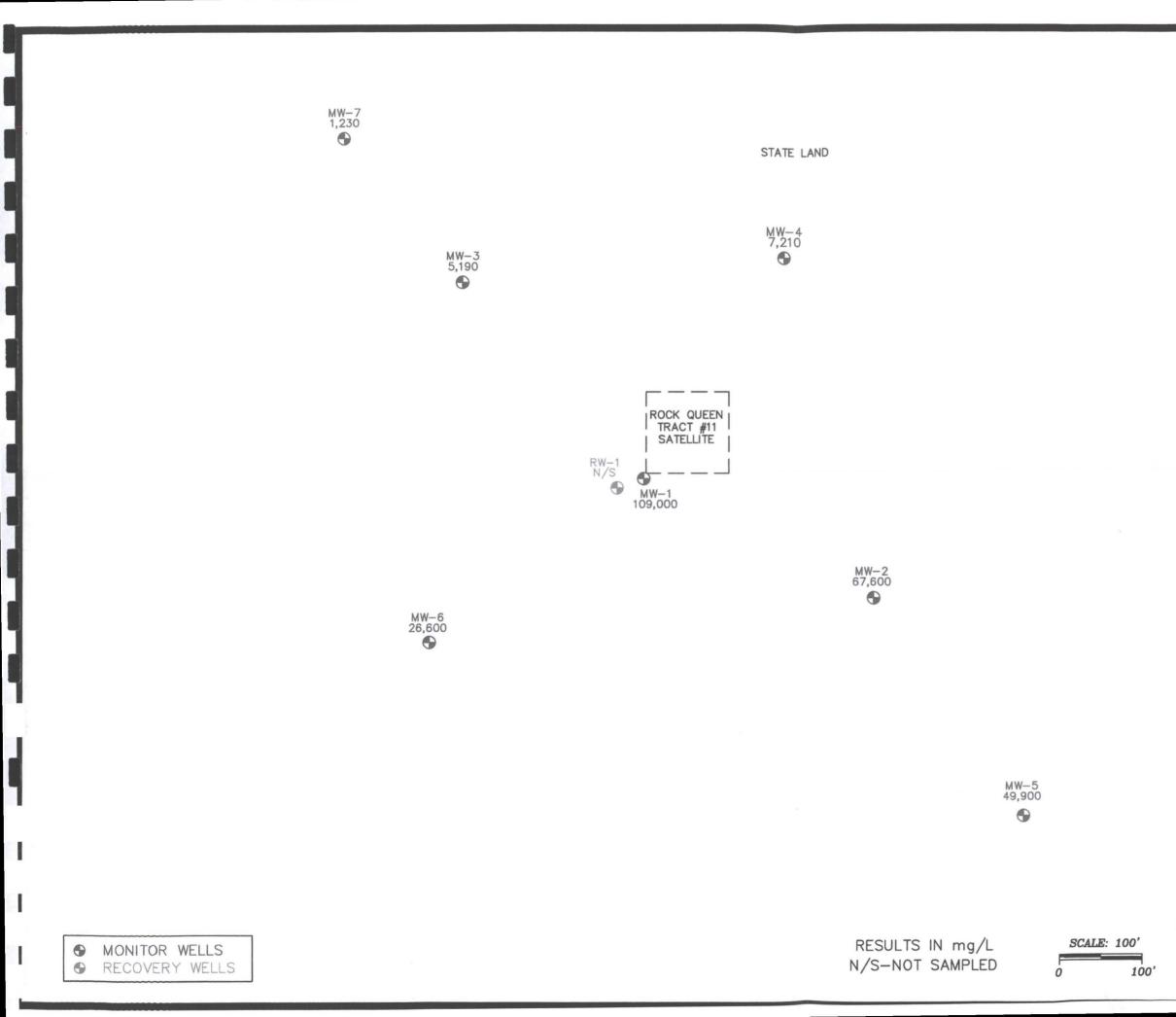


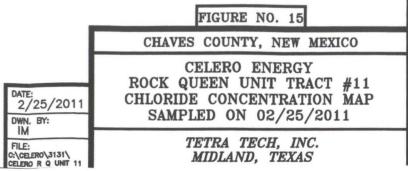


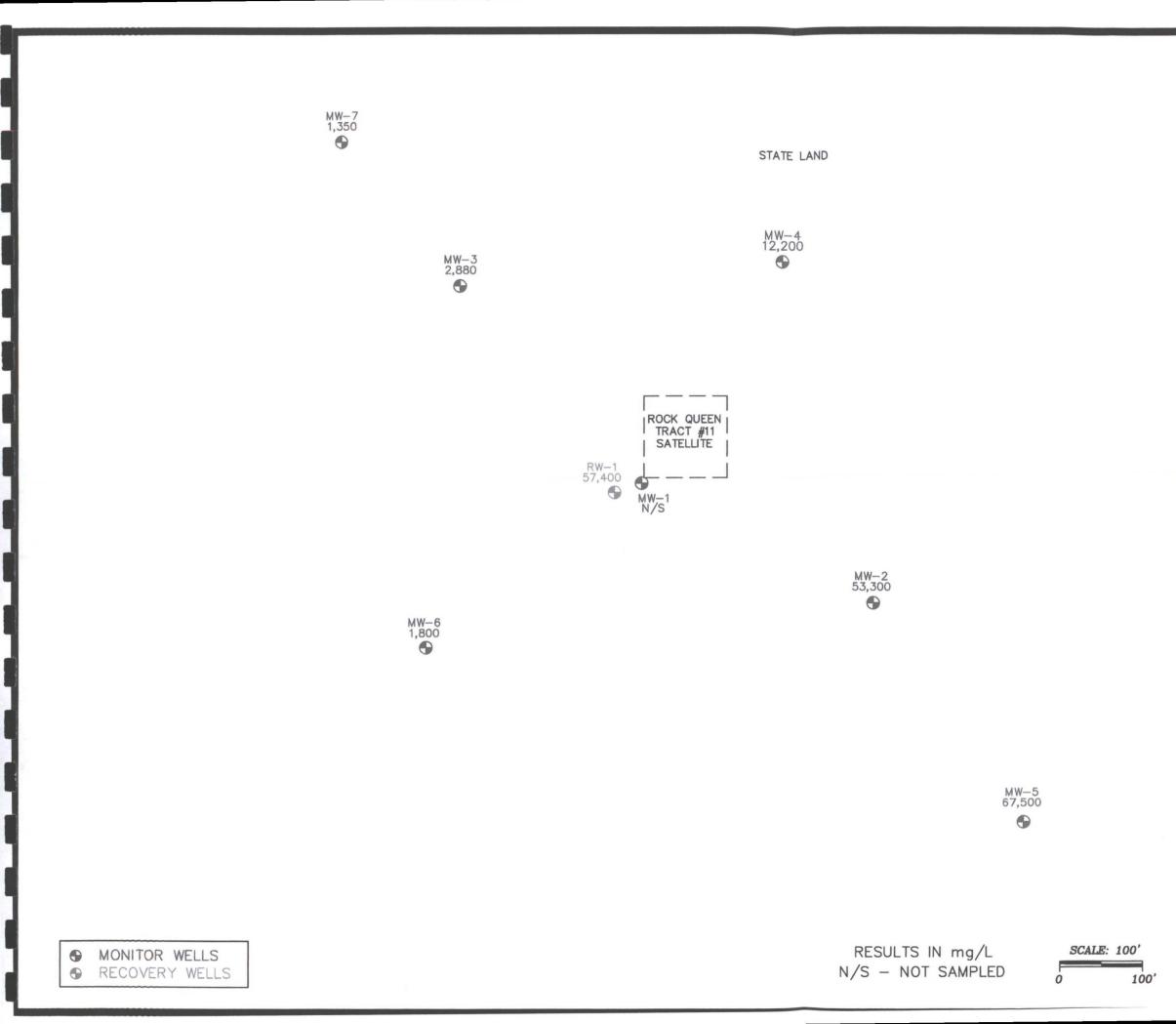


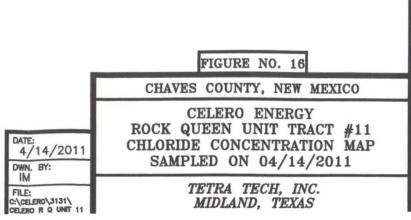


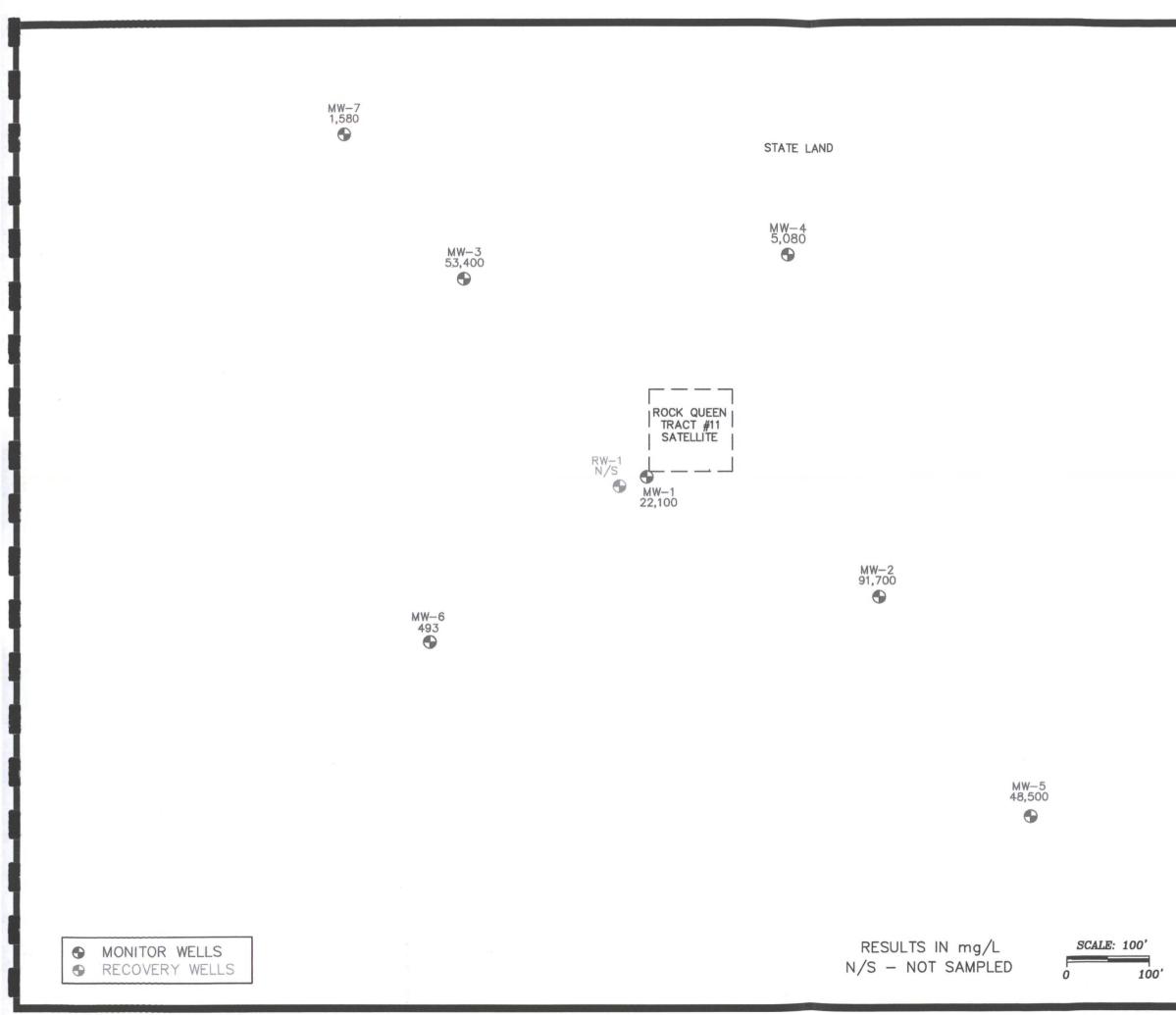


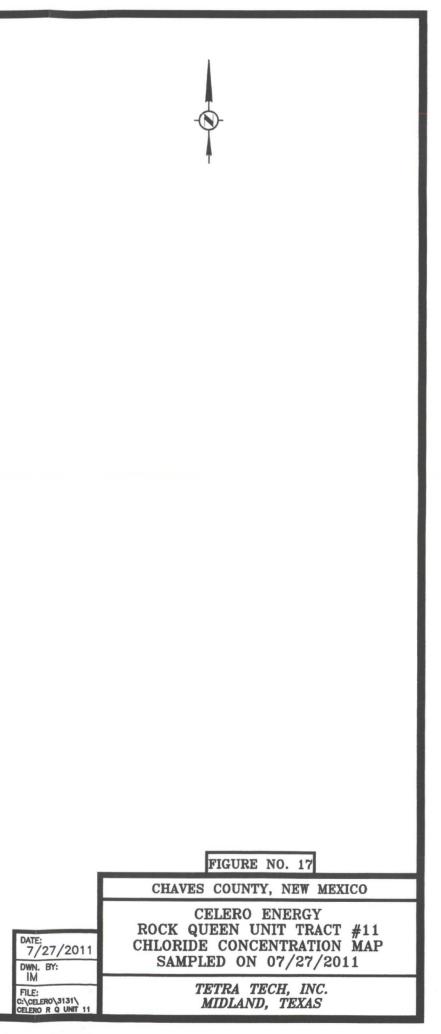


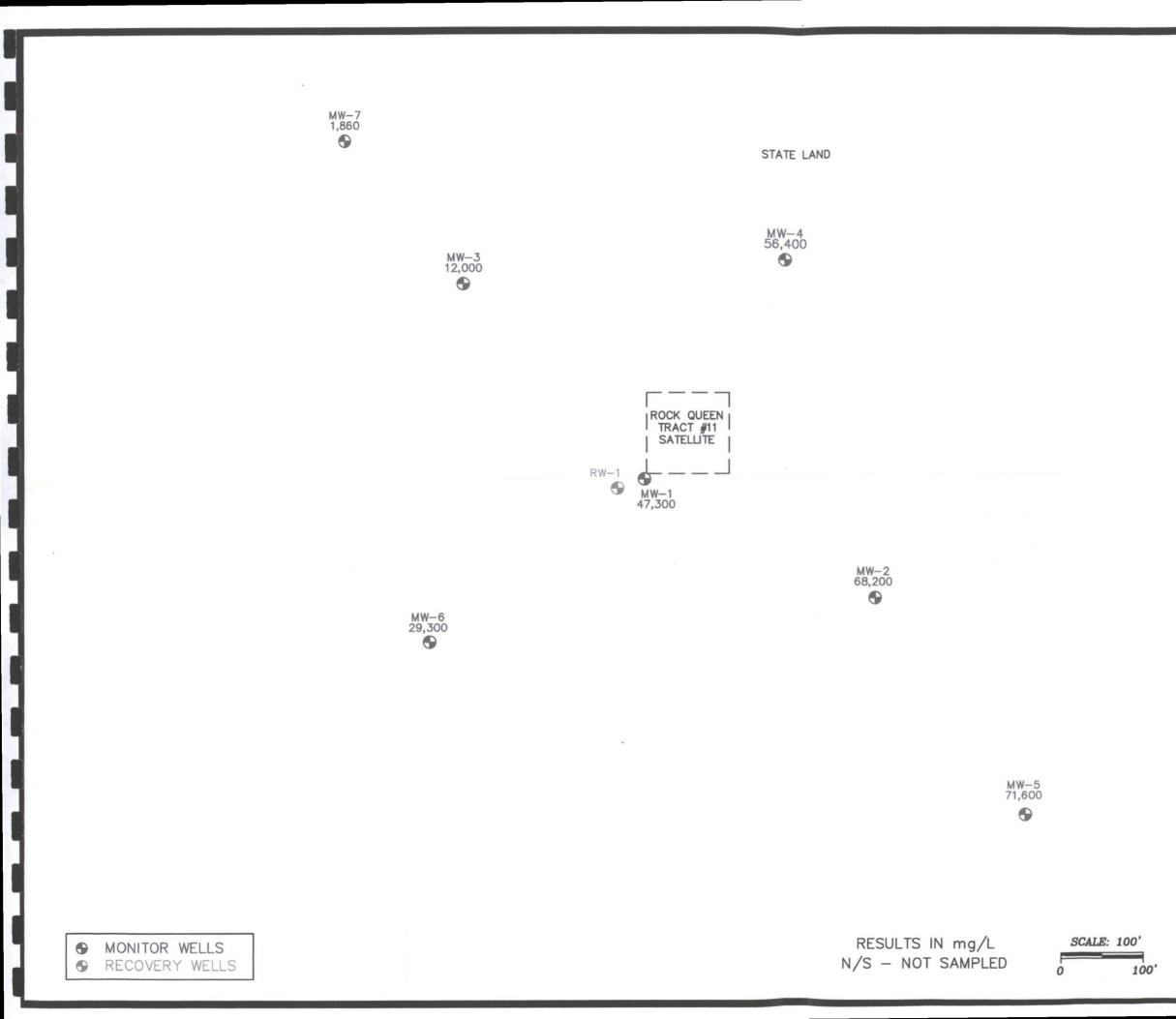


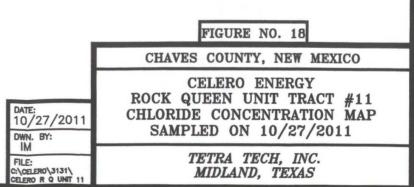












TABLES

I able 1	
Celero Energy II, LP	
Groundwater Gauging Data	
Rock Queen Unit Tract 11 Tank Batte	ry
Chaves County, New Mexico	-

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
MW-1	05/25/07	05/24/07	4,407.40	161.30	138.60	4,268.80
	02/25/10	03/24/07	4,407.40	101.50	138.19	4,269.21
	07/13/10				138.14	4,269.26
	10/11/10				138.25	4,269.15
	01/17/11				138.03	4,269.37
	04/11/11				138.14	4,269.26
	07/26/11					
	10/24/11				138.92 138.18	4,268.48
MW-2	02/25/10	02/17/10	4,408.61	166.18	138.18	4,269.22
10100-2	07/13/10	02/17/10	4,400.01	100.10		4,268.25
· · ·	10/11/10				140.28	4,268.33
	01/17/11				140.41	4,268.20
	04/11/11				140.15	4,268.46
	07/26/11				140.19	4,268.42
	10/24/11			•	141.05	4,267.56
MW-3	02/25/10	02/17/10	4,409.84	169.00	140.39	4,268.22
10100-3	07/13/10	02/17/10	4,409.64	169.00	139.49	4,270.35
	10/11/10				139.45	4,270.39
	01/17/11				139.57	4,270.27
	04/11/11			-	139.43	4,270.41
	07/26/11				139.50	4,270.34
	10/24/11				140.25	4,269.59
MW-4	02/25/10	02/17/10	4 411 60	170.00	139.48	4,270.36
10100-4		02/17/10	4,411.68	172.90	142.25	4,269.43
	07/13/10				142.23	4,269.45
1	10/11/10				142.32	4,269.36
	01/17/11	1			142.16	4,269.52
	04/11/11		· ·		142.24	4,269.44
1	07/26/11				143.04	4,268.64
	10/24/11	10/01/10	4 407 00	100.00	142.19	4,269.49
MW-5	01/17/11	12/01/10	4,407.26	160.00	139.99	4,267.27
L	04/11/11				140.05	4,267.21

## Table 1 Celero Energy II, LP Groundwater Gauging Data Rock Queen Unit Tract 11 Tank Battery Chaves County, New Mexico

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater. (ft)	Elevation (ft)
MW-5	07/26/11				140.98	4,266.28
	10/24/11				140.30	4,266.96
MW-6	01/17/11	12/01/10	4,404.87	156.42	135.51	4,269.36
	04/11/11				135.58	4,269.29
	07/26/11				136.37	4,268.50
	10/24/11				135.68	4,269.19
MW-7	01/17/11	12/02/10	4,413.08	161.37	142.22	4,270.86
	04/11/11				142.17	4,270.91
	07/26/11				142.98	4,270.10
	10/24/11				142.19	4,270.89
RW-1	01/17/11	12/08/10	4,405.75	161.80	136.05	4,269.70
	04/11/11				136.15	4,269.60
	07/26/11				137.03	4,268.72
	10/24/11				136.32	4,269.43

#### Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 11 Tank Battery

Chaves	County,	New	Mexico	

Monitor. Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved* Sodium_ (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH)
MW-1	05/31/07	1,300	1,050	19,400	416	<1.00	<1.00	110	110	1,080	37,800	59,400	7,570	7.06
	02/25/10	3,280	2,240	28,500	737	<1.00	<1.00	101	101	1,360	60,700	104,000	17,400	6.24
	07/13/10	-	-	•	•	-	-	-	<del>.</del> .	186	12,300	11,600	-	-
	10/11/10	-	•,	-	-	-	-	-	-	455	20,400	42,700	-	-
	01/19/11	-	-	-	-	-	-	-	-	2,270	122,000	· 210,000	•	-
	02/25/11	-	-	-	-	-	-	-	-	2,150	109,000	193,000	-	-
	04/14/11		-	-	-	-	-	-	-	1,620	57,400	96,800	÷.,	-
	07/27/11	-	•	-	· •	-	•	-	-	625	22,100	56,000	•	-
	10/27/11	-	-	-	-		•	-	-	. 1,740	47,300	73,900	•	-
MW-2	02/25/10	723	265	3,850	47.6	<1.00	, <1.00	132	132	176	5,670	17,800	-	7.70
	07/13/10	-	-	-	-	-	-	- `	-	355	16,400	31,700	- <sup>·</sup>	-
	10/11/10	-	•	<u>-</u>	<del>-</del> ,	-	-	-	-	547	24,000	38,400		-
	01/19/11	-	-		- 1	-	-	-	-	2,060	118,000	220,000	-	-
	02/25/11	-	-	-	-	· -	-	-	-	1,500	67,600	146,000	-	- '
	04/14/11	-		-	-	-	-	÷	-	1,170	53,300	84,500	-	
	07/27/11	-		-	-	-	-	-	-	1,610	91,700	143,000	-	· ·
	10/27/11	•	•	-	-	-	-	-	-	1,990	68,200	102,000	-	
MW-3	02/25/10	370	88.4	1,060	14.2	<1.00	<1.00	138	138	120	1,990	3,460	1,290	8.13
	07/13/10	-	-	-	-	-	-	-	-	52.8	3,260	4,190	•	· ·
	10/11/10	-	•	-		-		-		73.6	2,700	6,290	· •	5 <b>-</b>
	01/19/11	-	-		-	-	-	-	-	1,170	50,100	103,000	-	-
	02/25/11	-		-	-	-	-	-	-	115	5,190	10,100	-	-
	04/14/11	-	-	- `	-	-	· -	-	-	73.2	2,880	4,440	-	
	07/27/11	-	•	-	-		•	-	-	881	53,400	74,700		·-
	10/27/11	-	•	•	-			-	-	173	12,000	22,800	-	·
MW-4	02/25/10	540	385	4,670	295	<1.00	<1.00	148 ′	148	290	10,700	25,800	2,930	7.37
	07/13/10	· -	-	-	-	-	-	•	• .	·, 47.4 ·	857	1,610	-	· ·
L	10/11/10	-	·	•	•	-	-	-	-	176.0	7,140	14,500		· ·

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#### Celero Energy II, LP

#### Groundwater Analytical Results

#### Rock Queen Unit Tract 11 Tank Battery

Chaves County, New Mexico

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Monitor	Date	Dissolved	Dissolved	Dissolved	and an an an and a state	Hydroxide	Carbonate	Bicarbonate	- Total	Sulfate	Chloride		Hardness	
Well	Sampled :	Calcium	Magnesium	Sodium	Potassium	Alkalinity	Alkalinity	Alkalinity	Alkalinity .	🥵 (mg/L) 🔍	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	рH
	科学家教	(mg/L)	(mg/L)	(mg/L)/	🦾 (mg/L)	(mg/L)	(mg/L) 🤤	(mg/L)	(mg/L) 👾			道理部的		
. MW-4	01/19/11	-		-	-	-	-	-	-	1,850.0	109,000	194,000	-	· -
	02/25/11	-	-	-	-		-	-		182.0 .	7,210	14,100	-	-
	04/14/11	-	-	-	-	-	-	-	-	347.0	12,200	26;400	-	-
	07/27/11	-	-	-	-	-	·- ,	-	-	134 `	5,080	· 7,980	-	-
	10/26/11	-	-	-	-	<del>.</del>	-	-	-	967	56,400	97,300	-	-
MW-5	01/19/11	-	•		-	-	-	, -	-	939	56,300	109,000	-	1 - 1 - 1
	02/25/11	-	•	-	-	- *	-	-	-	764	49,900	93,000		
	04/14/11	-	-	-	-	-			-	1,100	67,500	109,000	-	
	07/27/11	-	-	-	-	-	-	-		422	48,500	60,900	•	-
	10/27/11	-	-	-		-	-	-	-	1,020	71,600	106,000	-	-
MW-6	01/19/11	-	•	-	-	-	-			<sup>-</sup> 378	25,800	56,700	-	-
	02/25/11	-	-	-	<b>-</b> .		-	-	-	422	26,600	56,700	· -	-
·	04/14/11	-	-		-	-	-	-	-	77.6	1,800	3,320	-	-
	07/27/11	-	-	-	-	-	-	-	-	80	493	934	-	-
	10/26/11	-	•	-	-		-	-	-	378	29,300	73,100	-	-
MW-7	01/19/11	-	-	-	-	-	· •	-	-	77	994	2,110	- ·	-
	02/25/11	-	-	-	-	-	-	-	-	79.4	1,230	2,580	-	-
•	04/14/11	-			-	-		-	- •	92.2	1,350	2,700	-	-
	07/27/11	-	· -	-	-	-	-	-	-	- 84.1	1,580	2,440	-	
	10/26/11	-	-	-	• ·	-	-	-	-	139	1,860	2,910	-	-
RW-1	01/19/11	NS	NS	NS	NS ·	NS	NS	NS	NS	NS	NS	NS '	NS	NS
	02/25/11 .	-		-	-	<b>.</b>	-	•	•	1,690	94,000	174,000	-	-
	04/14/11	NS	NS .	<sup>•</sup> NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/27/11	NS	NS	NS	NS	NS	NS	, NS	NS	NS	NS	NS	NS	NS -
	10/26/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS - Not sampled

( - ) Not Analyzed

Celero Energy II, LP

Groundwater Analytical Results Rock Queen Unit Tract #11

Chaves County, New Mexico

	an the state of the state of the	Benzene	Toluene	Ethyl-	Xylene	⊷Total
Monitor Well	Date Sampled	in (mg/L)	in (mg/L)	, a Benzene (mg/L)	in (mg/L)	BTEX (mg/L)
MW-1	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
····· ·	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
•	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
•	07/27/11	<0.001	<0.001	<0.001	0.0185	0.0185
· ·	10/27/11	<0.001	<0.001	<0.001	0.0014	0.0014
	02/25/10 <sup>.</sup>	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
1	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
1	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	02/25/10	<0.001	<0.001	<0.001	· <0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
1	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
1	• 04/14/11	<0.001	. <0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
L	10/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
1	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
1	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
1	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	0.0066	0.0066
MW-5	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
1	04/14/11	0.0065	<0.001	<0.001	<0.001	0.0065
1	07/27/11	<0.001	<0.001	<0.001	<b>&lt;0.001</b> .	<0.001
	10/27/11	.<0.001	<0.001	<0.001	0.0010	0.0010
MW-6	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	· <0.001	<0.001
<b></b>	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-7	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0 <mark>.001</mark>	<0.001
. 1	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001

Celero Energy II, LP Groundwater Analytical Results

Rock Queen Unit Tract #11

Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl Benzene) (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
	01/19/11	NS	NS	NS	NS	· NS
1	04/14/11	NS	NS	NS -	NS	NS
	07/27/11	NS	NS	NS	NS	· NS
	10/27/11	NS .	NS	NS	NS	NS

NS - Not sampled

# **BORING LOGS**

**APPENDIX A** 

Boring/Well	MW-1
GPS	N33.161589° W103.79205°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #11 Tank Battery
Site Location	Chaves County, New Mexico
Letter F, Section	26, Township 13 South, Range 31 East
Total Depth	160
Date Installed	05/24/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	NA	Buff fine grain sandy limestone
5-10	NA	Buff/tan fine grain calcareous sand
10-15	NA	Tan fine grain calcareous sand
15-20	NA	Tan fine grain well sorted sand
25-30	NA	Tan fine grain well sorted sand
35-40	NA	Tan fine grain wells orted sand
45-50	NA	Tan fine grain well sorted sand
55-60	NA	Tan fine grain well sorted sand
65-70	NA	Tan fine grain well sorted sand
75-80	NA	Tan fine grain well sorted sand
85-90	NA	Tan fine grain well sorted sand
95-100	NA	Tan fine grain well sorted sand
108-110	NA	Tan fine grain well sorted sand
118-120	NA	Tan fine grain well sorted sand
128-130	NA	Tan fine grain well sorted sand
138-140	NA	Tan fine grain well sorted sand
148-150	NA	Red sandy clay
158-160	NA	Red sandy clay

### Total Depth:

160'

Groundwater encountered at approximately 138 feet below ground surface

Boring/Well	MW-2
GPS	N33.161183° W103.791136°
Project Number	114-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #11 Tank Battery
Site Location	Chavez County, New Mexico
Letter G, Section	26, Township 13 South, Range 31 East

Total Depth165Date Installed02/17/10

Date Installed	02/17/10	
DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	NA	Hard limestone
5-10	NA	Hard limestone
10-15	NA	Hard limestone
15-20	NA	Calcareous sand fine grain well sorted
25-30	NA	Tan fine grain sand
35-40	NA	Tan fine grain sand
45-50	NA	Tan fine grain sand
55-60	NA	Tan fine grain sand
65-70	NA	Tan fine grain sand
75-80	NA	Tan fine grain sand
85-90	NA	Tan fine grain sand
95-100	NA	Tan fine grain sand
100-105	· NA	Tan fine grain sand
105-110	NA	Tan fine grain sand
110-115	NA	Tan fine grain sand
115-120	NA	Tan fine grain sand
120-125	NA	Tan fine grain sand
125-130	NA	Tan fine grain sand
130-135	NA	Tan fine grain sand
135-140	NA	Tan fine grain sand
140-145	NA	Tan fine grain sand
145-150	NA	Tan fine grain sand
150-155	NA	Red Clay
155-160	NA	Red Clay
160-165	NA	Red Clay
100 100	105	

**Total Depth:** 

165'

Boring/Well	MW-3
GPS	N33.162258° W103.792764°
Project Number	114-6403131 <b>A</b>
Client	Celero Energy II, LP
Site Location	Rock Queen Unit Tract #11 Tank Battery
Location	Chavez County, New Mexico
Letter F, Section	26, Township 13 South, Range 31 East
Total Depth	165
Date Installed	02/17/10

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DEPTH (Ft)	ΟνΜ	SAMPLE DESCRIPTION
0-5	NA	Hard limestone
5-10	NA	Hard limestone
10-15	NA	Hard limestone
15-20	NA	Hard limestone
20-25	NA	Calcareous sand fine grain well sorted
25-30	NA	Tan fine grain sand
35-40	NA	Tan fine grain sand
45-50	NA	Tan fine grain sand
55-60	NA	Tan fine grain sand
65-70	NA	Tan fine grain sand
75-80	NA	Tan fine grain sand
85-90	NA	Tan fine grain sand
95-100	NA	Tan fine grain sand
100-105	NA	Tan fine grain sand
105-110	NA	Tan fine grain sand
110-115	NA	Tan fine grain sand
115-120	NA	Tan fine grain sand
120-125	NA	Tan fine grain sand
125-130	NA	Tan fine grain sand
130-135	NA	Tan fine grain sand
135-140	NA	Tan fine grain sand
140-145	NA	Tan fine grain sand
145-150	NA	Tan fine grain sand
150-155	NA	Red Clay
155-160	NA	Red Clay

Boring/Well	MW-4
GPS	N33.16233° W103.791492°
Project Number	114-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #11 Tank Battery
Site Location	Chavez County, New Mexico
Letter G, Section	26, Township 13 South, Range 31 East
Total Depth	170
Date Installed	02/17/10

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DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	NA	Hard limestone
5-10	NA	Hard limestone
10-15	NA	Hard limestone
15-20	NA	Calcareous sand fine grain well sorted
25-30	NA	Tan fine grain sand
35-40	NA	Tan fine grain sand
45-50	NA	Tan fine grain sand
55-60	NA	Tan fine grain sand
65-70	NA	Tan fine grain sand
75-80	NA	Tan fine grain sand
85-90	NA	Tan fine grain sand
95-100	NA	Tan fine grain sand
100-105	NA	Tan fine grain sand
105-110	NA	Tan fine grain sand
110-115	NA	Tan fine grain sand
115-120	NA	Tan fine grain sand
120-125	NA	Tan fine grain sand
125-130	NA	Tan fine grain sand
130-135	NA	Tan fine grain sand
135-140	NA	Tan fine grain sand
140-145	NA	Tan fine grain sand
145-150	NA	Tan fine grain sand
150-155	NA	Tan fine grain sand
155-160	NA	Red Clay
160-165	NA	Red Clay

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Boring/ Well	MW-5
Doinig/ wen	
GPS	N33.16058° W103.79098°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract 11 Tank Battery
Site Location	Chaves, New Mexico
Letter J, Section	26, Township 13 South, Range 31 East
Total Depth	160'
Date Installed	12/01/10

Depth (Ft)	OVM	Sample Description
5-6'		Caliche and 20% Chert
10-11'		Caliche and 30% Chert
15-16'		Caliche and 40% Chert
20-21'		Caliche and 15% Chert
25-26'		Buff Tan Fine Grained Well Sorted Sand
30-31'	•	Buff Tan Fine Grained Well Sorted Sand
35-36'		Buff Tan Fine Grained Well Sorted Sand
40-41'		Buff Tan Fine Grained Well Sorted Sand
45-46'		Buff Tan Fine Grained Well Sorted Sand
50-51'		Buff Tan Fine Grained Well Sorted Sand
55-56'		Light Brown Fine Grain Well Sorted Sand
60-61'		Light Brown Fine Grain Well Sorted Sand
65-66'	<b></b>	Light Brown Fine Grain Well Sorted Sand
70-71'		Light Brown Fine Grain Well Sorted Sand
75-76'		Light Brown Fine Grain Well Sorted Sand
80-81'		Light Brown Fine Grain Well Sorted Sand
85-86'		Light Brown Fine Grain Well Sorted Sand
90-91'	·	Light Brown Fine Grain Well Sorted Sand
95-96'		Light Brown Fine Grain Well Sorted Sand
100-101'		Light Brown Fine Grain Well Sorted Sand
105-106'	•	Light Brown Fine Grain Well Sorted Sand
110-111'		Light Brown Fine Grain Well Sorted Sand
115-116'		Light Brown Fine Grain Well Sorted Sand
120-121'		Light Brown Fine Grain Well Sorted Sand
125-126'		Light Brown Fine Grain Well Sorted Sand

Boring/ Well	MW-5
GPS	N33.16058° W103.79098°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract 11 Tank Battery
Site Location	Chaves, New Mexico
Letter J, Section	26, Township 13 South, Range 31 East
Total Depth	160'
Date Installed	12/01/10

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Fine Grain Well Sorted Sand
135-136'		Light Brown Fine Grain Well Sorted Sand
140-141'		Light Brown Fine Grain Well Sorted Sand
145-146'		Light Brown Sand with 15% Red Bed
150-151'		Red Bed with 50% Light Brown Sand
155-156'		Red Bed
160'	•	Red Bed
Total Depth:	160'	Ground water depth not encountered while drilling.

Boring/ Well	MW-6	
GPS	N33.16290° W103.79356°	
Project Number	115-6403131A	
Client	Celero Energy II, LP	
Site Name	Rock Queen Unit Tract 11 Tank Battery	
Site Location	Chaves, New Mexico	
Letter F, Section 26, Township 13 South, Range 31 East		
Total Depth	160'	
Date Installed	12/01/10	

Depth (Ft)	OVM	Sample Description
5-6'		Caliche and 40% Chert
10-11'		Caliche and 50% Chert
15-16'		Caliche and 40% Chert
20-21'		Buff Tan Fine Grained Well Sorted Sand
25-26'		Buff Tan Fine Grained Well Sorted Sand
30-31'		Buff Tan Fine Grained Well Sorted Sand
35-36'		Buff Tan Fine Grained Well Sorted Sand
40-41'		Buff Tan Fine Grained Well Sorted Sand
45-46'		Buff Tan Fine Grained Well Sorted Sand
50-51'		Buff Tan Fine Grained Well Sorted Sand
55-56'		Light Brown Fine Grain Well Sorted Sand
. 60-61'		Light Brown Fine Grain Well Sorted Sand
65-66'		Light Brown Fine Grain Well Sorted Sand
70-71'		Light Brown Fine Grain Well Sorted Sand
75-76'		Light Brown Fine Grain Well Sorted Sand
80-81'		Light Brown Fine Grain Well Sorted Sand
85-86'		Light Brown Fine Grain Well Sorted Sand
90-91'		Light Brown Fine Grain Well Sorted Sand
95-96'		Light Brown Fine Grain Well Sorted Sand
100-101'		Light Brown Fine Grain Well Sorted Sand
105-106'		Light Brown Fine Grain Well Sorted Sand
110-111'		Light Brown Fine Grain Well Sorted Sand
115-116'		Light Brown Fine Grain Well Sorted Sand
120-121'		Light Brown Fine Grain Well Sorted Sand
125-126'		Light Brown Fine Grain Well Sorted Sand

Boring/ Well	MW-6	
GPS	N33.16290° W103.79356°	
Project Number	115-6403131A	
Client	Celero Energy II, LP	
Site Name	Rock Queen Unit Tract 11 Tank Battery	
Site Location	Chaves, New Mexico	
Letter F, Section 26, Township 13 South, Range 31 East		
Total Depth	160'	
Date Installed	12/01/10	

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Fine Grain Well Sorted Sand
135-136'	, <b></b>	Light Brown Fine Grain Well Sorted Sand
140-141'		Light Brown Fine Grain Well Sorted Sand
145-146'		Light Brown Sand with Red Bed
150-151'	÷-	Red Bed
155-156'		Red Bed
160'		Red Bed
Total Depth:	160'	Ground water depth not encountered while drilling.

Boring/ Well	MW-7
GPS	N33.162942° W103.793233°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract 11 Tank Battery
Site Location	Chaves, New Mexico
Letter F, Section	26, Township 13 South, Range 31 East
Total Depth	160'
Date Installed	12/02/10

Depth (Ft)	OVM	Sample Description
5-6'		Caliche and 15% Chert
10-11'	`	Caliche and 10% Chert
15-16'	<b></b>	Caliche and 10% Chert
20-21'	· · · ·	Buff Tan Fine Grained Well Sorted Sand
25-26'		Buff Tan Fine Grained Well Sorted Sand
30-31'		Buff Tan Fine Grained Well Sorted Sand
35-36'		Buff Tan Fine Grained Well Sorted Sand
40-41'		Buff Tan Fine Grained Well Sorted Sand
45-46'		Buff Tan Fine Grained Well Sorted Sand
50-51'	10 m	Light Brown Fine Grain Well Sorted Sand
55-56'		Light Brown Fine Grain Well Sorted Sand
60-61'		Light Brown Fine Grain Well Sorted Sand
65-66'		Light Brown Fine Grain Well Sorted Sand
70-71'		Light Brown Fine Grain Well Sorted Sand
75-76'		Light Brown Fine Grain Well Sorted Sand
80-81'		Light Brown Fine Grain Well Sorted Sand
85-86'		Light Brown Fine Grain Well Sorted Sand
90-91'		Light Brown Fine Grain Well Sorted Sand
95-96'		Light Brown Fine Grain Well Sorted Sand
100-101'		Light Brown Fine Grain Well Sorted Sand
105-106'		Light Brown Fine Grain Well Sorted Sand
110-111'		Light Brown Fine Grain Well Sorted Sand
115-116'		Light Brown Fine Grain Well Sorted Sand
120-121'		Light Brown Fine Grain Well Sorted Sand
125-126'	-	Light Brown Fine Grain Well Sorted Sand

Boring/ Well	MW-7	
GPS	N33.162942° W103.793233°	
Project Number	115-6403131A	
Client	Celero Energy II, LP	
Site Name	Rock Queen Unit Tract 11 Tank Battery	
Site Location	Chaves, New Mexico	
Letter F, Section 26, Township 13 South, Range 31 East		
Total Depth	160'	
Date Installed	12/02/10	

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Sand with 5% Grey Blue Clay
135-136'		Light Brown Sand with Buff Tan Sandstone
140-141'	· · · ·	Light Brown Sand with Buff Tan Sandstone
145-146'	· •••	Light Brown Sand with Buff Tan Sandstone and 5% Red Bed
150-151'	**	Grey Blue Clay with 25% Red Bed
155-156'		Grey Blue Clay with 45% Red Bed
160'		Red Bed
tal Depth:	160'	Ground water depth not encountered while drilling.

Total Depth:

Ground water depth not encountered while drilling.

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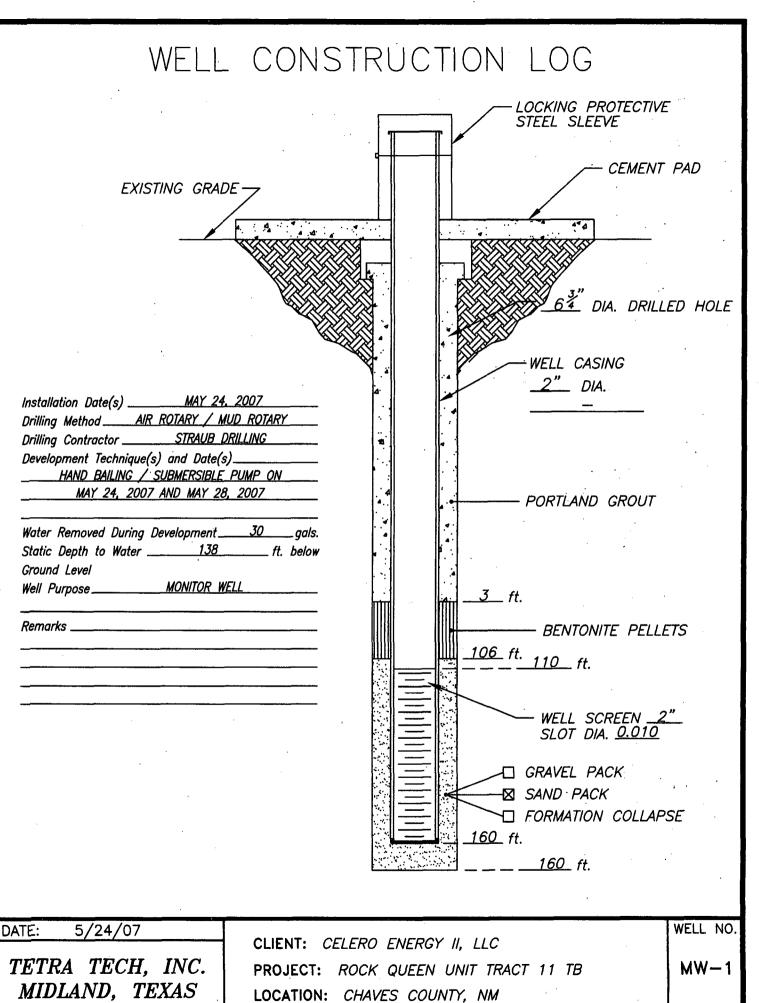
Boring/ Well	RW-1
GPS	N33.161561° W103.792158°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract 11 Tank Battery
Site Location	Chaves, New Mexico
Letter G, Section	26, Township 13 South, Range 31 East
Total Depth	160'
Date Installed	12/08/10 to 12/09/10

Depth (Ft)	OVM	Sample Description
5-6'		Buff to tan fine grain sandy limestone
10-11 <sup>1</sup>		Tan clay with limestone intermixed
15-16'		Buff to tan fine grain sandy limestone
20-21'		Buff to tan fine grain sandy limestone
25-26'		Buff to tan fine grain sandy limestone
30-31'		Tan fine grain calcareous sand
35-36'	'	Tan fine grain sand
40-41'		Tan fine grain sand
45-46'		Tan fine grain sand
50-51'		Tan fine grain sand
55-56'		Tan fine grain sand
60-61'		Tan fine grain sand
65-66'		Tan fine grain sand
70-71'		Tan fine grain sand
75-76'		Tan fine grain sand
80-81'		Tan fine grain sand
85-86'		Tan fine grain sand
90-91'		Tan fine grain sand
95-96'		Tan fine grain sand
100-101		Tan fine grain sand
105-106'		Tan fine grain sand with gravel
110-111'		Tan fine grain sand with gravel
115-116'		Tan fine grain sand with gravel
120-121'		Tan fine grain sand
125-126'		Tan fine grain sand

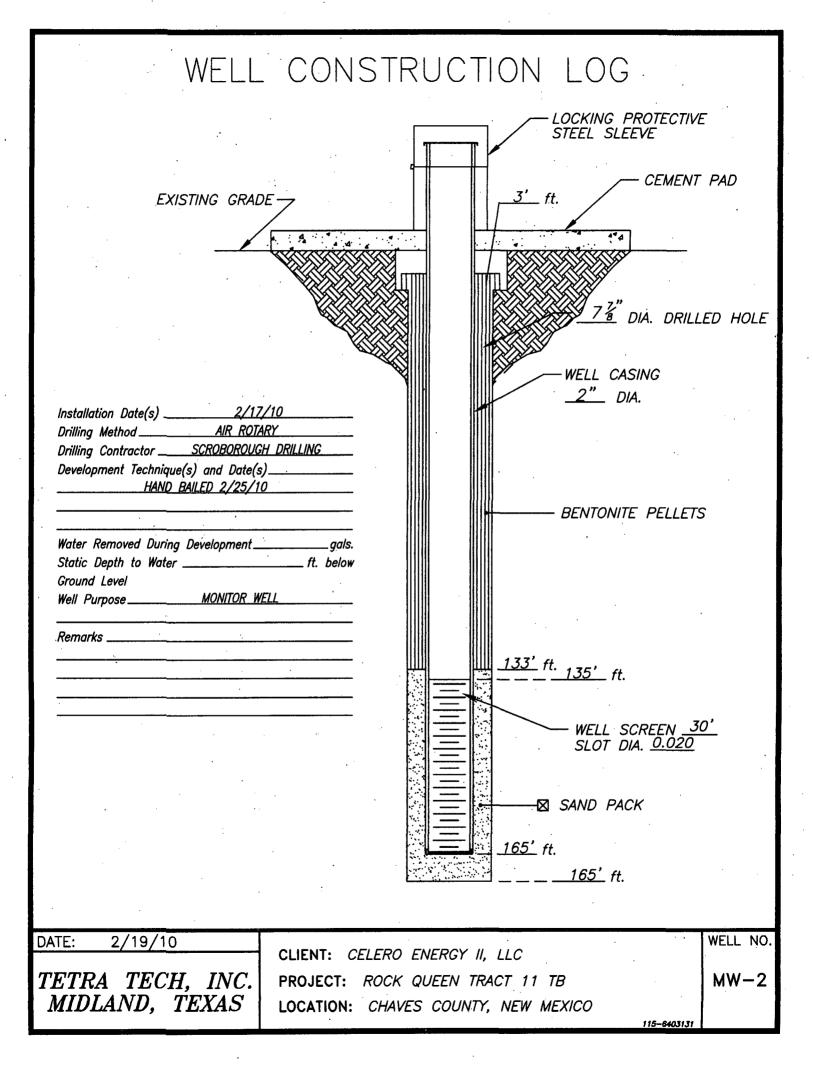
Boring/ Well	RW-1
GPS	N33.161561° W103.792158°
Project Number	115-6403131A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract 11 Tank Battery
Site Location	Chaves, New Mexico
Letter G, Section	26, Township 13 South, Range 31 East
Total Depth	160'
Date Installed	12/08/10 to 12/09/10

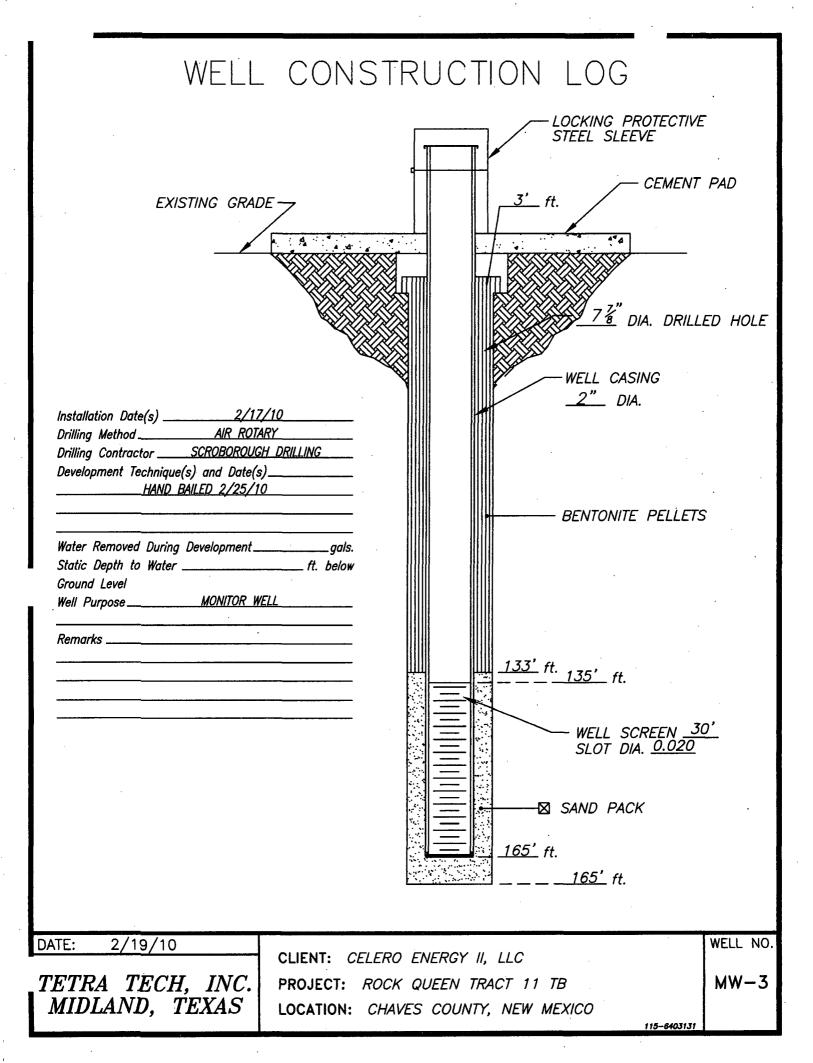
Depth (Ft)	OVM	Sample Description
130-131'		Tan fine grain sand
135-136'		Tan fine grain sand
140-141'		Tan fine grain sand
145-146'		Tan fine grain sand
150-151'		Tan fine grain sand
155-156'		Tan fine grain sand
160'		Red Bed
otal Depth:	160'	Groundwater encountered at approximately 140 feet below ground surface

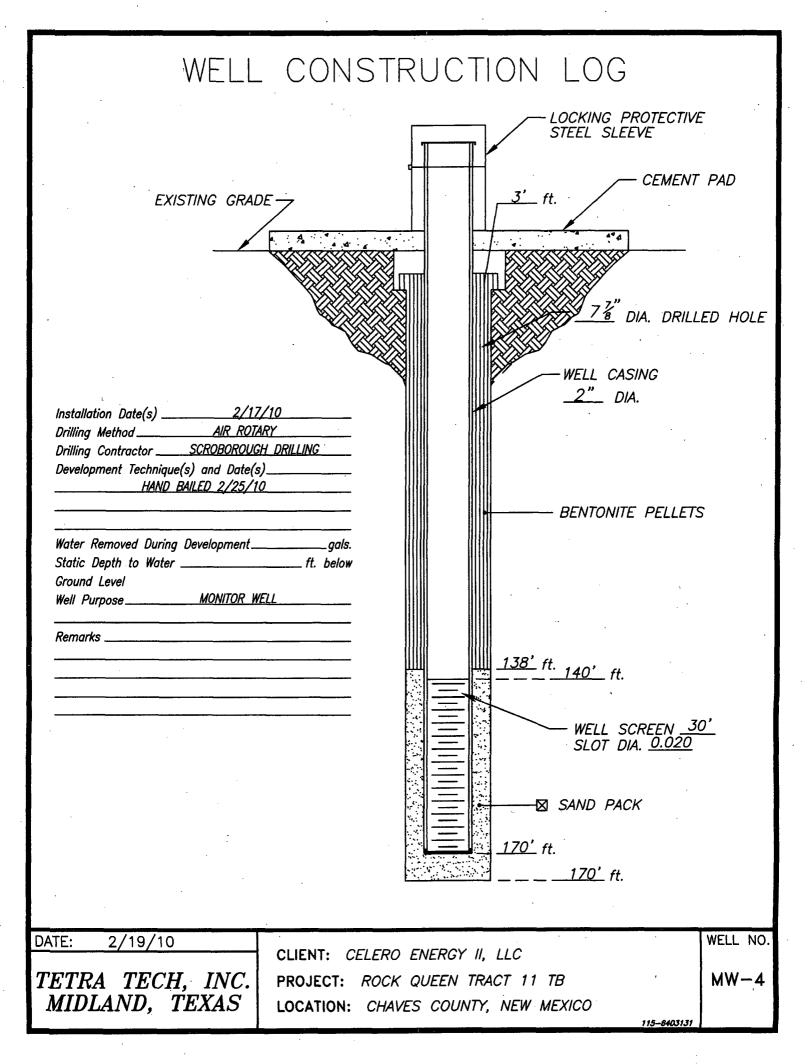
# APPENDIX B MONITOR WELL INSTALLATION DIAGRAMS

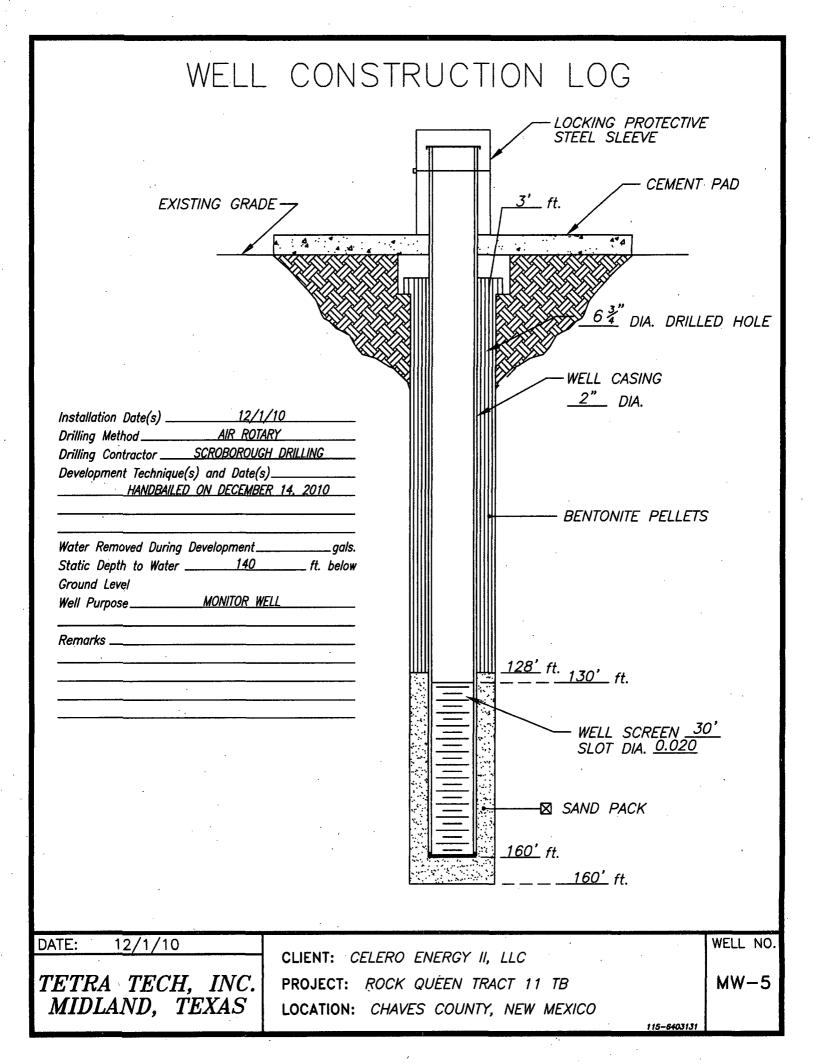


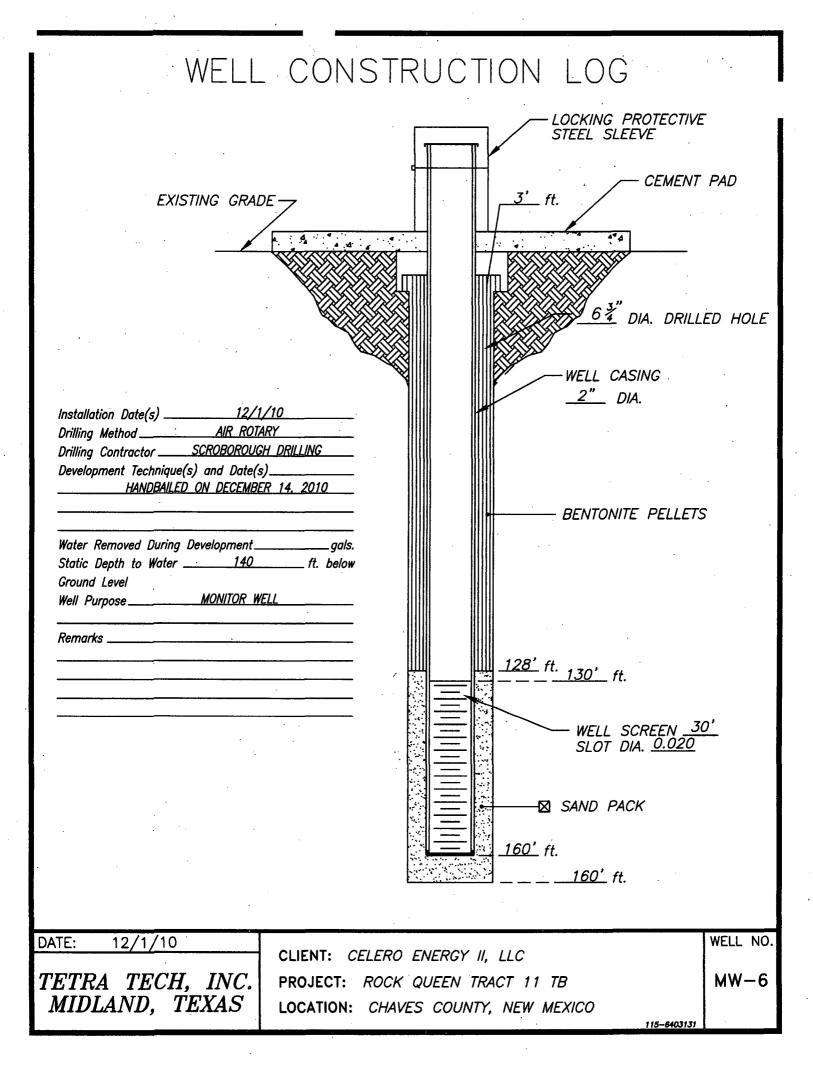
115-6403131

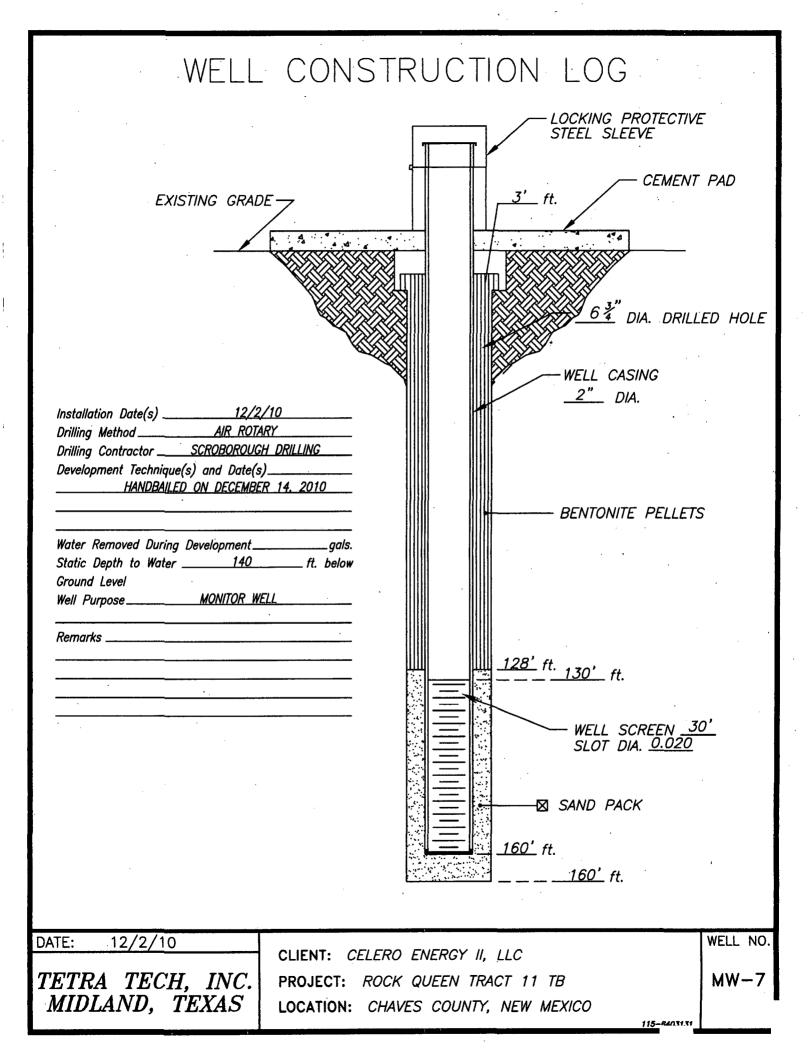


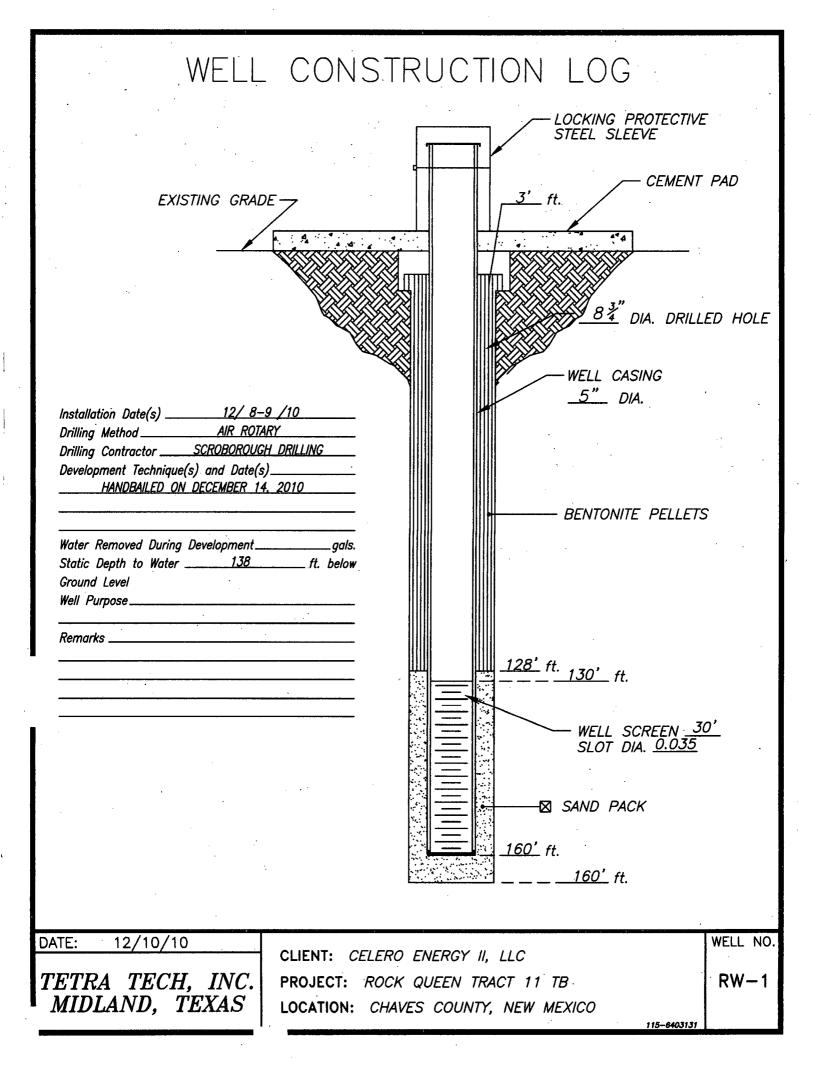












# APPENDIX C LABORATORY ANALYSIS

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Mullim Trace Analysis, Inc. Mullim Mullim

6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110

Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79922 888•588•3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

800+378+1296 806+794+1296 888+588+3443 915+585+3443 432+689+6301 817+201+5260

1296 FAX 806 • 794 • 1298 3443 FAX 915 • 585 • 4944 6301 FAX 432 • 689 • 6313 5260

### Analytical and Quality Control Report

Gary Miller Highlander Environmental Services 1910 N. Big Spring Street Midland, TX, 79705

Project Location:Chaves Co. NMProject Name:Celero Energy-Rock Queen ESAProject Number:2972

Report Date: June 15, 2007

Work Order: 7060508

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
126448	RQU Tract 11 MW-1	water	2007-05-31	16:45	2007-06-04
126449	RQU Tract 13 MW-1	water	2007-06-01	14:30	2007-06-04

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

#### Standard Flags

**B** - The sample contains less than ten times the concentration found in the method blank.

### **Analytical Report**

#### Sample: 126448 - RQU Tract 11 MW-1

Analysis: Alkalinity QC Batch: 38159		Analytical Method: Date Analyzed:	SM 2320B 2007-06-14		Prep Method: Analyzed By:	JŚ
Prep Batch: 33038		Sample Preparation:	2007-06-14	•	Prepared By:	JS
		$\mathbf{RL}$		•		• •
Parameter	Flag	Result	Units		Dilution	$\mathbf{RL}$
Hydroxide Alkalinity		<1.00	mg/L as CaCo3		1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3		1	1.00
Bicarbonate Alkalinity		.110	mg/L as CaCo3		. 1	4.00
Total Alkalinity		110	mg/L as CaCo3		1	4.00

### Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Prep Batch:	Ca, Dissolved 38113 32823		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06	Prep Method: Analyzed By: Prepared By:	TP
		÷ .	$\mathbf{RL}$			.:
Parameter		Flag	Result	Units	Dilution	$\mathbf{RL}$
Dissolved Ca	alcium		1300	mg/L	20	0.500

### Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Prep Batch:	Chloride (IC) 38153 33031	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2007-06-13 2007-06-13	Prep Method: Analyzed By: Prepared By:	ÉŔ
		$\operatorname{RL}$		•	
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		37800	mg/L	5000	0.500

### Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Prep Batch:	Hardness 38113 32823		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06	Prep Method: Analyzed By: Prepared By:	ΤP
			RL			
Parameter		Flag	Result	Units	Dilution	$\mathbf{RL}$
Hardness (by	ICP)		7570	mg eq CaCO3/L	1	0.00

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Sample: 126448 - RQU	Tract 11 MV	V-1	· · · ·			
Analysis: K, Dissolved QC Batch: 38113 Prep Batch: 32823	l .	Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06		Prep Method: Analyzed By: Prepared By:	S 3005A TP TS
		$\mathbf{RL}$				
Parameter	Flag	Result	Units		Dilution	RI
Dissolved Potassium		416	mg/L		20	0.500
Sample: 126448 - RQU	Tract 11 MV	V-1				
Analysis: Mg, Dissolve	ed	Analytical Method:	S 6010B		Prep Method:	S 3005A
QC Batch: 38113		Date Analyzed:	2007-06-13		Analyzed By:	TP
Prep Batch: 32823		Sample Preparation:	2007-06-06		Prepared By:	$\mathbf{TS}$
		RL		· .		
		ΠL			<b>DH</b> 11	יס
Parameter	Flag	Result	Units	•	Dibition	
	Flag	Result 1050	Units mg/L		Dilution 20	
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113	Tract 11 MV	1050	mg/L S 6010B 2007-06-13			0.500
QC Batch: 38113	Tract 11 MV	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation:	mg/L S 6010B 2007-06-13		20 Prep Method: Analyzed By:	
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823	Tract 11 MV	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation: RL	mg/L S 6010B 2007-06-13 2007-06-06		20 Prep Method: Analyzed By: Prepared By:	0.500 S 3005A TP TS
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter	Tract 11 MV	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation:	mg/L S 6010B 2007-06-13 2007-06-06 Units		20 Prep Method: Analyzed By:	0.500 S 3005A TP TS RL
Dissolved Magnesium <b>Sample: 126448 - RQU</b> Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium	Tract 11 MV d Flag	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400	mg/L S 6010B 2007-06-13 2007-06-06		20 Prep Method: Analyzed By: Prepared By: Dilution	0.500 S 3005A TP TS RI
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium Sample: 126448 - RQU Analysis: pH	Tract 11 MV d Flag	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400 V-1 Analytical Method: S	mg/L S 6010B 2007-06-13 2007-06-06 Units mg/L		20 Prep Method: Analyzed By: Prepared By: Dilution 200 Prep Metho	0.500 S 3005A TP TS RI 0.500
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium Sample: 126448 - RQU Analysis: pH QC Batch: 37918 <sup>a</sup>	Tract 11 MV d Flag	1050V-1Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400V-1Analytical Method: Date Analyzed:2	mg/L S 6010B 2007-06-13 2007-06-06 Units mg/L SM 4500-H+ 2007-06-05		20 Prep Method: Analyzed By: Prepared By: Dilution 200 Prep Metho Analyzed E	0.500 S 3005A TP TS RI 0.500 od: N/A By: JS
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium Sample: 126448 - RQU Analysis: pH QC Batch: 37918 <sup>a</sup>	Tract 11 MV d Flag	1050V-1Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400V-1Analytical Method: Date Analyzed:2	mg/L S 6010B 2007-06-13 2007-06-06 Units mg/L		20 Prep Method: Analyzed By: Prepared By: Dilution 200 Prep Metho	0.500 S 3005A TP TS RI 0.500 od: N/A By: JS
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium Sample: 126448 - RQU Analysis: pH QC Batch: 37918 <sup>a</sup>	Tract 11 MV d Flag Tract 11 MV	1050 V-1 Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400 V-1 Analytical Method: S Date Analyzed: 2 Sample Preparation: 2	mg/L S 6010B 2007-06-13 2007-06-06 Units mg/L SM 4500-H+ 2007-06-05		20 Prep Method: Analyzed By: Prepared By: Dilution 200 Prep Metho Analyzed E	0.500 S 3005A TP TS RI 0.500 Dd: N/A By: JS
Dissolved Magnesium Sample: 126448 - RQU Analysis: Na, Dissolve QC Batch: 38113 Prep Batch: 32823 Parameter Dissolved Sodium Sample: 126448 - RQU Analysis: pH QC Batch: 37918 <sup>a</sup> Prep Batch: 32839 <sup>a</sup> samples were ran in the lab	Tract 11 MV d Flag Tract 11 MV	1050V-1Analytical Method: Date Analyzed: Sample Preparation: RL Result 19400V-1Analytical Method: Date Analyzed:2	mg/L S 6010B 2007-06-13 2007-06-06 Units mg/L SM 4500-H+ 2007-06-05		20 Prep Method: Analyzed By: Prepared By: Dilution 200 Prep Metho Analyzed E	0.500 S 3005A TP TS RI 0.500 od: N/A By: JS

#### Sample: 126448 - RQU Tract 11 MW-1

Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch: .	38153	. •	Date Analyzed:	2007-06-13	Analyzed By:	ER
Prep Batch:	33031		Sample Preparation:	2007-06-13	Prepared By:	$\mathbf{ER}$

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		RL			
Parameter	Flag	Result	Units	Dilution	· RL
Sulfate		1080	_mg/L	50	0.500
				. ,	
Sample: 126448	- RQU Tract 11 I	MW-1			
Analysis: TDS		Analytical Method:	SM 2540C	Prep Method	: N/A
QC Batch: 3806	1	Date Analyzed:	2007-06-11	Analyzed By	ER
Prep Batch: 3295	7	Sample Preparation:	2007-06-06	Prepared By:	
		$\mathbf{RL}$			
Parameter	Fla	ag Result	Units	Dilution	$\mathbf{RL}$
Total Dissolved So	lids	59400	mg/L	200.	10.00
· · ·					
Sample: 126449	- RQU Tract 13	MW-1	· · ·		
•	• • • • • • • •	1		•	·

#### Analysis: Alkalinity Prep Method: N/A Analytical Method: SM 2320B Analyzed By: QC Batch: 38159 Date Analyzed: 2007-06-14 $\mathbf{JS}$ Prep Batch: 33038 Sample Preparation: 2007-06-14 Prepared By: $\mathbf{JS}$ RLParameter Flag Result Units Dilution $\mathbf{RL}$ Hydroxide Alkalinity <1.00 mg/L as CaCo3 1 1.00 Carbonate Alkalinity 8.00 mg/L as CaCo3 1 1.00 Bicarbonate Alkalinity $\mathbf{652}$ mg/L as CaCo3 1 4.00mg/L as CaCo3 Total Alkalinity 660 1 4.00

### Sample: 126449 - RQU Tract 13 MW-1

Analysis: QC Batch: Prep Batch:	Ca, Dissolved 38113 32823		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06	Prep Method: Analyzed By: Prepared By:	TP
•		•	RL		•	
Parameter		Flag	Result	Units	Dilution	$\mathbf{RL}$
<b>Dissolved</b> Ca	lcium		282	mg/L	5	0.500

#### Sample: 126449 - RQU Tract 13 MW-1

Analysis: QC Batch: Prep Batch:	Chloride (IC) 38153 33031	Analytical Method: Date Analyzed: Sample Preparation	E 300.0 2007-06-13 2007-06-13	Prep Method: Analyzed By: Prepared By:	ER.
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride	· · · · · · · · · · · · · · · · · · ·	3270	mg/L	500	0.500

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Report Date 2972	:: June 15, 2007		Work Order Celero Energy-Ro		Page Num Chav	ber: 5 of 1 ves Co. NM
Sample: 12	6449 - RQU I	ract 13 MV	V-1			· ·
Analysis: QC Batch: Prep Batch:	Hardness 38113 32823		Analytical Method: Date Analyzed: Sample Preparation	S 6010B 2007-06-13 : 2007-06-06	Prep Metl Analyzed Prepared	
-			RL		· · · ·	·
Parameter Hardness (by	ICP)	Flag	Result 804	Units mg eq CaCO3/L	Dilution 1	RI 0.00
Sample: 12	6449 - RQU 1	ract 13 MV	V-1 .	,		
Analysis: QC Batch: Prep Batch:	K, Dissolved 38113 32823		Analytical Method: Date Analyzed: Sample Preparation	S 6010B 2007-06-13 : 2007-06-06	Prep Method: Analyzed By: Prepared By:	TP
•	,		RL		· · · · ·	
Parameter Dissolved Por	tassium	Flag	Result 20.1	Units mg/L	Dilution 5	RI 0.500
*						
Sample: 12	6449 - RQU 1	ract 13 MV	V-1		· · ·	
Analysis: QC Batch:	Mg, Dissolved 38113		Analytical Method: Date Analyzed:	S 6010B 2007-06-13	Prep Method: Analyzed By:	
Prep Batch:	32823		Sample Preparation		Prepared By:	
Parameter	•	Flag	$rac{\mathrm{RL}}{\mathrm{Result}}$ .	Units	Dilution	RL
Dissolved Ma	ignesium		24.4	mg/L	5	0.500
				:		
Sample: 12	6449 - RQU 1	ract 13 MV	V-1			
Analysis: QC Batch: Prep Batch:	Na, Dissolved 38113 32823		Analytical Method: Date Analyzed: Sample Preparation	2007-06-13	Prep Method: Analyzed By: Prepared By:	S 3005A TP TS
Description		Flor	RL Basult	TI-:4-	Dilution	זת
Parameter Dissolved Soc	lium	Flag	Result 2020	Units mg/L	Dilution50	RL 0.500
Sample: 120	5449 - RQU T	ract 13 MV	v-1 ····	· ·		
Analysis: QC Batch: Prep Batch:	pH 37918 ° 32839		Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2007-06-05 2007-06-05	Prep Meth Analyzed Prepared 1	By: JS
<sup>a</sup> samples wer	e ran in the lab					
		•				
			•			
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				. ·	· · · ·	·

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				· ·	
<b>D</b>	<b>T</b> 1	RL		<b>D1</b>	DI
Parameter pH	Flag	Result 7.02	Units	Dilution 1	RL 0.00
рн		1.02	<u>s.u.</u>	1	0.00
Sample: 126449 - RQ	U Tract 13 MW	7-1			
Analysis: SO4 (IC)		Analytical Metho	d: E 300.0	Prep Metho	ł: N/A
QC Batch: 38204		Date Analyzed:	2007-06-15	Analyzed By	
Prep Batch: 33077		Sample Preparati		Prepared By	
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		91.1	mg/L	5	0.500
· · · · · · · · · · · · · · · · · · ·					
Sample: 126449 - RQ	U Tract 13 MW	7-1			
Analysis: TDS		Analytical Method:	SM 2540C	Prep Method	ł: N/A
QC Batch: 38061		Date Analyzed:	2007-06-11	Analyzed By	
Prep Batch: 32957		Sample Preparation		Prepared By	
Parameter	Flor	RL Result	Units	Dilution	$\mathbf{RL}$
Total Dissolved Solids	Flag	7245	mg/L	5	10.00
Method Blank (1) QC Batch: 38061	QC Batch: 3806	1 Date Analyzed:	2007-06-11	Analyzed B	v: ER
Prep Batch: 32957		QC Preparation:	2007-06-06	Prepared B	
			MDL		
Parameter	I	Flag	Result	Units	$\mathbf{RL}$
Total Dissolved Solids			<5.000	mg/L	10
				·	
Method Blank (1)	QC Batch: 3811	3			
QC Batch: 38113	, , , ,	Date Analyzed:	2007-06-13	Analyzed B	
Prep Batch: 32823		QC Preparation:	2007-06-06	Prepared B	y: TS
Parameter	F1	~	MDL Result	Units	ים
Dissolved Calcium	Flag	5	<0.0290		RL 0.5
	··			mg/L	0.0
Method Blank (1)	QC Batch: 38113	3			
QC Batch: 38113	· · ·	Date Analyzed:	2007-06-13	Analyzed B	v: TP
Prep Batch: 32823		QC Preparation:	2007-06-06	Prepared B	-

QC Batch:	.38113 .		Date Analyzed:	2007-06-13	Analyzed By:	TΡ
Prep Batch:	32823		QC Preparation:	2007-06-06	Prepared By:	$\mathbf{TS}$

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Parameter	Flag		MDL Result	Units		$\mathbf{RL}$
Dissolved Potassium	I 10g	•	<0.307	mg/L		0.5
Method Blank (1)	QC Batch: 38113					
QC Batch: 38113		Date Analyzed:	2007-06-13		Analyzed By:	TP
Prep Batch: 32823		QC Preparation:	2007-06-06		Prepared By:	TS
			MDL			
Parameter	Flag	5	Result	Units		RL
Dissolved Magnesium			<0.0740	mg/L		0.5
Method Blank (1)	QC Batch: 38113	•				
QC Batch: 38113		Date Analyzed:	2007-06-13		Analyzed By:	TP
Prep Batch: 32823		QC Preparation:	2007-06-06		Prepared By:	ΤS
	·		MDL			
Parameter	Flag		Result	Units		$\mathbf{RL}$
Dissolved Sodium			<0.529	mg/L		0.5
Method Blank (1)	QC Batch: 38153					
QC Batch: 38153		Date Analyzed:	2007-06-13		Analyzed By:	$\mathbf{ER}$
Prep Batch: 33031		QC Preparation:	2007-06-13		Prepared By:	ER
		Ν	ÍDL			
Parameter	Flag		sult	Units		RL
Chloride	· · · · · · · · · · · · · · · · · · ·	<0	.172	mg/L		0.5
Method Blank (1)	QC Batch: 38153					
QC Batch: 38153		Date Analyzed:	2007-06-13		Analyzed By:	ER
Prep Batch: 33031		QC Preparation:	2007-06-13		Prepared By:	ER
		N	IDL			
Parameter	Flag		sult	Units		RL
Sulfate		<0	.777	mg/L		0.5
Mathad Plank (1)	AC Batch. 20150					
Method Blank (1)	QC Batch: 38159					
QC Batch: 38159		Date Analyzed:	2007-06-14		Analyzed By:	
Prep Batch: 33038		QC Preparation:	2007-06-14		Prepared By:	JS

Date Analyzed:	2007-06-14	Analyzed By:	$\mathbf{JS}$
QC Preparation:	2007-06-14	Prepared By:	$\mathbf{JS}$

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-			1DL	<b>.</b>		
Parameter	Flag		esult	Units		RL
Hydroxide Alkalinity			1.00	mg/L as CaC		1
Carbonate Alkalinity Bicarbonate Alkalinity			1.00 4.00	mg/L as CaC mg/L as CaC		$\frac{1}{4}$
Total Alkalinity			4.00	mg/L as CaC		4 4
Method Blank (1)	QC Batch: 38204					
QC Batch: 38204		Date Analyzed:	2007-06-15		Analyzed I	By: ER
Prep Batch: 33077		QC Preparation:	2007-06-14		Prepared I	
:						
		М	IDL			
Parameter	Flag		sult	Units		RL
Sulfate		<0.	777	mg/L	•	0.5
					•	
Duplicates (1)					• •	
QC Batch: 37918		Date Analyzed:	2007-06-05		Analyzed	By: JS
Prép Batch: 32839		QC Preparation:	2007-06-05		Prepared	By: JS
. •	Duplicate	Sample				RPD
Param	Result .	Result	Units	Dilution	RPD	Limit
pH	7.09	7.06	s.u.	1	0	0.8
Duplicates (1)						
QC Batch: 38061		Date Analyzed:	2007-06-11		Analyzed H	By: ER
Prep Batch: 32957		QC Preparation:	2007-06-06		Prepared E	
					•	
	Duplic	ate Sample				RPD
Param	Resu		Units	Dilution	RPD	Limit
Total Dissolved Solids	, 596.	0 582.0	mg/L	2	2	17.2
				· ·		
Duplicates (1)						• .
QC Batch: 38159		Date Analyzed:	2007-06-14		Analyzed	By: JS
Prep Batch: 33038		QC Preparation:	2007-06-14		Prepared 1	
	Duplicate	e Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo		0	20
	<1.00	<1.00				
	<1.00	<1.00	mg/L as CaCo		0	20
Carbonate Alkalinity Bicarbonate Alkalinity				03 1 03 1	0 19 19	20 20

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Laboratory	y Control Spike (LCS	S-1)							
QC Batch: Prep Batch:	38113 32823		Date Ana QC Prepa		2007-06 2007-06				zed By: TP red By: TS
Param		LC Rest	sult Ur	nits	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Ca		50.		g/L	1 ·	50.0	<0.0290		79.1 - 121
Percent reco	overy is based on the spi		RPD 15 Da		-	-	iplicate resu		
Param Dissolved Ca	alcium	LCSD Result 51.0	Units mg/L		Spike Amount 50.0	Matrix Result <0.0290		Rec. Limit H 9.1 - 121	RPD RPD Limit 1 20
	overy is based on the spi					······································			
					-		- <b>x</b>		
Laboratory	y Control Spike (LCS	S-1)							
QC Batch: Prep Batch:	38113 32823		Date Ana QC Prepa		2007-06- 2007-06-			•	zed By: TP red By: TS
	,						• ·		• .
Param Dissolved Po	otogium	LC Res 51.	sult U	Inits	Dil.	Spike Amount	Matrix Result <0.307	Rec.	Rec. Limit 78.8 - 114
	overy is based on the spi		·······	ng/L ased on t		50.0 . and spike du			10.0 - 11.
Param	· · · · · · · · · · · · · · · · · · ·	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit H	RPD RPD Limit
Dissolved Po	otassium overy is based on the spi	51.9 vike result	mg/L RPD is ba	1 ased on t	50.0 the spike	<0.307		8.8 - 114	1 20
PELCENCION	very is based on one op.	KE Itours		.Seu on v	ne spike .	and shive or	Ipheate too	116.	
	y Control Spike (LCS	š-1)						•	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
QC Batch: Prep Batch:	38113 32823		Date Ana QC Prepa		2007-06- 2007-06-			Analyz Prepar	zed By: TP red By: TS
Param		LC Resi	ult Un		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Ma	agnesium overy is based on the spi	50. jika result		g/L asod on t	1 the spike :	50.0	<0.0740		80.2 - 120
Percent reco	Very is based on one ap		Kru is ou				iplicate rest		חסת
	agnesium	LCSD Result 50.6	Units mg/L		Spike Amount 50.0	Matrix . Result <0.0740		Rec. Limit F 0.2 - 120	RPD RPD Limit 1 20
Param Dissolved Ma									<u> </u>
Dissolved Ma	overy is based on the spi	ike result.	101 10 10 00						
Dissolved Ma Percent recov			101 15 15 5	·					
Dissolved Ma Percent recov Laboratory QC Batch:	wery is based on the spi Control Spike (LCS 38113		Date Ana	*	2007-06- 2007-06-		÷	•	zed By: TP red By: TS
Dissolved Ma Percent recov Laboratory	wery is based on the spi Control Spike (LCS 38113		-	*	2007-06- 2007-06-		·	•	•

		LC	79			Spike	Matri	v		Rec.
Param		Res		Units	Dil.	Amount	Resul		Rec.	Limit
Dissolved Soc	dium	53		mg/L	1	50.0	<0.52		106	79.4 - 123
	very is based on the s				the snike a					
	ing to babba on the b		101 10 10	based on	_		ap110000 10			
D	•	LCSD	<b>TT T</b> .	<b>D</b> .1	Spike	Matrix	D	Rec.	יתת	RPD
Param Dissolved Soc		Result	Units		Amount	Result <0.529	Rec. 107 7	Limit 79.4 - 12	RPI 23 0	
		53.3	mg/L	1	50.0				23 0	20
Percent recov	very is based on the s	spike result.	RPD 15	based on	the spike a	and spike di	iplicate re	sult.		
Laboratory	Control Spike (LC	CS-1)								
QC Batch:	38153		Date A	nalyzed:	2007-06-	13			Analyzed	By: ER
Prep Batch:	33031		QC Pre	eparation:	2007-06-	-13			Prepared	By: ER
		T.(	CS			Spike	Mati	rix		Rec.
Param			sult	Units	Dil.	Amount	Resu		Rec.	Limit
Chloride			2.2	mg/L	1	12.5	< 0.1		98	90 - 110
		niko result	RPD is	based on	the spike a	and snike di	iplicate re	sult		
Percent recov	very is based on the s	pine result.	101010	uaseu un		and spine de				
Percent recov	very is based on the s	-	111 12 13	,		-				מתת
	very is based on the s	LCSD		•	Spike	Matrix	-	Rec.	זסק	RPD
Percent recov Param Chloride	very is based on the s	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. 97			
Param Chloride Percent recov	very is based on the s	LCSD Result 12.1 pike result.	Units mg/L	Dil.	Spike Amount 12.5	Matrix Result <0.172	Rec. 97	Rec. Limit 90 - 11		D Limit
Param Chloride Percent recov		LCSD Result 12.1 pike result.	Units mg/L RPD is Date A	Dil.	Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du	Rec. 97	Rec. Limit 90 - 11 sult.	0 1 Analyzed	D Limit 20
Param Chloride Percent recov Laboratory QC Batch:	very is based on the s Control Spike (LC 38153	LCSD Result 12.1 pike result.	Units mg/L RPD is Date A	Dil. 1 based on nalyzed:	Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du	Rec. 97	Rec. Limit 90 - 11 sult.	0 1 Analyzed	D Limit 20 By: ER
Param Chloride Percent recov Laboratory QC Batch:	very is based on the s Control Spike (LC 38153	LCSD Result 12.1 pike result. CS-1)	Units mg/L RPD is Date A	Dil. 1 based on nalyzed:	Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du 13 13	Rec. 97	Rec. Limit 90 - 11 sult.	0 1 Analyzed	D Limit 20 By: ER
Param Chloride Percent recov Laboratory QC Batch: Prep Batch:	very is based on the s Control Spike (LC 38153	LCSD Result 12.1 pike result. CS-1)	Units mg/L RPD is Date A QC Pre	Dil. 1 based on nalyzed:	Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du	Rec. 97 Iplicate re	Rec. Limit 90 - 11 sult.	0 1 Analyzed	D Limit 20 By: ER By: ER Rec. Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param	very is based on the s Control Spike (LC 38153	LCSD Result 12.1 pike result. CS-1) LC Res	Units mg/L RPD is Date A QC Pre	Dil. 1 based on nalyzed: eparation:	Spike <u>Amount</u> 12.5 the spike a 2007-06- 2007-06-	Matrix Result <0.172 and spike du 13 13 Spike	Rec. 97 Iplicate re	Rec. Limit 90 - 11 sult. rix ılt	0 1 Analyzed Prepared	D Limit 20 By: ER By: ER Rec.
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate	very is based on the s Control Spike (LC 38153 33031	LCSD Result 12.1 ppike result. CS-1) LC Res 12	Units mg/L RPD is Date A QC Pre CS sult 2.4	Dil. 1 based on nalyzed: eparation: Units mg/L	Spike <u>Amount</u> 12.5 the spike a 2007-06- 2007-06- Dil. 1	Matrix Result <0.172 and spike du 13 13 13 Spike Amount 12.5	Rec. 97 uplicate re Matu Resu <0.7	Rec. Limit 90 - 11 sult. rix 1lt	0 1 Analyzed Prepared Rec.	D Limit 20 By: ER By: ER Rec. Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate	very is based on the s Control Spike (LC 38153 33031	LCSD Result 12.1 pike result. CS-1) LC Res 12 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4	Dil. 1 based on nalyzed: eparation: Units mg/L	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a	Matrix Result <0.172 and spike du 13 13 Spike Amount 12.5 and spike du	Rec. 97 uplicate re Matu Resu <0.7	Rec. Limit 90 - 11 sult. rix nlt 777 sult.	0 1 Analyzed Prepared Rec.	D Limit 20 By: ER By: ER Rec. Limit 90 - 110
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov	very is based on the s Control Spike (LC 38153 33031	LCSD Result 12.1 ppike result. CS-1) LCSD	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is	Dil. 1 based on nalyzed: eparation: Units mg/L based on	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike	Matrix Result <0.172 and spike du 13 13 13 Spike Amount 12.5 and spike du Matrix	Rec. 97 uplicate re Matu Resu <0.7 uplicate re	Rec. Limit 90 - 11 sult. rix alt 777 sult. Rec.	0 1 Analyzed Prepared Rec. 99	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate	very is based on the s Control Spike (LC 38153 33031	LCSD Result 12.1 pike result. CS-1) LC Res 12 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil.	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a	Matrix Result <0.172 and spike du 13 13 Spike Amount 12.5 and spike du	Rec. 97 uplicate re Matu Resu <0.7	Rec. Limit 90 - 11 sult. rix nlt 777 sult.	0 1 Analyzed Prepared Rec. 99 RPI	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate	very is based on the s Control Spike (LC 38153 33031 very is based on the s	LCSD Result 12.1 ppike result. CS-1) LCS-12 pike result. LCSD Result 11.6	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1	Spike Amount 12.5 the spike a 2007-06- 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5	Matrix Result <0.172 and spike du 13 13 13 13 Spike Amount 12.5 and spike du Matrix Result <0.777	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix alt 777 sult. Rec. Limit 90 - 11	0 1 Analyzed Prepared Rec. 99 RPI	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD D Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate	very is based on the s Control Spike (LC 38153 33031	LCSD Result 12.1 ppike result. CS-1) LCS-12 pike result. LCSD Result 11.6	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1	Spike Amount 12.5 the spike a 2007-06- 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5	Matrix Result <0.172 and spike du 13 13 13 13 Spike Amount 12.5 and spike du Matrix Result <0.777	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix alt 777 sult. Rec. Limit 90 - 11	0 1 Analyzed Prepared Rec. 99 RPI	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD D Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov	Pery is based on the s Control Spike (LC 38153 33031 Pery is based on the s rery is based on the s	LCSD Result 12.1 ppike result. CS-1) LC Result LCSD Result 11.6 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1	Spike Amount 12.5 the spike a 2007-06- 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5	Matrix Result <0.172 and spike du 13 13 13 13 Spike Amount 12.5 and spike du Matrix Result <0.777	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix alt 777 sult. Rec. Limit 90 - 11	0 1 Analyzed Prepared Rec. 99 RPI	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD D Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov	very is based on the s Control Spike (LC 38153 33031 very is based on the s	LCSD Result 12.1 ppike result. CS-1) LC Result LCSD Result 11.6 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1	Spike Amount 12.5 the spike a 2007-06- 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5	Matrix Result <0.172 and spike du 13 13 13 13 Spike Amount 12.5 and spike du Matrix Result <0.777	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix alt 777 sult. Rec. Limit 90 - 11	0 1 Analyzed Prepared Rec. 99 RPI	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD D Limit
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Laboratory	Pery is based on the s Control Spike (LC 38153 33031 Pery is based on the s ery is based on the s Control Spike (LC	LCSD Result 12.1 ppike result. CS-1) LC Result LCSD Result 11.6 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Mg/L RPD is	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1 based on	Spike Amount 12.5 the spike a 2007-06- 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5 the spike a	Matrix Result <0.172 and spike du 13 13 13 13 13 13 13 13 13 13 13 13 13	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix alt '77 sult. Rec. Limit 90 - 11 sult.	0 1 Analyzed Prepared Rec. 99 RPI 0 7	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD Limit 20
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Laboratory QC Batch:	rery is based on the s <b>Control Spike (LC</b> 38153 33031 rery is based on the s ery is based on the s <b>Control Spike (LC</b> 38204	LCSD Result 12.1 ppike result. CS-1) LC Result LCSD Result 11.6 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L RPD is Date A	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1 based on nalyzed:	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du 13 13 13 13 13 13 13 13 13 13 13 13 13	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix llt 77 sult. Rec. Limit 90 - 11 sult.	0 1 Analyzed Prepared Rec. 99 RPI 0 7	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD Limit 20 By: ER
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Laboratory QC Batch:	Pery is based on the s Control Spike (LC 38153 33031 Pery is based on the s ery is based on the s Control Spike (LC	LCSD Result 12.1 ppike result. CS-1) LC Result LCSD Result 11.6 pike result.	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L RPD is Date A	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1 based on	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du 13 13 13 13 13 13 13 13 13 13 13 13 13	Rec. 97 Iplicate re Matu Resu <0.7 Iplicate re Rec. 93	Rec. Limit 90 - 11 sult. rix llt 77 sult. Rec. Limit 90 - 11 sult.	0 1 Analyzed Prepared Rec. 99 RPI 0 7	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD Limit 20 By: ER
Param Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Laboratory QC Batch:	rery is based on the s <b>Control Spike (LC</b> 38153 33031 rery is based on the s ery is based on the s <b>Control Spike (LC</b> 38204	LCSD Result 12.1 ppike result. CS-1) LCSD Result LCSD Result 11.6 pike result. CS-1)	Units mg/L RPD is Date A QC Pre CS sult 2.4 RPD is Units mg/L RPD is Date A QC Pre	Dil. 1 based on nalyzed: eparation: Units mg/L based on Dil. 1 based on nalyzed:	Spike Amount 12.5 the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 12.5 the spike a 2007-06-	Matrix Result <0.172 and spike du 13 13 13 13 13 13 13 13 13 13 13 13 13	Rec. 97 uplicate re Matu Resu <0.7 uplicate re <u>Rec.</u> 93 uplicate re	Rec. Limit 90 - 11 sult. rix llt 777 sult. Rec. Limit 90 - 11 sult.	0 1 Analyzed Prepared Rec. 99 RPI 0 7	D Limit 20 By: ER By: ER Rec. Limit 90 - 110 RPD Limit 20 By: ER By: ER
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Report Date: June 15, 2007 2972				er: 706050 Rock Quee			Page	Number: Chaves	
									<u> </u>
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Sulfate	12.0	mg/L	· · · · · · · · · · · · · · · · · · ·	12.5	<0.777	<u>96</u>	90 - 110	6	20
Percent recovery is based on the									
recent recovery is based on the	spine result.	101 10 15	based on	une spine e	and spine u	upneate i	court.		
Matrix Spike (MS-1) Spike	ed Sample: 12	26448							
QC Batch: 38113		Date A	nalyzed:	2007-06-	13		An	alyzed B	v: TP
Prep Batch: 32823			eparation:					pared B	P
-		•	•						
	М	re .			C: I	M-	A		<b>D</b>
Param	Res		Units	Dil.	Spike Amount		trix sult R	ec.	Rec. Limit
Dissolved Calcium	1 12		mg/L	1	50.0				<u>69 - 13</u>
Percent recovery is based on the									00 10
	MSD			Spike	Matrix		Rec.		RPD
,	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Param			1					0	20
Dissolved Calcium Percent recovery is based on the Matrix Spike (MS-1) Spike	1230	26448	based on	-	_	-20 uplicate r			
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113	spike result.	RPD is 26448 Date A	based on	the spike a 2007-06-	and spike du 13		result. An	alyzed B	y: TP
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113	spike result.	RPD is 26448 Date A	based on	the spike a 2007-06-	and spike du 13		result. An		y: TP
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113	spike result.	RPD is 26448 Date A QC Pre	based on	the spike a 2007-06-	and spike du 13 06	uplicate r	esult. An Pre	alyzed B	y: TP y: TS
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823	spike result. ed Sample: 12	RPD is 26448 Date A QC Pre S	based on nalyzed: eparation:	the spike a 2007-06- 2007-06-	and spike du 13 06 Spike	uplicate r Matr	result. An Pre	alyzed B epared By	y: TP y: TS Rec.
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param	spike result.	RPD is 26448 Date A QC Pre S ult	based on	the spike a 2007-06-	and spike du 13 06	uplicate r	result. An Pre	alyzed B spared B	y: TP y: TS Rec. Limit
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium	spike result. ed Sample: 12 Ma Res 3 44	RPD is 26448 Date A QC Pro S ult 6	based on nalyzed: eparation: Units mg/L	the spike a 2007-06- 2007-06- Dil. 1	and spike du 13 06 Spike Amount 50.0	Matr Resu 416	result. An Pre ilt Rec 3 60	alyzed B spared B	y: TP y: TS Rec. Limit
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium	spike result. ed Sample: 12 M. Res <u>3</u> 44 spike result.	RPD is 26448 Date A QC Pro S ult 6	based on nalyzed: eparation: Units mg/L	the spike a 2007-06- 2007-06- Dil. 1 the spike a	and spike du 13 06 Spike Amount 50.0 and spike du	Matr Resu 416	An Presult. An Presult 3 60 result.	alyzed B spared B	y: TP y: TS Rec. Limit 58 - 117
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the	P230 spike result. ed Sample: 12 MSD	RPD is 26448 Date A QC Pro S ult 6 RPD is	based on nalyzed: eparation: Units mg/L based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike	and spike du 13 06 Spike Amount 50.0 and spike du Matrix	Matı Resu 410 ıplicate r	result. An Presi alt Rec 3 60 result. Rec.	alyzed B spared B 	y: TP y: TS Rec. Limit .8 - 117 RPD
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param	spike result. ed Sample: 12 M. Res <u>3</u> 44 spike result.	RPD is 26448 Date A QC Pro S ult 6 RPD is Units	based on nalyzed: eparation: Units mg/L	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount	and spike du 13 06 Spike Amount 50.0 and spike du Matrix Result	Matr Resu 416 uplicate r Rec.	rix ilt Rec 3 60 result. Rec. Limit	alyzed B epared B 	y: TP y: TS Limit <u>.8 - 117</u> RPD Limit
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium	spike result. ed Sample: 12 M. Ress 3 44 spike result. MSD Result 468	RPD is 26448 Date A QC Pre S ult 6 RPD is Units mg/L	based on nalyzed: eparation: Units mg/L based on Dil. 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	13 06 Spike Amount 50.0 and spike du Matrix Result 416	Matr Resu 416 Iplicate r Rec. 104	An Presult. An Presult Rec. Limit 76.8 - 117	alyzed B spared B 	y: TP y: TS Rec. Limit .8 - 117 RPD
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium	spike result. ed Sample: 12 M. Ress 3 44 spike result. MSD Result 468	RPD is 26448 Date A QC Pre S ult 6 RPD is Units mg/L	based on nalyzed: eparation: Units mg/L based on Dil. 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	13 06 Spike Amount 50.0 and spike du Matrix Result 416	Matr Resu 416 Iplicate r Rec. 104	An Presult. An Presult Rec. Limit 76.8 - 117	alyzed B epared B 	y: TP y: TS Limit <u>.8 - 11'</u> RPD Limit
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the	spike result. ed Sample: 12 M. Ress 3 44 spike result. MSD Result 468	RPD is 26448 Date A QC Pre S ult 6 RPD is <u>Units</u> mg/L RPD is	based on nalyzed: eparation: Units mg/L based on Dil. 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	13 06 Spike Amount 50.0 and spike du Matrix Result 416	Matr Resu 416 Iplicate r Rec. 104	An Presult. An Presult Alt Rec 3 60 result. Rec. Limit 76.8 - 117	alyzed B epared B 	y: TP y: TS Limit <u>.8 - 11'</u> RPD Limit
Dissolved Calcium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike	Mages of the second sec	RPD is 26448 Date A QC Pre S ult 6 RPD is <u>Units</u> mg/L RPD is 26448	based on inalyzed: eparation: Units mg/L based on Dil. 1 based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a	and spike du 13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du	Matr Resu 416 Iplicate r Rec. 104	result. An Pre ilt Rec 3 60 result. Rec. Limit 76.8 - 117 esult.	alyzed By epared By 	y: TP y: TS Limit i.8 - 11' RPD Limit 20
Dissolved Calcium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113	Mages of the second sec	RPD is 26448 Date A QC Pre S ult 6 RPD is <u>Units</u> mg/L RPD is 26448 Date A	based on inalyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> 1 based on nalyzed:	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	and spike du 13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du 13	Matr Resu 416 Iplicate r Rec. 104	result. An Pre ilt Rec 3 60 result. Rec. Limit 76.8 - 117 esult. An	alyzed By epared By 	y: TP y: TS Rec. Limit i.8 - 11' RPD Limit 20
Dissolved Calcium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113	Mages of the second sec	RPD is 26448 Date A QC Pre S ult 6 RPD is <u>Units</u> mg/L RPD is 26448 Date A	based on inalyzed: eparation: Units mg/L based on Dil. 1 based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a	and spike du 13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du 13	Matr Resu 416 Iplicate r Rec. 104	result. An Pre ilt Rec 3 60 result. Rec. Limit 76.8 - 117 esult. An	alyzed By epared By 	y: TP y: TS Rec. Limit i.8 - 11' RPD Limit 20
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113	M spike result. ed Sample: 12 MSD Result 468 spike result. ed Sample: 12	RPD is 26448 Date A QC Pro S ult 6 RPD is <u>Units</u> mg/L RPD is 26448 Date A QC Pro	based on inalyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> 1 based on nalyzed:	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du 13 06	Matr Resu 416 uplicate r <u>Rec.</u> 104 uplicate r	An Presult. An Presult. Rec. Limit 76.8 - 117 esult. An Pres	alyzed By epared By 	y: TP y: TS Rec. Limit RPD Limit 20 y: TP y: TS
Dissolved Calcium Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113 Prep Batch: 32823	spike result. ed Sample: 12 M: Res <u>3</u> 44 spike result. MSD Result 468 spike result. ed Sample: 12	RPD is 26448 Date A QC Pro S ult 6 RPD is <u>Units</u> mg/L RPD is 26448 Date A QC Pro S	based on inalyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> 1 based on nalyzed: eparation:	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06- 2007-06-	and spike du 13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du 13 06 Spike	Matr Resu 410 uplicate r Rec. 104 uplicate r	result. An Pre ilt Rec 3 60 result. Rec. Limit 76.8 - 117 esult. An Pre	alyzed By epared By 76 <u>RPD</u> 5 alyzed By epared By	y: TP Rec. Limit RPD Limit 20 7: TP 7: TP 7: TS Rec.
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 38113 Prep Batch: 32823 Param Dissolved Potassium Percent recovery is based on the Param Dissolved Potassium Percent recovery is based on the Matrix Spike (MS-1) Spike	M spike result. ed Sample: 12 MSD Result 468 spike result. ed Sample: 12	RPD is 26448 Date A QC Pro S ult 6 RPD is <u>Units</u> mg/L RPD is 26448 Date A QC Pro S ult	based on inalyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> 1 based on nalyzed:	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	13 06 Spike Amount 50.0 and spike du Matrix Result 416 and spike du 13 06	Matr Resu 416 uplicate r <u>Rec.</u> 104 uplicate r	result. An Pre ilt Rec 3 60 result. Rec. Limit 76.8 - 117 esult. An Pre	alyzed By epared By 	y: TP y: TS Rec. Limit RPD Limit 20 y: TP y: TS

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>1</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>2</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>3</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>4</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: June 15, 2007 2972		Celere	o Energy	-nock Quee	n ESA			Chaves	00
	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Magnesium	<sup>5</sup> 1040	mg/L	1	50.0	1050	-20	77.9 - 122	1	20
Percent recovery is based on the	he spike result.	RPD is	based or	n the spike a	and spike d	uplicate i	result.		
Matrix Spike (MS-1) Sp	iked Sample: 12	26448							
QC Batch: 38113		Date A	nalyzed:	2007-06-	13		An	alyzed By	y: TP
Prep Batch: 32823			eparation					pared By	
	M				Spike	Mat	rix		Rec.
Param	Res		Units	Dil.	Amount	Rest			Limit
Dissolved Sodium	<sup>6</sup> 194	00	mg/L		50.0	194	00 0	84	.2 - 120
Percent recovery is based on the	he spike result.	RPD is	based or	the spike a	and spike d	uplicate 1	result.		
	MSD			Spike	Matrix		Rec.		RPD
	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
				FO 0	10400	1000	8/9 190	2	20
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153	7 19900	26147 Date A	nalyzed:	2007-06-	13	1000 uplicate r	Ana	alyzed By	y: ER
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153	7 19900 he spike result. iked Sample: 12	RPD is 26147 Date A QC Pre	based or	1 the spike a 2007-06-	and spike dr 13 13	uplicate r	result. An: Pre		y: ER y: ER
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031	7 19900 he spike result. iked Sample: 12	RPD is 26147 Date A QC Pro	based or nalyzed: eparation	2007-06- 2007-06- :: 2007-06-	and spike do 13 13 · Spike	uplicate r Ma	result. Ana Pre trix	alyzed By	y: ER y: ER Rec.
Dissolved Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp OC Batch: 38153 Prep Batch: 33031 Param	7 19900 he spike result. iked Sample: 12 Mi Resu	RPD is 26147 Date A QC Pro S ult	based or nalyzed: eparation Units	2007-06- 2007-06- 2007-06- Dil.	and spike do 13 13 - Spike Amount	uplicate n Ma Res	result. Ana Pre trix sult Ro	alyzed By pared By ec.	y: ER y: ER Rec. Limit
Dissolved Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride	7 19900 he spike result. iked Sample: 12 MS Rest 79	RPD is 26147 Date A QC Pro S ult 8	based or nalyzed: eparation Units mg/L	2007-06- 2007-06- 2007-06- Dil. 50	and spike do 13 13 Spike Amount 625	Ma Res 185	result. Ana Pre trix sult Re .563 9	alyzed By pared By ec.	y: ER y: ER Rec. Limit
Dissolved Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride	7 19900 he spike result. iked Sample: 12 MS Resu 79 he spike result.	RPD is 26147 Date A QC Pro S ult 8	based or nalyzed: eparation Units mg/L	2007-06- 2007-06- 2007-06- Dil. 50 a the spike a	nd spike d 13 13 Amount 625 and spike d	Ma Res 185	result. Ana Pre trix sult Ra .563 9 result.	alyzed By pared By ec.	y: ER y: ER Limit 10 - 188
Dissolved Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on the	7 19900 he spike result. iked Sample: 12 MS Resu 79 he spike result. MSD	RPD is 26147 Date A QC Pro S ult RPD is	based or nalyzed: eparation Units mg/L based or	2007-06- 2007-06- 2007-06- Dil. 50 the spike a Spike	nd spike d 13 13 4 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Ma Res 185 uplicate 1	result. Ana Pre trix sult Ra .563 9 result. Rec.	alyzed By pared By ec. 8	y: ER y: ER Limit 10 - 188 RPD
Dissolved Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on the Param	7 19900 he spike result. iked Sample: 12 iked Sample: 12 MS Resu 79 he spike result. MSD Result	RPD is 26147 Date A QC Pro S ult 8 RPD is Units	based or nalyzed: eparation Units mg/L based or Dil.	2007-06- 2007-06- 2007-06- Dil. 50 the spike a Spike Amount	nd spike d 13 13 13 Amount 625 and spike d Matrix Result	Ma Res 185 uplicate n Rec.	result. Ana Pre trix sult Ra .563 9 result. Rec. Limit	alyzed By pared By ec. 8 RPD	y: ER y: ER Limit 10 - 188 RPD Limit
QC Batch: 38153	7 19900 he spike result. iked Sample: 12 iked Sample: 12 MSD Result 79 he spike result. MSD Result 787	RPD is 26147 Date A QC Pro S ult 8 RPD is <u>Units</u> mg/L	based or nalyzed: eparation Units mg/L based or Dil. 50	2007-06- 2007-06- 2007-06- Dil. 50 the spike a Spike Amount 625	nd spike d 13 13	Ma Re: 185 uplicate n Rec. 96	result. Ana Pre- trix sult Ro .563 9 result. Rec. Limit 10 - 188	alyzed By pared By ec. 8	y: ER y: ER Limit 10 - 188 RPD
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Param	7 19900 he spike result. iked Sample: 12 iked Sample: 12 MSD Result 79 he spike result. MSD Result 787	RPD is 26147 Date A QC Pro S ult 8 RPD is <u>Units</u> mg/L RPD is	based or nalyzed: eparation Units mg/L based or Dil. 50	2007-06- 2007-06- 2007-06- Dil. 50 the spike a Spike Amount 625	nd spike d 13 13	Ma Re: 185 uplicate n Rec. 96	result. Ana Pre- trix sult Ro .563 9 result. Rec. Limit 10 - 188	alyzed By pared By ec. 8 RPD	y: ER y: ER Limit 10 - 188 RPD Limit
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Param	7 19900 he spike result. iked Sample: 12 iked Sample: 12 MSD Result 797 he spike result. 797 he spike result.	RPD is 26147 Date A QC Pro S ult 8 RPD is <u>Units</u> mg/L RPD is 26147	based or nalyzed: eparation Units mg/L based or Dil. 50	2007-06- 2007-06- 2007-06- Dil. 50 the spike a Spike Amount 625	nd spike d 13 13 13 Spike Amount 625 and spike du Matrix Result 185.563 and spike du	Ma Re: 185 uplicate n Rec. 96	result. Ana Pre trix sult Ra .563 9 result. Rec. Limit 10 - 188 result.	alyzed By pared By ec. 8 RPD 1	y: ER kec. Limit 10 - 188 RPD Limit 20
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 38153	7 19900 he spike result. iked Sample: 12 iked Sample: 12 MSD Result 797 he spike result. 797 he spike result.	RPD is 26147 Date A QC Pro S ult 8 RPD is <u>Units</u> mg/L RPD is 26147 Date A	based or nalyzed: eparation Units mg/L based or Dil. 50 based or	a the spike a 2007-06- $2007-06-$ Dil. 50 a the spike a Spike Amount 625 a the spike a 2007-06-	and spike do 13 13 13 Spike Amount 625 and spike do Matrix Result 185.563 and spike do	Ma Re: 185 uplicate n Rec. 96	result. Ana Pres trix sult Ra .563 9 result. Rec. Limit 10 - 188 result. Ana	alyzed By pared By ec. 8 RPD	y: ER Rec. Limit 10 - 188 RPD Limit 20
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 38153	7 19900 he spike result. iked Sample: 12 MSD Result 797 he spike result. MSD Result 787 he spike result. iked Sample: 12	RPD is 26147 Date A QC Pro S ult 8 RPD is mg/L RPD is 26147 Date A QC Pro	based or nalyzed: eparation Units mg/L based or Dil. 50 based or nalyzed: eparation	a the spike a 2007-06- $2007-06-$ Dil. 50 a the spike a Spike Amount 625 a the spike a 2007-06-	and spike do 13 13 13 Spike Amount 625 and spike do Matrix Result 185.563 and spike do	Ma Re: 185 uplicate n Rec. 96	result. Ana Pres trix sult Ra .563 9 result. Rec. Limit 10 - 188 result. Ana Pre	alyzed By pared By ec. 8 <u>RPD</u> 1 alyzed By pared By	y: ER Rec. Limit 10 - 188 RPD Limit 20 y: ER 7: ER Rec.
Dissolved Sodium Percent recovery is based on th Matrix Spike (MS-1) Sp QC Batch: 38153 Prep Batch: 33031 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 38153	7       19900         he spike result.	RPD is 26147 Date A QC Pro S ult 8 RPD is MRPD is 26147 Date A QC Pro S ult	based or nalyzed: eparation Units mg/L based or Dil. 50 based or nalyzed:	a the spike a 2007-06- $2007-06-$ Dil. 50 a the spike a Spike Amount 625 a the spike a 2007-06-	and spike du 13 13 13 Spike Amount 625 and spike du Matrix Result 185.563 and spike du 13 13	Ma Res 185 uplicate n <u>Rec.</u> 96 uplicate n	result. Ana Pres trix sult Ra .563 9 result. Rec. Limit 10 - 188 result. Ana Pre rix alt Rec	alyzed By pared By ec. 8 <u>RPD</u> 1 alyzed By pared By	y: ER Rec. Limit 10 - 188 RPD Limit 20 y: ER 7: ER

<sup>5</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>6</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>7</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: J 2972	lune 15, 2007				ler: 706050 Rock Quee			Page	Number: Chaves (	
Param Sulfate	•	MSD Result 670	Units		Spike Amount 625	Matrix Result <38.8	Rec.	Rec. Limit 83.1 - 114	RPD 0	RPI Limi 20
	y is based on the sp		mg/L						<u> </u>	40
	- · · .				-	-	-			
Matrix Spike	(MS-1) Spiked	Sample: 1	126449							
•	8204 3077			Analyzed: reparation	2007-06 : 2007-06				alyzed By epared By	
•			1S			Spike		trix		Rec.
Param Sulfate			sult 59	Units mg/L		Amount 62.5		sult Re 0693 10		Limit .1 - 114
	y is based on the sp				_				9 00.	.1 - 11-
Param	,	MSD Result	Units		Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limi
Sulfate		151	mg/L		62.5	91.0693	96	83.1 - 114		20
	Flag Units	s .	ICVs True Conc.	IC Fou Cor	ınd nc.	ICVs Percent Recovery		Percent Recovery Limits	An	Date alyzed
Param pH	Flag Units s.u.	s .	True	Fou	ınd nc.	Percent		Recovery	An	
	<u>s.u.</u>	s .	True Conc.	Fou Coi	ınd nc.	Percent Recovery		Recovery Limits	An	alyzed
рН	s.u. CV-1)	s .	True Conc. 7.00	Fou Con 7.1	ınd nc.	Percent Recovery 101		Recovery Limits 98 - 102	An	alyzed 7-06-0
pH Standard (CC	s.u. CV-1)	<u>,</u> (	True Conc. 7.00 Date A CCVs	Fou Cor 7.1 Analyzed: CC	und nc. 10 2007-06-0	Percent Recovery 101 05 CCVs		Recovery Limits 98 - 102 A Percent	An 200 nalyzed By	alyzed 7-06-0 y: JS
pH Standard (CC QC Batch: 379	s.u. CV-1)	; (	True Conc. 7,00 Date A	Fou Cor 7.1 Analyzed: CC	und nc. 10 2007-06-0 Vs und	Percent Recovery 101		Recovery Limits 98 - 102 A	An 200' nalyzed By I	alyzed 7-06-0
pH Standard (CC QC Batch: 379	s.u. CV-1) 918	; (	True Conc. 7.00 Date A CCVs True	Fou Cor 7.1 Analyzed: CC Fou Cor	und nc. 10 2007-06-0 Vs und	Percent Recovery 101 05 CCVs Percent		Recovery Limits 98 - 102 A Percent Recovery	An 200' nalyzed By	alyzed 7-06-09 y: JS Date
pH Standard (CC QC Batch: 379 Param	s.u. CV-1) 918 Flag Units s.u.	; (	True Conc. 7,00 Date A CCVs True Conc.	Fou Cor 7.1 Analyzed: CC Fou Cor	und nc. 10 2007-06-0 Vs und nc.	Percent Recovery 101 05 05 CCVs Percent Recovery		Recovery Limits 98 - 102 A Percent Recovery Limits	An 200' nalyzed By	alyzed 7-06-0 y: JS Date alyzed
pH Standard (CC QC Batch: 379 Param pH	s.u. CV-1) 918 Flag Units s.u. V-1)	; (	True Conc. 7.00 Date A CCVs True Conc. 7.00	Fou Cor 7.1 Analyzed: CC Fou Cor 7.1	und nc. 10 2007-06-0 Vs und nc.	Percent Recovery 101 05 05 CCVs Percent Recovery 102		Recovery Limits 98 - 102 A Percent Recovery Limits 98 - 102	An 200' nalyzed By	alyzed 7-06-0 y: JS Date alyzed 7-06-0
pH Standard (CC QC Batch: 379 Param pH Standard (ICV QC Batch: 380	s.u. CV-1) 918 Flag Units s.u. V-1) 061	3	True Conc. 7.00 Date A CCVs True Conc. 7.00 Date A	Fou Con 7.1 Analyzed: CC Fou Con 7.1 Analyzed: ICVs True	und nc. 10 2007-06-0 Vs und nc. 14 2007-06-1 ICVs Found	Percent Recovery 101 05 05 05 CCVs Percent Recovery 102	ent	Recovery Limits 98 - 102 A Percent Recovery Limits 98 - 102 An Percent Recovery	An 200 nalyzed By I An 200 nalyzed By	alyzed 7-06-0 y: JS Date alyzed 7-06-0 : ER
pH Standard (CC QC Batch: 379 Param pH Standard (ICV QC Batch: 380 Param	<u>s.u.</u> 2V-1) 918 <u>Flag Units</u> s.u. V-1) 061 Flag	s (	True Conc. 7.00 Date A CCVs True Conc. 7.00 Date A	Fou Con 7.1 Analyzed: CC Fou Con 7.1 Analyzed: ICVs True Conc.	und nc. 10 2007-06-0 Vs und nc. 14 2007-06-1 ICVs Found Conc.	Percent Recovery 101 05 05 05 05 05 05 05 05 05 05 05 05 05	ent /ery	Recovery Limits 98 - 102 A Percent Recovery Limits 98 - 102 An Percent Recovery Limits	An 200 nalyzed By I An 200 Nalyzed By I An	alyzed 7-06-0 y: JS Date alyzed 7-06-0 : ER Date alyzed
pH Standard (CC QC Batch: 379 Param pH Standard (ICV QC Batch: 380	<u>s.u.</u> 2V-1) 918 <u>Flag Units</u> s.u. V-1) 061 Flag	3	True Conc. 7.00 Date A CCVs True Conc. 7.00 Date A	Fou Con 7.1 Analyzed: CC Fou Con 7.1 Analyzed: ICVs True	und nc. 10 2007-06-0 Vs und nc. 14 2007-06-1 ICVs Found	Percent Recovery 101 05 05 CCVs Percent Recovery 102	ent /ery	Recovery Limits 98 - 102 A Percent Recovery Limits 98 - 102 An Percent Recovery	An 200 nalyzed By I An 200 Nalyzed By I An	alyzed 7-06-0 y: JS Date alyzed 7-06-0 : ER Date alyzed
pH Standard (CC QC Batch: 379 Param pH Standard (ICV QC Batch: 380 Param	s.u. CV-1) 918 Flag Units s.u. V-1) 061 Flag Solids	s (	True Conc. 7.00 Date A CCVs True Conc. 7.00 Date A	Fou Con 7.1 Analyzed: CC Fou Con 7.1 Analyzed: ICVs True Conc.	und nc. 10 2007-06-0 Vs und nc. 14 2007-06-1 ICVs Found Conc.	Percent Recovery 101 05 05 CCVs Percent Recovery 102	ent /ery	Recovery Limits 98 - 102 A Percent Recovery Limits 98 - 102 An Percent Recovery Limits	An 200 nalyzed By I An 200 Nalyzed By I An	alyzed 7-06-0 y: JS Date alyzed 7-06-0

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Report Date: June 15, 2972	2007		Work Orc Celero Energy-	der: 7060508 Rock Queen I	ESA		umber: 14 of 1 Chaves Co. NM
_			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Total Dissolved Solids	Flag	Units mg/L		<u> </u>	Recovery 98	Limits 90 - 110	Analyzed 2007-06-11
		0					
Standard (ICV-1)						·	
QC Batch: 38113		•	Date Analyzed:	2007-06-13		Analy	yzed By: TP
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	50.0	49.5	99	90 - 110	2007-06-13
Standard (ICV-1) QC Batch: 38113			Date Analyzed:			-	yzed By: TP
			ICVs True	ICVs Found	ICVs Percent	Pèrcent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Potassium		mg/L	50.0	49.9	100	90 - 110	2007-06-13
Standard (ICV-1)					".		
QC Batch: 38113			Date Analyzed:	2007-06-13		Analy	yzed By: TP
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Magnesium		mg/L	50.0	49.3	-99	90 - 110	2007-06-13
Standard (ICV-1)							
QC Batch: 38113		]	Date Analyzed:		· ·	Analy	zed By: TP
Param	Flag	Units	ICVs True · Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Sodium		mg/L	50.0	51.5	103	90 - 110	2007-06-13
Standard (CCV-1)			· ·		• .		
QC Batch: 38113		J	Date Analyzed:	2007-06-13		Analy	vzed By: TP
-	<b></b>	•.	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed

Report Date: June 1 2972	5, 2007	ſ	Work Or	Page Number: 15 of 16 Chaves Co. NM					
			Celero Energy	· · · · · · · · · · · · · · · · · · ·					
Standard (CCV-1)	)		•	<b>x</b>					
QC Batch: 38113		Da	te Analyzed:	2007-06-13		Anal	yzed By: TP		
	· ·		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date		
Param Dissolved Potassium	Flag	Units mg/L	Conc. 50.0	Conc. 52.8	Recovery 106	Limits 90 - 110	Analyzed 2007-06-1		
	<u> </u>					, <i>·</i>			
Standard (CCV-1)	)								
QC Batch: 38113		Da	te Analyzed:			Anal	yzed By: TP		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Dissolved Magnesiun	<u> </u>	mg/L	50.0	51.7	103	90 - 110	2007-06-1		
Standard (CCV-1)	н. <u>т</u> .						•		
QC Batch: 38113		Da	te Analyzed:		* *		yzed By: TP		
Param	Flag (	Jnits	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Dissolved Sodium		ng/L	50.0	52.7	105	90 - 110	2007-06-1		
Standard (ICV-1)						. •	• •		
QC Batch: 38153		Da	te Analyzed:	2007-06-13		Anal	yzed By: ER		
		IĊV Tru	ie Fo	UVs und	ICVs Percent	Percent Recovery	Date		
Param Fla Chloride	g Units mg/L	Cor 12.		onc. 2.1	Recovery 97	Limits 90 - 110	Analyzed 2007-06-1		
······	······································								
Standard (ICV-1)									
QC Batch: 38153		Da	te Analyzed:	2007-06-13		Anal	yzed By: ER		
		ICV True	e Fou	ınd	ICVs Percent	Percent Recovery	Date		
Param Flag Sulfate	Units mg/L	Conc 12.5			Recovery 94	Limits 90 - 110	Analyzed 2007-06-1		
Standard (CCV-1)					· ·				
		P	40. Aven 1	0007 00:10		, A 1	mand D DD		
QC Batch: 38153			te Analyzed:	2007-00-13	• •	Anal	yzed By: ER		
				•					
		•							
	. ·				н 1				

Report Date: June 15, 200 2972	7 .		Work Order:				mber: 16 of 1
		Celer	o Energy-Roc	k Queen	ESA		Chaves Co. NN
		CCVs	CCVs		CCVs	Percent	
<b>n n</b>		True	Found		Percent	Recovery	Date
Param Flag Chloride	Units	<u>Conc.</u> 12.5	<u>Conc.</u> 12.3		Recovery	Limits 90 - 110	Analyzed 2007-06-13
	mg/L	12.0	12.3		98	90 - 110	2007-00-13
Standard (CCV-1)							•
QC Batch: 38153		Date A	nalyzed: 20	07-06-13		Anal	yzed By: ER
		CCVs	CCVs		CCVs	Percent	
		True	Found		Percent	Recovery	Date
Param Flag	Units	Conc.	Conc.		Recovery	Limits	Analyzed
Sulfate	mg/L	12.5	12.6		101	90 - 110	2007-06-13
Standard (ICV-1)	•				••		
QC Batch: 38159	·	Date 4	Analyzed: 20	07-06-14	L	Ana	lyzed By: JS
			·				
			ICVs	ICVs	ICVs Decemt	Percent	
Param Flag	TT	nits	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
Fotal Alkalinity		as CaCo3	250	242	97	<u>90 - 110</u>	2007-06-14
	0	<u> </u>		•			· · · · · · · · · · · · · · · · · · ·
Standard (CCV-1)	•						
QC Batch: 38159							
11 Kotobi 20160							1
20 Datur. 38139		Date A	Analyzed: 20	07-06-14	L	Ana	lyzed By: JS
20 Datur. 30139		Date A	CCVs	CCVs	CCVs	Percent	
-			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Flag		nits	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param Flag			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Flag Total Alkalinity		nits	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1)		nits as CaCo3	CCVs True Conc. 250	CCVs Found Conc. 240	CCVs Percent Recovery 96	Percent Recovery Limits 90 - 110	Date Analyzed 2007-06-14
Param Flag Total Alkalinity Standard (ICV-1)		nits as CaCo3	CCVs True Conc.	CCVs Found Conc. 240	CCVs Percent Recovery 96	Percent Recovery Limits 90 - 110	Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1)		nits as CaCo3	CCVs True Conc. 250	CCVs Found Conc. 240	CCVs Percent Recovery 96	Percent Recovery Limits 90 - 110	Date Analyzed 2007-06-14
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204	mg/L a	nits as CaCo3 Date A ICVs True	CCVs True Conc. 250 	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent	Percent Recovery Limits 90 - 110 Analy Percent Recovery	Date Analyzed 2007-06-14 yzed By: ER Date
Param Flag Fotal Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag	mg/L a Units	nits as CaCo3 Date A ICVs True Conc.	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc.	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag	mg/L a	nits as CaCo3 Date A ICVs True	CCVs True Conc. 250 	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent	Percent Recovery Limits 90 - 110 Analy Percent Recovery	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag Sulfate	mg/L a Units	nits as CaCo3 Date A ICVs True Conc.	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc.	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204	mg/L a Units	nits as CaCo3 Date A ICVs True Conc. 12.5	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc.	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery 93	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits 90 - 110	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag Sulfate Standard (CCV-1)	mg/L a Units	nits as CaCo3 Date A ICVs True Conc. 12.5 Date A	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc. 11.6 nalyzed: 20	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery 93	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits 90 - 110 Analy	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed 2007-06-15
Param Flag Total Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag Sulfate Standard (CCV-1)	mg/L a Units	nits as CaCo3 Date A ICVs True Conc. 12.5 Date A CCVs	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc. 11.6 nalyzed: 20 CCVs	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery 93 CCVs	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits 90 - 110 Analy Percent	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed 2007-06-15 yzed By: ER
Param Flag Cotal Alkalinity Standard (ICV-1) QC Batch: 38204 Param Flag ulfate tandard (CCV-1) QC Batch: 38204	mg/L a Units mg/L	nits as CaCo3 Date A ICVs True Conc. 12.5 Date A CCVs True	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc. 11.6 nalyzed: 20 CCVs Found	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery 93 CCVs Percent	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits 90 - 110 Analy Percent Recovery	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed 2007-06-15 yzed By: ER Date
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Param     Flag       Cotal Alkalinity       Standard (ICV-1)       QC Batch:     38204       Param     Flag       ulfate       tandard (CCV-1)       QC Batch:     38204	mg/L a Units mg/L	nits as CaCo3 Date A ICVs True Conc. 12.5 Date A CCVs True	CCVs True Conc. 250 .nalyzed: 20 ICVs Found Conc. 11.6 nalyzed: 20 CCVs Found	CCVs Found Conc. 240 07-06-15	CCVs Percent Recovery 96 ICVs Percent Recovery 93 CCVs Percent	Percent Recovery Limits 90 - 110 Analy Percent Recovery Limits 90 - 110 Analy Percent Recovery	Date Analyzed 2007-06-14 yzed By: ER Date Analyzed 2007-06-15 yzed By: ER Date
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6701 Aberdeen Avenue, Suite 9Lubbock, Texas 79424200 East Sunset Road, Suite EEl Paso, Texas 799225002 Basin Street, Suite A1Midland, Texas 797036015 Harris Parkway, Suite 110Ft. Worth, Texas 76132

El Paso, Texas 79922 Midland, Texas 79922 t. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

HUB:

NCTRCA

806+794+1296 F/ 915+585+3443 F/ 432+689+6301 F/ 817+201+5260

6 FAX 806+794+1298 3 FAX 915+585+4944 1 FAX 432+689+6313

**DBE:** VN 20657

### **NELAP** Certifications

Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317

**WBENC:** 237019

El Paso: T104704221-08-TX LELAP-02002

1752439743100-86536

WFWB38444Y0909

Midland: T104704392-08-TX

## Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: March 9, 2010

Work Order: 10022629

Project Location:Chavez County, NMProject Name:Celero/ Rock Queen #11Project Number:115-6403131A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
223824	MW-1	water	2010-02-25	17:05	2010-02-26
223825	MW-2	water	2010-02-25	17:15	2010-02-26
223826	MW-3	water	2010-02-25	17:00	2010-02-26
223827	MW-4	water	2010-02-25	17:25	2010-02-26

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 25 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael ale

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

3

### Standard Flags

 $\,B\,$  -  $\,$  The sample contains less than ten times the concentration found in the method blank.

## Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2010-02-26 and assigned to work order 10022629. Samples for work order 10022629 were received intact without headspace and at a temperature of 2.6 C.

	*	Prep	Prep	$\mathbf{QC}$ .	Analysis
Test	Method	Batch	Date	Batch	Date
Alkalinity	SM 2320B	58086	2010-03-01 at 08:24	67894	2010-03-01 at 15:26
BTEX	S 8021B	58101	2010-03-01 at 15:45	67911	2010-03-01 at 17:11
Ca, Dissolved	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
Chloride (IC)	E 300.0	58080	2010-03-01 at 13:20	67931	2010-03-02 at 08:56
Chloride (IC)	E 300.0	58087	2010-03-01 at 12:28	67932	2010-03-02 at 11:58
Hardness	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
K, Dissolved	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
Mg, Dissolved	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
Na, Dissolved	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
pH	SM 4500-H+	58060	2010-02-26 at 16:00	67873	2010-02-26 at 17:15
SO4 (IC)	E 300.0	58080	2010-03-01 at 13:20	67931	2010-03-02 at 08:56
SO4 (IC)	E 300.0	58087	2010-03-01 at 12:28	67932	2010-03-02 at 11:58
TDS	SM 2540C	58103	2010-03-02 at 09:11	68098	2010-03-09 at 15:05

Samples were analyzed for the following tests using their respective methods.

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10022629 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: March 9, 2010 115-6403131A

### Work Order: 10022629 Celero/ Rock Queen #11

Page Number: 4 of 25 Chavez County, NM

# **Analytical Report**

Sample: 223824 - MW-1

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	67894	Date Analyzed:	2010-03-01	Analyzed By:	AR
Prep Batch:	58086	Sample Preparation:	2010-03-01	Prepared By:	AR
	•	•.			
		RL			

Parameter	Flag	Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		101	mg/L as CaCo3	· 1	4.00
Total Alkalinity		101	mg/L as CaCo3	1	4.00

### Sample: 223824 - MW-1

Laboratory:MidAnalysis:BTIQC Batch:679Prep Batch:5810	11 ·		Analytical Me Date Analyze Sample Prepa	d:	S 8021B 2010-03-01 2010-03-01		Prep Met Analyzed Prepared	By: AG
· .			RL					
Parameter	Flag		Result		Units		Dilution	$\operatorname{RL}$
Benzene			< 0.00100		mg/L	1 121.	1	0.00100
Toluene			< 0.00100		mg/L		1	0.00100
Ethylbenzene			< 0.00100		mg/L		1	0.00100
Xylene	<u></u>		< 0.00100		mg/L		1	0.00100
Surrogate	· · · ·	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (?	FFT)			mg/L		0.100	90	65.9 - 129.8

Sample:	223824	-`	MW-	1	

4-Bromofluorobenzene (4-BFB)

QC Batch: 679 Prep Batch: 581	-		Date Analyzed: Sample Preparation:	2010-03-02 2010-03-02	Analyzed By: Prepared By:	
•		· · ·	$\operatorname{RL}$			
Parameter		Flag	Result	Units	Dilution	$\mathbf{RL}$
<b>Dissolved</b> Calcium			3280	mg/L	100	0.100

mg/L

0.0827

continued ...

0.100

83

51.1 - 118.8

Report Date: March 9, 2010 115-6403131A	Work Order: 16 Celero/ Rock Qu		Page Number: 5 of 25 Chavez County, NM		
sample 223824 continued			•		
	RL				
Parameter Fla	g Result	Units	Dilution	RL	
Dissolved Potassium	737	mg/L	100	0.100	
Dissolved Magnesium	2240	mg/L	100	0.100	
Dissolved Sodium	28500	mg/L	1000	0.100	
Sample: 223824 - MW-1					
Laboratory: Midland					
Analysis: Chloride (IC)	Analytical Method:	E 300.0	Prep Me	thod: N/A	
QC Batch: 67931	Date Analyzed:	2010-03-02	Analyzed	d By: AR	
Prep Batch: 58080	Sample Preparation:	2010-03-01	Preparec	d By: AR	
	$\mathbf{RL}$				
Parameter Flag	Result	Units	Dilution	RL	
Chloride	60700	mg/L	5000	0.500	

Chloride		60700	mg/L	5000	0.500
Parameter	Flag	RL Result	Units	Dilution	RĻ
Prep Batch:	58080	Sample Preparation:	2010-03-01	Prepared By	y: AR
QC Batch:	67931	Date Analyzed:	2010-03-02	Analyzed B	y: AR
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Metho	d: N/A
Laboratory:	Midland				

### Sample: 223824 - MW-1

Analysis: Hardness QC Batch: 67940		Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch: 67940		-			
		Date Analyzed:	2010-03-02	Analyzed By:	RR
Prep Batch: 58109		Sample Preparation:	2010-03-02	Prepared By:	KV
· · · · · · · · · · · · · · · · · · ·		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Hardness (by ICP)		17400	mg eq CaCO3/L	1.	0.00

### Sample: 223824 - MW-1:

pH			6.24	s.u.		0.00
Parameter		Flag	RL Result	Units	Dilution	RL
Prep Batch:	58060		Sample Preparation:	2010-02-26	Prepared By:	AG
QC Batch:	67873		Date Analyzed:	2010-02-26	Analyzed By:	AG
Analysis:	pН		Analytical Method:	SM 4500-H+	Prep Method	: N/A
Laboratory:	Midland				-	ý.

Analysis:       SO4 (IC)       Analytical Method:       E 300.0       Prep Method:       N/A         QC Batch:       67931       Date Analyzed:       2010-03-02       Analyzed By:       AR         Prep Batch:       58080       Sample Preparation:       2010-03-01       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Sample:       223824 - MW-1       Laboratory:       Midland       Analyzed:       2010-03-02       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-09       Analyzed By:       AR         Prep Batch:       58103       Sample Preparation:       2010-03-02       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-02       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Sample:       223825 - MW-2       Laboratory:       Midland       Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58066       Sample Preparation:       2010-03-01       Analyzed By:       AR         QC Batch:       67894       Date Analyzed:       2010-03-	Report Date: 115-64031317				Work Order Celero/ Rock	Page Number: 6 of 25 Chavez County, NM		
Analysis:       SO4 (IC)       Analytical Method:       E 300.0       Prep Method:       N/A         QC Batch:       67931       Date Analyzed:       2010-03-02       Analyzed By:       AR         Prep Batch:       58080       Sample Preparation:       2010-03-01       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Sample:       223824 - MW-1       Laboratory:       Midland       Analyzed:       2010-03-02       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-09       Analyzed By:       AR         Prep Batch:       58103       Sample Preparation:       2010-03-02       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-02       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Sample:       223825 - MW-2       Laboratory:       Midland       Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58066       Sample Preparation:       2010-03-01       Analyzed By:       AR         QC Batch:       67894       Date Analyzed:       2010-03-	Sample: 223	8824 - MW	7-1			· .		
Parameter     Flag     Result     Units     Dilution     RL       Sulfate     1360     mg/L     50     0.500       Sample: 223824 - MW-1     Laboratory:     Midland     50     0.500       Analysis:     TDS     Analytical Method:     SM 2540C     Prep Method:     N/A       QC Batch:     68098     Date Analyzed:     2010-03-09     Analyzed By:     AR       Prep Batch:     58103     Sample Preparation:     2010-03-02     Prepared By:     AR       Parameter     Flag     Result     Units     Dilution     RL       Total Dissolved Solids     104000     mg/L     100     10.0       Sample:     223825 - MW-2     Laboratory:     Midland       Analysis:     Alkalinity     Analytical Method:     SM 2320B     Prep Method:     N/A       QC Batch:     67894     Date Analyzed:     2010-03-01     Analyzed By:     AR       Prep Batch:     58086     Sample Preparation:     2010-03-01     Prepared By:     AR       Hydroxide Alkalinity     <1.00     mg/L as CaCo3     1     1.00       Carbonate Alkalinity     <1.00     mg/L as CaCo3     1     1.00       Garbonate Alkalinity     132     mg/L as CaCo3     1     4.00 </th <th>Laboratory: Analysis: QC Batch: Prep Batch:</th> <th>SO4 (IC) 67931</th> <th></th> <th>·</th> <th>Date Analyzed:</th> <th>2010-03-02</th> <th>Analyzed By</th> <th>: AR</th>	Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 67931		·	Date Analyzed:	2010-03-02	Analyzed By	: AR
Sample: 223824 - MW-1         Laboratory:       Midland         Analysis:       TDS         QC Batch:       68098         OC Batch:       58103         Sample Preparation:       2010-03-09         Prep Batch:       58103         Parameter       Flag         RL       Dilution         Parameter       Flag         Result       Units         Dilution       RL         Sample:       223825 - MW-2         Laboratory:       Midland         Analysis:       Analytical Method:         Sample:       223825 - MW-2         Laboratory:       Midland         Analysis:       Analytical Method:         GC Batch:       67894         Date       Analyzed:         2010-03-01       Analyzed By:         AR       RL         Parameter       Flag         Result       Units         Hydroxide       Alkalinity          1.00         Carbonate       Alkalinity          1.32         mg/L as CaCo3       1         1.32       mg/L as CaCo3         1.4.00	Parameter		Flag			Units	Dilution	
Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 68098 Date Analyzed: 2010-03-09 Analyzed By: AR Prep Batch: 58103 Sample Preparation: 2010-03-02 Prepared By: AR RL Parameter Flag Result Units Dilution RL Total Dissolved Solids 104000 mg/L 100 10.0 Sample: 223825 - MW-2 Laboratory: Midland Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A QC Batch: 67894 Date Analyzed: 2010-03-01 Analyzed By: AR Prep Batch: 58086 Sample Preparation: 2010-03-01 Prepared By: AR Parameter Flag Result Units Dilution RL Hydroxide Alkalinity <1.00 mg/L as CaCo3 1 1.00 Carbonate Alkalinity 132 mg/L as CaCo3 1 4.00 Total Alkalinity 132 mg/L as CaCo3 1 4.00 Sample: 223825 - MW-2	Sulfate	•			1360	mg/L	50	0.500
Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 68098 Date Analyzed: 2010-03-09 Analyzed By: AR Prep Batch: 58103 Sample Preparation: 2010-03-02 Prepared By: AR RL Parameter Flag Result Units Dilution RL Total Dissolved Solids 104000 mg/L 100 10.0 Sample: 223825 - MW-2 Laboratory: Midland Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A QC Batch: 67894 Date Analyzed: 2010-03-01 Analyzed By: AR Prep Batch: 58086 Sample Preparation: 2010-03-01 Prepared By: AR Parameter Flag Result Units Dilution RL Hydroxide Alkalinity <1.00 mg/L as CaCo3 1 1.00 Carbonate Alkalinity 132 mg/L as CaCo3 1 4.00 Total Alkalinity 132 mg/L as CaCo3 1 4.00 Sample: 223825 - MW-2						· · ·	•	
Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-09       Analyzed By:       AR         Prep Batch:       58103       Sample Preparation:       2010-03-02       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Total Dissolved Solids       104000       mg/L       100       10.0         Sample:       223825 - MW-2       Laboratory:       Midland         Analysis:       Alkalinity       Analytical Method:       SM 2320B       Prep Method:       N/A         QC Batch:       67894       Date Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58066       Sample Preparation:       2010-03-01       Analyzed By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Hydroxide Alkalinity       <1.00	Sample: 223	8824 - MW	<sup>7</sup> -1					
Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N/A         QC Batch:       68098       Date Analyzed:       2010-03-09       Analyzed By:       AR         Prep Batch:       58103       Sample Preparation:       2010-03-02       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Total Dissolved Solids       104000       mg/L       100       10.0         Sample:       223825 - MW-2       Laboratory:       Midland         Analysis:       Alkalinity       Analytical Method:       SM 2320B       Prep Method:       N/A         QC Batch:       67894       Date Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58066       Sample Preparation:       2010-03-01       Analyzed By:       AR         Parameter       Flag       Result       Units       Dilution       RL         Hydroxide Alkalinity       <1.00	Laboratory:	Midland				· ·		
RL       Parameter       Flag       Result       Units       Dilution       RL         Total Dissolved Solids       104000       mg/L       100       10.0         Sample: 223825 - MW-2       Laboratory:       Midland         Analysis:       Alkalinity       Analytical Method:       SM 2320B       Prep Method:       N/A         QC Batch:       67894       Date Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58086       Sample Preparation:       2010-03-01       Prepmethod:       N/A         Parameter       Flag       Result       Units       Dilution       RL         Hydroxide Alkalinity       <1.00	Analysis: QC Batch:	TDS 68098			Date Analyzed:	2010-03-09	Analyzed By	: AR
ParameterFlagResultUnitsDilutionRLTotal Dissolved Solids104000mg/L10010.0Sample: 223825 - MW-2Laboratory:MidlandAnalysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	i tep baton.	30103			Sample r reparation	. 2010-03-02	I Tepared Dy	. An
Total Dissolved Solids104000mg/L10010.0Sample: 223825 - MW-2Laboratory:MidlandAnalysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	Daramata-	· · · ·		Fle-		TIn:4-	Dilution	, ' DT
Sample: 223825 - MW-2         Laboratory:       Midland         Analysis:       Alkalinity       Analytical Method:       SM 2320B       Prep Method:       N/A         QC Batch:       67894       Date Analyzed:       2010-03-01       Analyzed By:       AR         Prep Batch:       58086       Sample Preparation:       2010-03-01       Prepared By:       AR         RL       RL       RL       Nalyzed By:       AR         Hydroxide Alkalinity       <1.00		ed Solids		rlag				
Laboratory:MidlandAnalysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARRLParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00					101000		*****	10.0
Laboratory:MidlandAnalysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARRLParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	•				· .		· · .	
Analysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	Sample: 223	8825 - MW	-2				. <b>.</b>	÷ .+
Analysis:AlkalinityAnalytical Method:SM 2320BPrep Method:N/AQC Batch:67894Date Analyzed:2010-03-01Analyzed By:ARPrep Batch:58086Sample Preparation:2010-03-01Prepared By:ARParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	Laboratorv:	Midland			· · ·			
Prep Batch: 58086Sample Preparation: 2010-03-01Prepared By: ARRLRLParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	Analysis:	Alkalinity						
RLParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00								
ParameterFlagResultUnitsDilutionRLHydroxide Alkalinity<1.00	Frep Batch:	08086			Sample Preparation	n: 2010-03-01	Prepared By	: AK
Hydroxide Alkalinity<1.00mg/L as CaCo311.00Carbonate Alkalinity<1.00		•	•	·				,
Carbonate Alkalinity<1.00mg/L as CaCo311.00Bicarbonate Alkalinity132mg/L as CaCo314.00Total Alkalinity132mg/L as CaCo314.00Sample: 223825 - MW-2Laboratory: MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG	Parameter	1		Flag				
Bicarbonate Alkalinity132mg/L as CaCo314.00Total Alkalinity132mg/L as CaCo314.00Sample: 223825 - MW-2Laboratory: MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG						mg/L as CaCo3		
Total Alkalinity132mg/L as CaCo314.00Sample: 223825 - MW-2Laboratory:MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG							1	
Laboratory:MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG							1	
Laboratory:MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG		•				· ·		
Analysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030BQC Batch:67911Date Analyzed:2010-03-01Analyzed By:AG	Sample: 223	825 - MW	-2					
	Laboratory: Analysis: QC Batch: Prep Batch:	BTEX 67911			Date Analyzed:	2010-03-01	Analyzed By:	AG
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		R	r					
Parameter Flag			Result Un		I	Dilution	RL	
Benzene		<0.0010		mg/L		1	0.00100	
Toluene		<0.0010		mg/L		1	0.00100	
Ethylbenzene		< 0.0010		mg/L		. 1	0.00100	
Xylene		< 0.0010		mg/L		1	0.00100	
					Spike	Percent	Recovery	
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)	0	0.0803	mg/L	1	0.100	80	65.9 - 129.8	
4-Bromofluorobenzene (4-BFB)		0.0709	mg/L	1	0.100	71	51.1 - 118.8	
		·						
Sample: 223825 - MW-2							·	
-								
Laboratory: Lubbock		Amulastical N	fath a d.	S 6010B		D	nod: S 3005A	
Analysis: Cations QC Batch: 67940		Analytical M Date Analys		2010-03-02		Prep Metl Analyzed		
Prep Batch: 58109		Sample Pre		2010-03-02		Prepared		
Flep Batch. 38109		jample i le	paration.	2010-03-02		riepaieu	by. Kv	
_		-	RL					
Parameter	Flag	<u></u>	lesult	Units		Dilution	RL	
Dissolved Calcium			723	mg/L		100	0.100	
Dissolved Potassium	•		47.6	mg/L		1	0.100	
Dissolved Magnesium			265	mg/L		10	0.100	
Dissolved Sodium			3850	mg/L		1000	0.100	
			•					
Sample: 223825 - MW-2					•			
Laboratory: Midland					.*		ć	
Analysis: Chloride (IC)			cal Metho				Aethod: N/A	
QC Batch: 67931			nalyzed:	2010-03-02			ed By: AR	
Prep Batch: 58080		Sample	Preparati	ion: 2010-03-01		Prepar	ed By: AR	
		$\mathbf{RL}$						
Parameter Flag		Result		Units		Dilution	RL	
Chloride		5670		mg/L		500	0.500	

### Sample: 223825 - MW-2

Laboratory:	Lubbock		· .	
Analysis:	Hardness		Analytical Method: S 6010B	Prep Method: N/A
QC Batch:	67940		Date Analyzed: 2010-03-02	Analyzed By: RR
Prep Batch:	58109	~	Sample Preparation: 2010-03-02	Prepared By: KV

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		DI		·	
Parameter	Flag	RL Result	Units	Dilution	RL
Hardness (by ICP)	I ag	2900	mg eq CaCO3/L	1	0.00
		2300		1	0.00
Sample: 223825 - 1	MW-2				
Laboratory: Midlan	id				
Analysis: pH		Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch: 67873		Date Analyzed:	2010-02-26	Analyzed By:	ÁĠ
Prep Batch: 58060		Sample Preparation:	2010-02-26	Prepared By:	AG
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
pH	<u> </u>	7.70	s.u.	1	0.00
		· · ·			
· • ·					
Sample: 223825 - 1	MW-2				
Laboratory: Midlan				• •	
Analysis: SO4 (I	C)	Analytical Method:	E 300.0	Prep Method:	
QC Batch: 67931		Date Analyzed:	2010-03-02	Analyzed By:	AR
<b>v</b> =		a 1 m	2010-03-01	Prepared By:	AR
		Sample Preparation:	2010 00 01	r repared by.	
		Sample Preparation: RL	2010 00 01	r repared by.	
Prep Batch: 58080	Flag	•	Units	· Dilution	RL
Prep Batch: 58080 Parameter	Flag	RL			
Prep Batch: 58080 Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch: 58080 Parameter Sulfate		RL Result	Units	Dilution	RL
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I	MW-2	RL Result	Units	Dilution	RL
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan	MW-2	RL Result 176	Units mg/L	Dilution 5	RL 0.500
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan Analysis: TDS	MW-2	RL Result 176 Analytical Method:	Units mg/L SM 2540C	Dilution 5 Prep Method:	RL 0.500 N/A
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan Analysis: TDS QC Batch: 68098	MW-2	RL Result 176 Analytical Method: Date Analyzed:	Units mg/L SM 2540C 2010-03-09	Dilution 5 Prep Method: Analyzed By:	RL 0.500 N/A AR
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan Analysis: TDS QC Batch: 68098	MW-2	RL Result 176 Analytical Method: Date Analyzed: Sample Preparation:	Units mg/L SM 2540C 2010-03-09	Dilution 5 Prep Method:	RL 0.500 N/A
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan Analysis: TDS QC Batch: 68098 Prep Batch: 58103	<b>MW-2</b> d	RL Result 176 Analytical Method: Date Analyzed: Sample Preparation: RL	Units mg/L SM 2540C 2010-03-09 2010-03-02	Dilution 5 Prep Method: Analyzed By: Prepared By:	RL 0.500 N/A AR AR
Prep Batch: 58080 Parameter Sulfate Sample: 223825 - I Laboratory: Midlan Analysis: TDS QC Batch: 68098	MW-2 d Flag	RL Result 176 Analytical Method: Date Analyzed: Sample Preparation:	Units mg/L SM 2540C 2010-03-09	Dilution 5 Prep Method: Analyzed By:	RL 0.500 N/A AR

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	67894	Date Analyzed:	2010-03-01	Analyzed By:	AR
Prep Batch:	58086	Sample Preparation:	2010-03-01	Prepared By:	AR

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Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity	······································	<1.00	mg/L as CaCo3	. 1	1.00
Carbonate Alkalinity	<b>'a</b>	<1.00	mg/L as CaCo3	1 ·	1.00
Bicarbonate Alkalinity		138	mg/L as CaCo3	1	4.00
Total Alkalinity		138	mg/L as CaCo3	1	4.00

### Sample: 223826 - MW-3

Laboratory:MidlandAnalysis:BTEXQC Batch:67911Prep Batch:58101			Analytical M Date Analyze Sample Prepa	ed:	S 8021B 2010-03-01 2010-03-01		Prep Metho Analyzed B Prepared B	y: AG
			$\operatorname{RL}$		•			
Parameter	Flag	• •	Result		Units	. E	lilution	$\operatorname{RL}$
Benzene ·		.,	< 0.00100		mg/L		1	0.00100
Toluene			< 0.00100		mg/L		1	0.00100
Ethylbenzene	I		< 0.00100		mg/L		1	0.00100
Xylene			< 0.00100		mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0787	mg/L	1	0.100	79	65.9 - 129.8
4-Bromofluorobenzene (4-	BFB)		0.0678	mg/L	1	0.100	68	51.1 - 118.8

### Sample: 223826 - MW-3

<b>v</b>		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2010-03-02 2010-03-02	Prep Method: Analyzed By: Prepared By:	S 3005A RR KV
		RL	-		
Parameter	Flag	Result	Units	Dilution	RL
<b>Dissolved</b> Calcium	1	370	mg/L	10	0.100
Dissolved Potassi	um	14.2	mg/L	1	0.100
Dissolved Magnes	ium .	88.4	mg/L	1	0.100
Dissolved Sodium		1060	mg/L	10	0.100

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		<b>,</b>				
Report Date 115-6403131		010	Work Order: Celero/ Rock (			nber: 10 of 25 z County, NM
Sample: 22	3826 - MW	′-3			· · · · · · · · · · · · · · · · · · ·	
		- <b>U</b>			. · · ·	
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (I 67931 58080	C)	Analytical Method Date Analyzed: Sample Preparatio	2010-03-02	Prep M Analyzo Prepare	ed By: AR
			RL			
Parameter		Flag	Result	Units	Dilution	· RL
Chloride -	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1990	mg/L	• 100	0.500
Sample: 22	3826 - MW	-3				
Laboratory:						
Analysis:	Hardness	•.	Analytical Method:	S 6010B	Prep M	
QC Batch:	67940		Date Analyzed:	2010-03-02	Analyz	
Prep Batch:	58109 .		Sample Preparation:	2010-03-02	Prepare	ed By: KV
<b>-</b>			RL			
Parameter Hardness (by		Flag	Result 1290	Units mg eq CaCO3/L	Dilution 1	
~				•		
Laboratory: Analysis: QC Batch:	Midland pH 67873	-3	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2010-02-26 2010-02-26	Prep M Analyza Prepare	ed By: AG
Laboratory: Analysis: QC Batch:	Midland pH	-3	Date Analyzed: Sample Preparation:			ed By: AG
Laboratory: Analysis: QC Batch: Prep Batch:	Midland pH 67873		Date Analyzed: Sample Preparation: RL	2010-02-26 2010-02-26	Analyz Prepare	ed By: AG ed By: AG
Sample: 22 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH	Midland pH 67873	-3 Flag	Date Analyzed: Sample Preparation:	2010-02-26 2010-02-26 Units	Analyz	ed By: AG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland pH 67873		Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26	Analyze Prepare Dilution	ed By: AG ed By: AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH	Midland pH 67873 58060	Flag	Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units	Analyze Prepare Dilution	ed By: AG ed By: AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22:	Midland pH 67873 58060 3826 - MW	Flag	Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units	Analyze Prepare Dilution	ed By: AG ed By: AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22 Laboratory: Analysis: QC Batch:	Midland pH 67873 58060 3826 - MW	Flag	Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02	Analyze Prepare Dilution	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22 Laboratory: Analysis: QC Batch:	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation:	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02	Analyze Prepare Dilution 1 Prep M Analyze	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22: Laboratory: Analysis: QC Batch: Prep Batch:	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag -3	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02 2010-03-01	Analyze Prepare 1 Prep M Analyze Prepare	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR ed By: AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch:	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation:	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02	Analyze Prepare Dilution 1 Prep M Analyze	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR ed By: AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22: Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag -3	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02 2010-03-01 Units	Analyz Prepare Dilution 1 Prep M Analyz Prepare Dilution	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22 Laboratory: Analysis: QC Batch:	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag -3	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02 2010-03-01 Units	Analyz Prepare Dilution 1 Prep M Analyz Prepare Dilution	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR ed By: AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22: Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag -3	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02 2010-03-01 Units	Analyz Prepare Dilution 1 Prep M Analyz Prepare Dilution	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR ed By: AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 22 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter	Midland pH 67873 58060 3826 - MW Midland SO4 (IC) 67931	Flag -3	Date Analyzed: Sample Preparation: RL Result 8.13 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-02-26 2010-02-26 Units s.u. E 300.0 2010-03-02 2010-03-01 Units	Analyz Prepare Dilution 1 Prep M Analyz Prepare Dilution	ed By: AG ed By: AG <u>RL</u> 0.00 ethod: N/A ed By: AR ed By: AR RL

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Report Date: March 9, 2010 115-6403131A				: 10022629 Queen #11			umber: 11 of 25 vez County, NM
Sample: 223826 - MW-3							
Laboratory:MidlandAnalysis:TDSQC Batch:68098Prep Batch:58103		Analytica Date Ana Sample P	lyzed:	2010-03-09		Analy	Method: N/A vzed By: AR ared By: AR
Demonster	<b>D</b> 1		RL	тт .,	• •	Dilation	
Parameter Total Dissolved Solids	Flag		Result	Unit mg/		Dilution 5	<u> </u>
		·					
Samela, 202027 - MAN 4				•			• .
Sample: 223827 - MW-4							
Laboratory: Midland Analysis: Alkalinity QC Batch: 67894		Date Ana		2010-03-01		Analy	Method: N/A vzed By: AR
Prep Batch: 58086		Sample F	reparation	n: 2010-03-01		Prepa	ared By: AR
Parameter	Flag	I Rest	RL		Units	Dilution	RL
Hydroxide Alkalinity	Tiag	<1.		mg/L as C		1	1.00
Carbonate Alkalinity		<1.		mg/L as C	CaCo3	. 1	1.00
Bicarbonate Alkalinity			48	mg/L as C	•	1	4.00
Total Alkalinity	<del></del>	<u> </u>	48	mg/L as C	a	1	4.00
Sample: 223827 - MW-4		•	·				
Laboratory: Midland							
Analysis: BTEX		Analytical N	Method:	S 8021B		Prep Met	hod: S 5030B
QC Batch: 67911		Date Analy	zed:	2010-03-01		Analyzed	By: AG
Prep Batch: 58101		Sample Pre	paration:	2010-03-01		Prepared	By: AG
Parameter Flag		R Resul		Units	Г	Dilution	RL
Benzene		< 0.0010	0	mg/L	~~	1	0.00100
Toluene		< 0.0010		mg/L		1	0.00100
Ethylbenzene Xylene		<0.0010 <0.0010		mg/L mg/L		1 1	0.00100 0.00100
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Triffuorotoluene (TFT)		0.0821	mg/L	1	0:100	82	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)	• •	0.0711	mg/L	. 1	0.100	71	51.1 - 118.8
		•.		· .			
			•				
				·			

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	. <i>*</i>		• •		•	•
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_		•		,		
Report Date: 115-6403131A		)10	Work Order Celero/ Rock		Page Number: 1 Chavez Coun	
Sample: 223	827 - MW	-4	· .			
v	Lubbock					
QC Batch:	Cations 67940		Analytical Method: Date Analyzed:	S 6010B 2010-03-02	Analyzed By: R	
Prep Batch:	58109		Sample Preparation:	2010-03-02	Prepared By: K	V
			$\mathbf{RL}$		· · ·	
Parameter	· ·	Flag	Result	Units	Dilution	RL
Dissolved Calc Dissolved Pota			540 295	mg/L mg/L	10 10	0.100 0.100
Dissolved Mag			385	mg/L mg/L	10	0.100
Dissolved Sodi			4670	mg/L	1000	0.100
~						
Sample: 223	827 - MW·	-4	•			
. 4	Midland				· · · · · ·	
	Chloride (IC	C)	Analytical Metho		Prep Method:	
•	67932 59097		Date Analyzed:		Analyzed By: Broppand By:	AR
Prep Batch:	00007		Sample Preparat	ion: 2010-03-01	Prepared By:	AR
			$\operatorname{RL}$	· .		
Parameter		Flag	Result	Units	Dilution	RL
Chloride		· · · · · · · · · · · · · · · · · · ·	10700	mg/L	1000	0.500
					, ,	,
Sample: 223	827 - MW.	_1		•		·
_		· ·				
•	Lubbock	•	Analutias) Mathad	S 6010B	Deen Mathad	
v	Hardness 67940		Analytical Method: Date Analyzed:	2010-03-02	Prep Method: Analyzed By:	
	58109		Sample Preparation		Prepared By:	KV
•						
Parameter		Flag	RL Result	Units	Dilution	RL
Hardness (by I	ICP)	1 1005	2930	mg eq CaCO3/L	· 1	0.00
·					······································	•
				, ·		
Sample: 223	827 - MW-	-4				
Laboratory:	Midland				· · · ·	
Analysis:	pH		Analytical Method:	SM 4500-H+	Prep Method:	N/A
•	67873		Date Analyzed:	2010-02-26	Analyzed By:	AG
Prep Batch:	58060		Sample Preparation:	2010-02-26	Prepared By:	AG
	•				· · ·	
					·.	
						s,
			-		· · · · · · · · · · · · · · · · · · ·	
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Report Date: March 9, 115-6403131A	2010	Work Order: Celero/ Rock G		Page Number Chavez Co	
		DI		•	
Parameter	Flag	RL Result	Units	Dilution	RL
pH	1 Idg	7.37	s.u.	1	0.00
				<b>_</b>	
Sample: 223827 - MV	W-4		•		
Laboratory: Midland					
Analysis: SO4 (IC)		Analytical Method:	E 300.0	Prep Metho	od: N/A
QC Batch: 67932		Date Analyzed:	2010-03-02	Analyzed E	
Prep Batch: 58087		Sample Preparation:		Prepared B	
		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate	<b>v</b>	290	mg/L	5	0.500
.*					
Sample: 223827 - MV	W-4				
Laboratory: Midland					
Analysis: TDS		Analytical Method:	SM 2540C	Prep Metho	•
QC Batch: 68098		Date Analyzed:	2010-03-09	Analyzed E	
Prep Batch: 58103		Sample Preparation:	2010-03-02	Prepared B	y: AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		25800	mg/L	100	10.0
	00 D ( 1 0700)				
Method Blank (1)	QC Batch: 67894				
QC Batch: 67894		v	)10-03-01	Analyzed 1	
Prep Batch: 58086		QC Preparation: 20	)10-03-01	Prepared I	By: AR
		MD			
Parameter	Flag			Units	RL
Hydroxide Alkalinity		<1.0		mg/L as CaCo3	1
Carbonate Alkalinity		<1.0		mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0		mg/L as CaCo3	4
Total Alkalinity	······································	<4.0	U	mg/L as CaCo3	4
Method Blank (1)	QC Batch: 67911				
		Date Analyzed: 20	10.02.01	Analyzed 1	By: AG
•			)10-03-01 )10-03-01	Prepared I	
Prep Batch: 58101		QUIT reparation: 20	10-00-01	r repared 1	By: AG

Toluene       <0.000200       mg/L       0         Ethylbenzene       <0.000200       mg/L       0         Xylene       <0.000900       mg/L       0         Surrogate       Flag       Result       Units       Dilution       Amount       Recovery       Limit         Trifluorotoluene (TFT)       0.0991       mg/L       1       0.100       99       73.6 - 1         4-Bromofluorobenzene (4-BFB)       0.102       mg/L       1       0.100       102       62.6 - 1         Method Blank (1)       QC Batch: 67931       Date Analyzed:       2010-03-02       Analyzed By:         Prep Batch:       58080       QC Preparation:       2010-03-01       Prepared By:         MDL       MDL       MDL       MDL       MDL         Parameter       Flag       Result       Units         Chloride       <0.475       mg/L       Malyzed By:         Method Blank (1)       QC Batch: 67931       Date Analyzed:       2010-03-02       Analyzed By:	Report Date: March 9, 115-6403131A	2010		rder: 100 Rock Que				umber: 1 /ez Count	
Parameter         Flag         Result         Units           Benzene         <0.000300         mg/L         0           Coluene         <0.000200         mg/L         0           Extlylbenzene         <0.000200         mg/L         0           Xylene         <0.000200         mg/L         0           Surrogate         Flag         Result         Units         Dilucion         Amount         Recovery         Lim           Trifluorotoluene (TFT)         0.0991         mg/L         1         0.100         99         73.6 - 1           4-Bromofluorobenzene (4-BFB)         0.102         mg/L         1         0.100         102         62.6 - 1           Method Blank (1)         QC Batch: 67931         Date Analyzed:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-02         Analyzed By:           Prepared E         MDL         MDL         Malyzed By:         Prepared By:           Prep Batch:         58080         QC Preparation:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-02         Analyzed By:           Prep Batch:         58080			۰. ۲	MDI					
Benzere         <0.000300         ng/L         1           Toluere         <0.000200         ng/L         1           Toluere         <0.000200         ng/L         1           Exhybenzere         <0.000900         ng/L         1           Surrogate         Flag         Result         Units         Dilution         Amount         Recovery         Lim           Trifluorotoluene (TFT)         0.0991         ng/L         1         0.100         99         73.6 - 1           AFbromofluorobenzene (4-BFB)         0.102         mg/L         1         0.100         99         73.6 - 1           Method Blank (1)         QC Batch: 67931         Date Analyzed: 2010-03-02         Analyzed By:         Prep Batch: 58080         QC Preparation: 2010-03-01         Prepared By:           Prep Batch:         58080         QC Preparation: 2010-03-02         Analyzed By:         Prepared By:           Method Blank (1)         QC Batch: 67931         Date Analyzed: 2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation: 2010-03-01         Prepared By:           Prep Batch:         58080         QC Preparation: 2010-03-01         Prepared By:           Parameter         Flag         Result         Uni		Flag		Result					RL
Ethylbenzene $< 0.000200$ mg/L       Orgen (Constraint)         Xylene $< 0.000900$ mg/L       Orgen (Constraint)         Surrogate       Flag       Result       Dilution       Amount       Recovery       Limit         Trifluorotoluene (TFT)       0.0991       mg/L       1       0.100       97 73.6 - 1         4-Bromofluorobenzene (4-BFB)       0.102       mg/L       1       0.100       102       62.6 - 1         Method Blank (1)       QC Batch:       67931       Date Analyzed:       2010-03-02       Analyzed By:         Prep Batch:       58080       QC Preparation:       2010-03-01       Prepared By:         Parameter       Flag       Result       Units         Chloride       <0.475		•							0.001
Xylene         <0.000900         mg/L         Spike         Percent         Recovery         Limit           Surrogate         Flag         Result         Units         Dilution         Amount         Recovery         Limit           Trifluorotoluene (TFT)         0.0991         mg/L         1         0.100         99         73.6 - 1           4-Bromofluorobenzene (4-BFB)         0.102         mg/L         1         0.100         102         62.6 - 1           Method Blank (1)         QC Batch: 67931         Date Analyzed:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-01         Prepared By:           Parameter         Flag         Result         Units         MDL           Parameter         Flag         Result         Units         MDL           QC Batch:         67931         Date Analyzed:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-01         Prepared By:									0.001
Surrogate         Flag         Result         Units         Dilution         Amount         Recovery         Limit           Trifluorotoluene (TFT)         0.0991         mg/L         1         0.100         99         73.6 - 1           4-Bromofluorobenzene (4-BFB)         0.102         mg/L         1         0.100         102         62.6 - 1           Method Blank (1)         QC Batch:         67931         Date Analyzed:         2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation:         2010-03-01         Prepared By:           Parameter         Flag         Result         Units         Units           Chloride         <0.475	Xylene		<	<0.000900					0.001
Trifluorotoluene (TFT)         0.0991         mg/L         1         0.100         99         73.6 - 1           4-Bromofluorobenzene (4-BFB)         0.102         mg/L         1         0.100         102         62.6 - 1           Method Blank (1)         QC Batch: 67931         Date Analyzed: 2010-03-02         Analyzed By:           Prep Batch:         58080         QC Preparation: 2010-03-01         Prepared By:           Parameter         Flag         Result         Units           Chloride         <0.475									
4-Bromofluorobenzene (4-BFB)       0.102 mg/L       1       0.100       102       62.6 - 1         Method Blank (1)       QC Batch: 67931       Date Analyzed: 2010-03-02       Analyzed By:         Prep Batch: 58080       QC Preparation: 2010-03-01       Prepared By:         Parameter       Flag       Result       Units         Chloride       <0.475		Flag							
QC Batch:       67931 Prep Batch:       Date Analyzed:       2010-03-02 QC Preparation:       Analyzed By:         Parameter       Flag       Result       Units         Chloride       <0.475		4-BFB)			_				
QC Batch:       67931 Prep Batch:       Date Analyzed:       2010-03-02 QC Preparation:       Analyzed By: Prepared By:         Parameter       Flag       Result       Units         Chloride       <0.475									•
Prep Batch:     58080     QC Preparation:     2010-03-01     Prepared By:       MDL     MDL     MDL     MDL     MDL       Parameter     Flag     Result     Units       Chloride     <0.475	Method Blank (1)	QC Batch: 67931							
MDL Result       Units         Chloride       <0.475									
Parameter       Flag       Result       Units         Chloride       <0.475			-				-	-	
Method Blank (1)       QC Batch: 67931         QC Batch:       67931       Date Analyzed: 2010-03-02       Analyzed By:         Prep Batch:       58080       QC Preparation: 2010-03-01       Prepared By:         Parameter       Flag       Result       Units         Sulfate       <0.217		Flag		Result					RL
QC Batch:67931 QC Prep Batch:Date Analyzed:2010-03-02 QC Preparation:Analyzed By: Prepared By:ParameterFlagMDL ResultUnitsVariableVoltageMDL Mg/LMethod Blank (1)QC Batch:67932 C Preparation:Date Analyzed:2010-03-02 2010-03-01Analyzed By: Prepared By:Method Blank (1)QC Batch:67932 C Preparation:Date Analyzed:2010-03-02 2010-03-01Analyzed By: Prepared By:MDL ParameterMDL FlagMDL ResultUnits	Chloride			<0.475		mg	/L		0.5
QC Batch:67931 QC Prep Batch:Date Analyzed:2010-03-02 QC Preparation:Analyzed By: Prepared By:ParameterFlagMDL 									
Prep Batch:     58080     QC Preparation:     2010-03-01     Prepared By:       MDL       Parameter     Flag     Result     Units       Sulfate     <0.217     mg/L       Method Blank (1)     QC Batch:     67932       QC, Batch:     67932     Date Analyzed:     2010-03-02     Analyzed By:       Prep Batch:     58087     QC Preparation:     2010-03-01     Prepared By:       MDL     Parameter     Flag     Result     Units	Method Blank (1)	QC Batch: 67931							
MDL         Parameter       Flag       Result       Units         Sulfate       <0.217									
Parameter     Flag     Result     Units       Sulfate     <0.217	Prep Batch: 58080		QC Preparatio	on: 2010	-03-01		Prep	ared By:	AR
Sulfate     <0.217     mg/L       Method Blank (1)     QC Batch: 67932     QC, Batch: 67932     Analyzed: 2010-03-02     Analyzed By:       Prep Batch:     58087     QC Preparation: 2010-03-01     Prepared By:       MDL     MDL       Parameter     Flag     Result     Units	Darameter	Flog				T.T.~	its		$\mathbf{RL}$
Method Blank (1) QC Batch: 67932 QC,Batch: 67932 Date Analyzed: 2010-03-02 Analyzed By: Prep Batch: 58087 QC Preparation: 2010-03-01 Prepared By: MDL Parameter Flag Result Units		r lag							0.5
QC, Batch:67932Date Analyzed:2010-03-02Analyzed By:Prep Batch:58087QC Preparation:2010-03-01Prepared By:MDLMDLParameterFlagResultUnits	· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·		
Prep Batch: 58087 QC Preparation: 2010-03-01 Prepared By: MDL Parameter Flag Result Units	Method Blank (1)	QC Batch: 67932							
Parameter Flag Result Units									
Parameter Flag Result Units	-						ľ	č	
Chloride <0.475 mg/L		Flag		Result					RL
	Chloride		· ·	< 0.475		mg	:/L	•	0.5
					•				
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Method Blank (1)	QC Batch: 67932						
QC Batch: 67932 Prep Batch: 58087		Date Analyzed: QC Preparation:	2010-03-02 2010-03-01			Analyzed By: Prepared By:	
Parameter	Flag		1DL esult		Units		RL
Sulfate	1 105		.217		mg/L	<u></u>	0.5
Method Blank (1)	QC Batch: 67940						
QC Batch: 67940 Prep Batch: 58109		Date Analyzed: QC Preparation:	2010-03-02 2010-03-02			Analyzed By: Prepared By:	
Deveryor			MDL				DI
Parameter Dissolved Calcium	Fla	g	Result <0.00216		Units mg/L	· · · · · · · · · · · · · · · · · · ·	$\frac{\text{RL}}{0.1}$
Dissolved Potassium			< 0.00645		mg/L		0.1
Dissolved Magnesium			< 0.00594		mg/L		0.1
Dissolved Sodium			< 0.00548		mg/L		0.1
		•					
Method Blank (1)	QC Batch: 68098			•		•	
	<b>v</b>						
QC Batch: 68098		Date Analyzed:	2010-03-09			Analyzed By:	$\mathbf{AR}$
Prep Batch: 58103		QC Preparation:	2010-03-02			Prepared By:	AR
Prep Batch: 58103		QC Preparation:	2010-03-02 MDL				AR
Parameter	Fl		MDL Result	-	Units		RL
	Fl.		MDL		Units mg/L		
Parameter	F].		MDL Result				RL
Parameter Total Dissolved Solids	Fl.	ag	MDL Result				RL
Parameter Total Dissolved Solids		ag	MDL Result			Prepared By: Analyzed By:	RL 10
Parameter Total Dissolved Solids Duplicates (1) Dupl QC Batch: 67873 Prep Batch: 58060	icated Sample: 2238 Duplicate	ag 324 Date Analyzed: QC Preparation: Sample	MDL Result <9.75 2010-02-26 2010-02-26	Dilu4:-		Prepared By: Analyzed By: Prepared By:	RL 10 AG AG RPD
Parameter Total Dissolved Solids Duplicates (1) Dupl QC Batch: 67873 Prep Batch: 58060 Param	icated Sample: 2238 Duplicate Result	ag 324 Date Analyzed: QC Preparation: Sample Result	MDL Result <9.75 2010-02-26 2010-02-26 Units	Dilution		Prepared By: Analyzed By: Prepared By: RPD	RL 10 AG AG RPD Limit
Parameter Total Dissolved Solids Duplicates (1) Dupl QC Batch: 67873 Prep Batch: 58060	icated Sample: 2238 Duplicate	ag 324 Date Analyzed: QC Preparation: Sample	MDL Result <9.75 2010-02-26 2010-02-26	Dilution 1		Prepared By: Analyzed By: Prepared By:	RL 10 AG AG RPD
Parameter Total Dissolved Solids Duplicates (1) Dupl QC Batch: 67873 Prep Batch: 58060 Param pH	icated Sample: 2238 Duplicate Result	ag 524 Date Analyzed: QC Preparation: Sample Result 6.24	MDL Result <9.75 2010-02-26 2010-02-26 Units			Prepared By: Analyzed By: Prepared By: RPD	RL 10 AG AG RPD Limit
Parameter         Total Dissolved Solids         Duplicates (1)       Dupl         QC Batch:       67873         Prep Batch:       58060         Param	icated Sample: 2238 Duplicate Result 6.22	ag 524 Date Analyzed: QC Preparation: Sample Result 6.24	MDL Result <9.75 2010-02-26 2010-02-26 Units			Prepared By: Analyzed By: Prepared By: RPD	RL 10 AG AG RPD Limit
Parameter         Total Dissolved Solids         Duplicates (1)       Dupl         QC Batch:       67873         Prep Batch:       58060         Param	icated Sample: 2238 Duplicate Result 6.22	ag 324 Date Analyzed: QC Preparation: Sample Result 6.24 318 Date Analyzed:	MDL Result <9.75 2010-02-26 2010-02-26 Units s.u. 2010-03-01			Prepared By: Analyzed By: Prepared By: RPD 0 Analyzed By:	RL 10 AG AG Limit 1.5 AR
Parameter         Total Dissolved Solids         Duplicates (1)       Dupl         QC Batch:       67873         Prep Batch:       58060         Param	icated Sample: 2238 Duplicate Result 6.22	ag 324 Date Analyzed: QC Preparation: Sample Result 6.24 318 Date Analyzed:	MDL Result <9.75 2010-02-26 2010-02-26 Units s.u. 2010-03-01			Prepared By: Analyzed By: Prepared By: RPD 0 Analyzed By:	RL 10 AG AG Limit 1.5 AR
Parameter         Total Dissolved Solids         Duplicates (1)       Dupl         QC Batch:       67873         Prep Batch:       58060         Param	icated Sample: 2238 Duplicate Result 6.22	ag 324 Date Analyzed: QC Preparation: Sample Result 6.24 318 Date Analyzed:	MDL Result <9.75 2010-02-26 2010-02-26 Units s.u. 2010-03-01			Prepared By: Analyzed By: Prepared By: RPD 0 Analyzed By:	RL 10 AG AG Limit 1.5 AR

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					<u></u>	•		•	
Param	Duplicate Result	Samp Resul		Units	Ţ	Dilution	ı R	PD <sup>°</sup>	RPD Limit
Hydroxide Alkalinity	<1.00	<1.0	0 mg	g/L as CaO	Co3 .	1		0	20
Carbonate Alkalinity Bicarbonate Alkalinity	<1.00	<1.0		g/L as Ca(		1		0.	20
Total Alkalinity	192 192	194 194		g/L as Ca( g/L as Ca(		1 1		1 1	20 20
			<u> </u>	<u>}/</u>				•	
Duplicates (1) Duplicated Sar	nple: 223828								
QC Batch: 68098	D	ate Analyz	ed: 2010	-03-09			Anal	yzed By	: AR
Prep Batch: 58103		C Preparat		-03-02				ared By	
	Duplicate	,	ample						RPD
Param	Result		Result	Units	Dilu		RP	D	Limit
Total Dissolved Solids	90600	<u> </u>	90100	mg/L	1(	00	1		10
Param	LCS Result	Units	Dil.	Spike Amount	Mat Res		Rec.		Rec. Jimit
Benzene	0.0949	mg/L	<u></u>	0.100	Kes		<u>95</u>	79.4	- 112.4
Toluene	0.0942	mg/L	1	0.100	<0.00	)0200	94	79.:	3 - 110
Ethylbenzene Xylene	0.0935 0.282	mg/L	1	$\begin{array}{c} 0.100 \\ 0.300 \end{array}$	<0.00 <0.00		94 94		- 113.1 - 113.6
Percent recovery is based on the sp		mg/L PD is based	1 d on the spi					10.9	- 110.0
· · · · · -	LCSD		Spike	Matri			Rec.		RPD
Param	Result Un	nits Dil.	Amount	Resul	lt Rec.	L	imit	RPD	Limit
Benzene Toluene		g/L = 1	0.100 0.100	<0.0003 <0.0005			- 112.4 3 - 110	1	20 20
Ethylbenzene		g/L 1 g/L 1	0.100 0.100	<0.0002 <0.0002			- 113.1	$\frac{1}{2}$	20. 20
-	-		0.300	<0.0009			- 113.6	2	20
Xylene	0.287 mg	5/12 1	0.000						
Xylene Percent recovery is based on the sp			······	ke and spi	ike duplica	te resul	t. ,	*	*
Percent recovery is based on the sp	ike result. RF LCS	PD is based	l on the spi		Spike	LCS.	LCSD		Rec.
Percent recovery is based on the sp Surrogate	oike result. RF LCS Result	PD is based LCSD Result	l on the spi Units	Dil. A	Spike Amount	LCS . Rec.	LCSD Rec.	L	imit
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	oike result. RF LCS Result	PD is based LCSD Result	l on the spi Units	Dil. A	Spike Amount	LCS . Rec.	LCSD Rec.	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate Trifluorotoluene (TFT)	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit - 129.6
Percent recovery is based on the sp Surrogate	vike result. RF LCS Result 0.0954	PD is based LCSD Result 0.0943	l on the spi Units mg/L	Dil. A	Spike Amount 0.100	LCS Rec. 95	LCSD Rec. 94	L 76.2	imit

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Report Date: March 9, 2010 115-6403131A				r: 1002262 k Queen #			•	ge Number: Chavez Cou	
Laboratory Control Spike (	LCS-1)								
QC Batch: 67931 Prep Batch: 58080			nalyzed: eparation:	2010-03-0 2010-03-0				Analyzed B Prepared B	
	L	CS			Spike	Mat	trix		Rec.
Param	Res		Units	Dil.	Amount	Res		Rec.	Limit
Chloride	27	<u>.3</u>	mg/L	1	25.0	<0.	475	109	90 - 110
Percent recovery is based on the	e spike result.	RPD is	based on t	the spike a	nd spike du	plicate re	esult.		
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride Percent recovery is based on the	24.1	mg/L		25.0	<0.475	96	90 - 11	0 12	<u> </u>
Laboratory Control Spike ( QC Batch: 67931 Prep Batch: 58080	LCS-1)		nalyzed: eparation:	2010-03-0 2010-03-0				Analyzed B Prepared B	
Param	L( Res	sult	Units	Dil.	Spike Amount	Mat Res	ult	Rec.	Rec. Limit
Sulfate	24	8	mg/L	1	25.0	<0.	217	99	90 - 110
Percent recovery is based on the	e spike result.	RPD is	based on t	he spike ar	nd spike du	plicate re	esult.		
	LCSD			Spike	Matrix	. ·	Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	24.8	mg/L	1	25.0	< 0.217	99	90 - 11	0 0	
Percent recovery is based on the Laboratory Control Spike (1	-	RPD is	based on t	he spike ar	nd spike du	plicate re	esult.		
								Analyzed By	
QC Batch: 67932 Prep Batch: 58087			nalyzed: eparation:	2010-03-0 2010-03-0				Prepared By	7: AR
Prep Batch: 58087	LC	QC Pre	eparation:	2010-03-0	1 Spike	Mat	F		Rec.
Prep Batch: 58087 Param	Res	QC Pre CS sult	paration: Units	2010-03-0 Dil.	1 Spike Amount	Res	F rix ult	Rec.	Rec. Limit
Prep Batch: 58087 Param Chloride	Res 23	QC Pre CS sult .7	Units mg/L	2010-03-0 Dil. 1	1 Spike Amount 25.0	Res <0.4	F trix ult 475	Rec.	Rec. Limit
Prep Batch: 58087 Param Chloride	Res 23	QC Pre CS sult .7	Units mg/L	2010-03-0 Dil. 1	1 Spike Amount 25.0	Res <0.4	F trix ult 475	Rec.	Rec. Limit
Prep Batch: 58087 Param Chloride	Res 23	QC Pre CS sult .7	Units mg/L	2010-03-0 Dil. 1	1 Spike Amount 25.0 nd spike du Matrix	Res <0.4	F trix ult 475	Rec. 95	Rec.
•	Res 23 e spike result.	QC Pre CS sult .7	Units Mg/L based on t	2010-03-0 Dil. 1 the spike ar	1 Spike Amount 25.0 nd spike du	Res <0.4	F crix ult 475 esult.	Rec. 95 RPD	Rec. Limit 90 - 110

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Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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	:: March 9, 2010				er: 100226				ge Number	
115-6403131	Α		C	elero/ Ro	ck Queen	#11	-		Chavez Co	ounty, NM
Laboratory	Control Spike (LC	S-1)								
QC Batch:	67932		Date A	nalyzed:	2010-03	-02			Analyzed I	
Prep Batch:	58087		QC Pr	eparation	: 2010-03	-01	•		Prepared I	By: AR
		т	70			0.1	2.6	•		Dee
Param			CS sult	Units	Dil.	Spike Amount	Ma Res		Rec.	Rec. Limit
Sulfate	· · ·		3.2	mg/L	1	25.0	<0.		93	90 - 110
	very is based on the sp				the spike				r	,
		LCSD			Spike	Matrix		Rec.		RPD
Param		Result	Units		Amount		Rec.	Limit		Limit
Sulfate		23.1	mg/L	<u>, 1</u>	25.0	< 0.217	92	90 - 11	10 0	
Prep Batch:	58109			eparation	: 2010-03		-		Prepared I	• • •
Param		LC Res		Units	Dil.	Spike Amount	Mat Res		Rec.	Rec. Limit
Dissolved Ca	laium	52					I UUD	uiu		13111110
Dissorveu Ca	ICIUIII	02	.9	mg/L	1	50.0	< 0.00		106	85 - 115
Dissolved Po	tassium	51	.6	mg/L	1	50.0	<0.00	)216 )645	106 103	85 - 115 85 - 115
Dissolved Po Dissolved Ma	tassium agnesium	51 53	.6 .9	mg/L mg/L	1 1	50.0 50.0	<0.00 <0.00	)216 )645 )594	106 103 108	85 - 115 85 - 115 85 - 115
Dissolved Po Dissolved Ma Dissolved Soc	tassium agnesium	51 53 50	.6 .9 .6	mg/L mg/L mg/L	1 1 1	50.0 50.0 50.0	<0.00 <0.00 <0.00	)216 )645 )594 )548	106 103	85 - 115 85 - 115
Dissolved Po Dissolved Ma Dissolved Soc	tassium agnesium dium	51 53 50	.6 .9 .6	mg/L mg/L mg/L	1 1 1	50.0 50.0 50.0	<0.00 <0.00 <0.00	)216 )645 )594 )548	106 103 108 101	85 - 115 85 - 115 85 - 115
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param	tassium agnesium dium very is based on the sp	51 53 50 Dike result. LCSD Result	.6 .9 .6 RPD is Units	mg/L mg/L mg/L based on Dil.	1 1 1 the spike Spike Amount	50.0 50.0 50.0 and spike du Matrix Result	<0.00 <0.00 <0.00 plicate r Rec.	0216 0645 0594 0548 esult. Rec. Limi	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit
Dissolved Po Dissolved Ma Dissolved Soc Percent recov Param Dissolved Ca	tassium agnesium dium very is based on the sp lcium	51 53 50 Dike result. LCSD Result 51.0	.6 .9 .6 RPD is Units mg/L	mg/L mg/L based on Dil. 1	1 1 the spike Spike Amount 50.0	50.0 50.0 50.0 and spike du Matrix Result <0.00216	<0.00 <0.00 <0.00 plicate r <u>Rec.</u> 102	)216 )645 )594 )548 esult. Rec. Limi 85 - 1	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit 20
Dissolved Po Dissolved Ma Dissolved Soc Percent recov Param Dissolved Ca Dissolved Po	tassium agnesium dium very is based on the sp lcium tassium	51 53 50 Dike result. LCSD Result 51.0 49.7	.6 .9 .6 RPD is Units mg/L mg/L	mg/L mg/L based on Dil. 1 1	1 1 the spike Spike Amount 50.0 50.0	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645	<0.00 <0.00 <0.00 plicate r Rec. 102 99	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit 20 20
Dissolved Po Dissolved Ma Dissolved Soc Percent recov Param Dissolved Ca	tassium agnesium dium very is based on the sp lcium tassium agnesium	51 53 50 Dike result. LCSD Result 51.0	.6 .9 .6 RPD is Units mg/L	mg/L mg/L based on Dil. 1	1 1 the spike Spike Amount 50.0	50.0 50.0 50.0 and spike du Matrix Result <0.00216	<0.00 <0.00 <0.00 plicate r <u>Rec.</u> 102	)216 )645 )594 )548 esult. Rec. Limi 85 - 1	106 103 108 101 t RPD 15 4 15 4 15 5	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod	tassium agnesium dium very is based on the sp lcium tassium agnesium	51 53 50 Dike result. LCSD Result 51.0 49.7 51.5 49.0	6 9 6 RPD is Units mg/L mg/L mg/L	mg/L mg/L based on Dil. 1 1 1 1 1	1 1 1 the spike Amount 50.0 50.0 50.0 50.0	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1	106 103 108 101 t RPD 15 4 15 4 15 5	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov	tassium agnesium dium very is based on the sp lcium tassium agnesium dium	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L	mg/L mg/L based on Dil. 1 1 1 1 1	1 1 1 the spike Amount 50.0 50.0 50.0 50.0	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1	106 103 108 101 t RPD 15 4 15 4 15 5	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 RPD Limit 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 1	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101 t RPD 15 4 15 4 15 5	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp <b>Control Spike (LC</b> 68098	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20
Dissolved Po Dissolved Ma Dissolved Sod Percent recov Param Dissolved Ca Dissolved Po Dissolved Ma Dissolved Sod Percent recov Laboratory QC Batch:	tassium agnesium dium very is based on the sp lcium tassium agnesium dium very is based on the sp Control Spike (LC 68098 58103	51 53 50 bike result. LCSD Result 51.0 49.7 51.5 49.0 bike result.	6 9 6 RPD is Units mg/L mg/L mg/L RPD is Date A	mg/L mg/L based on Dil. 1 1 1 1 based on	1 1 1 the spike Spike Amount 50.0 50.0 50.0 50.0 the spike 2010-03	50.0 50.0 and spike du Matrix Result <0.00216 <0.00645 <0.00594 <0.00548 and spike du	<0.00 <0.00 plicate r Rec. 102 99 103 98	)216 )645 )594 )548 esult. Rec. Limi 85 - 1 85 - 1 85 - 1 85 - 1 esult.	106 103 108 101	85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 85 - 115 20 20 20 20 20 20 20

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Report Date: March 9, 2010 115-6403131A		(		)rder: 1002 Rock Queer		. *		Р			19 of 25 inty, NM
controlibas continued			,				• •				
control spikes continued	L	$\mathbf{CS}$			5	Spike	Mati	rix			Rec.
Param	Re	sult	Units	Dil.		mount	Resu	ilt	Rec		Limit
	, L	CS			S	Spike	Mati	rix			Rec.
Param		sult	Units			mount	Resu		Rec		Limit
Total Dissolved Solids		)20	mg/L			1000	<9.		102	2	90 - 110
Percent recovery is based on the s		RPD	s based				incate re			·	
Param	LCSD Result	Unit	s Dil	Spike . Amou		fatrix Lesult	Rec.	Rec Lim		RPD	RPD Limit
Total Dissolved Solids	1020	mg/		1000		< 9.75	102	90 - 1		$\frac{10}{0}$	10
Percent recovery is based on the s	pike result.			on the spik	e and s	pike dup	licate re	sult.			
						·					
Matrix Spike (MS-1) Spiked	l Sample: 2	23853									
QC Batch: 67911		Date .	Analyzed	d: 2010-0	)3-01				Anal	yzed B	y: AG
Prep Batch: 58101			reparatio		)3-01				Prep	ared By	y: AG
D	M		<b>**</b> •.	ויס	Spi		Matrix	-			Rec.
Param Benzene	Resu 10.		Units mg/L	Dil50	Amo 5.0		Result 5.9567	1	Rec. 99		Limit 3 - 117.4
Toluene	6.3	•	mg/L	50	5.0		1.5038		96	75	- 111.8
Ethylbenzene	5.2		mg/L	50	5.0		0.5072		94 02		3 - 106.6
Xylene	14.		mg/L	50	15 		0.6358		93	08	.9 - 114
Percent recovery is based on the s		RPDI	s based				incate re				
Param	MSD Result	Units	Dil.	Spike Amount	Mat Res		.ec.	Rec. Limit	t	RPD	RPD Limit
Benzene	10.6	mg/L		5.00	5.95			.3 - 11		3	20
Toluene	5.98	mg/L	50	5.00	1.50			5 - 11		5	20
Ethylbenzene Xylene	4.79 13.5	mg/L mg/L		$\begin{array}{c} 5.00 \\ 15.0 \end{array}$	0.50 0.63			5.8 - 1( 8.9 - 1		9 8 .	$\frac{20}{20}$
Percent recovery is based on the s											
· · · · · · · · · · · · · · · · · · ·	MS		MSD			Spike			MSD		Rec.
Surrogate	Resu		Result	Units	Dil.	Amou	nt Re	c.	Rec.	]	Limit
Trifluorotoluene (TFT)	4.4	1	4.27	mg/L	50	5	88		85		3 - 129.8
4-Bromofluorobenzene (4-BFB)	5.1	(	4.98	mg/L	50	5	10	3	100	(5.2	2 - 112.8
		00000									
, -	l Sample: 2										
QC Batch: 67931			Analyzed							v v	y: AR 7: AR
		QU P	reparatio	JII. 2010-U	10-01				riep	areu Dy	. AN
Prep Batch: 58080											
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115-6403131A	10				r: 1002262 k Queen #				ge Number Chavez Co	
		Ň	IS			Con ilan	ъл⊥́			D
Param			sult	Units	Dil.	Spike Amount		trix sult	Rec.	Rec. Limit
Chloride	1		50	mg/L	5	138		.38	1709	90 - 110
Percent recovery is based o	n the spik								1100	
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	2	2350	mg/L	5	138	<2.38	1709	90 - 11		· ·
Percent recovery is based o	n the spik	e result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.	<i>.</i> :	
Matrix Spike (MS-1)	Spiked Sa	mple: 2	23826							
QC Batch: 67931			Date A	nalyzed:	2010-03-0	)2			Analyzed H	By: AR
Prep Batch: 58080				eparation:	2010-03-0				Prepared E	
									-	-
		Ň	IS			Spike	Ма	trix		Rec.
Param			sult	Units	Dil.	Amount		sult	Rec.	Limit
ulfate	3	2:	24	mg/L	5	138	15		76	90 - 110
								-		
Percent recovery is based o	n the spik	e result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
Percent recovery is based o	n the spik		RPD is	based on	-	-	plicate r			RPD
	n the spik	e result. MSD Result	RPD is Units	based on Dil.	the spike a Spike Amount	nd spike du Matrix Result	plicate r Rec.	esult. Rec. Limit	RPD	
Param	n the spik	MSD		Dil.	Spike	Matrix	-	Rec.		
Percent recovery is based o Param Sulfate Percent recovery is based o Matrix Spike (MS-1) QC Batch: 67932 Prep Batch: 58087	4	MSD Result 213 e result.	Units mg/L RPD is 23829 Date A	Dil. 5	Spike Amount 138	Matrix Result 120 nd spike du	Rec.	Rec. Limit 90 - 11 esult.		Limit
Param Sulfate Percent recovery is based of Matrix Spike (MS-1) QC Batch: 67932	4 n the spik	MSD Result 213 e result. umple: 23	Units mg/L RPD is 23829 Date A QC Pre	Dil. 5 based on nalyzed:	Spike Amount 138 the spike at 2010-03-0 2010-03-0	Matrix Result 120 nd spike du 22 21 Spike	Rec. 68 plicate r	Rec. Limit 90 - 11 esult.	0 5 Analyzed E Prepared B	By: AR Rec.
Param ulfate Percent recovery is based of Matrix Spike (MS-1) PC Batch: 67932 Prep Batch: 58087 Param	4 n the spik	MSD Result 213 e result.	Units mg/L RPD is 23829 Date A QC Pre IS sult	Dil. 5 based on nalyzed: eparation:	Spike Amount 138 the spike as 2010-03-0	Matrix Result 120 nd spike du	Rec. 68 plicate r	Rec. Limit 90 - 11 esult.	0 5 Analyzed E	Limit By: AR By: AR Rec. Limit
Param Sulfate Percent recovery is based of Matrix Spike (MS-1) QC Batch: 67932 Prep Batch: 58087	4 n the spik Spiked Sa	MSD Result 213 e result. umple: 2 M Res 272	Units mg/L RPD is 23829 Date A QC Pre IS sult 200	Dil. 5 based on nalyzed: paration: Units mg/L	Spike Amount 138 the spike as 2010-03-0 2010-03-0 Dil. 50	Matrix Result 120 nd spike du 22 11 Spike Amount 1380	Rec. 68 plicate r Ma Res 240	Rec. Limit 90 - 11 esult.	0 5 Analyzed E Prepared B Rec.	Limit By: AR By: AR Rec. Limit
Param Param Percent recovery is based of Matrix Spike (MS-1) QC Batch: 67932 Prep Batch: 58087 Param Param	4 n the spik Spiked Sa	MSD Result 213 e result. umple: 2 M Res 272	Units mg/L RPD is 23829 Date A QC Pre IS sult 200	Dil. 5 based on nalyzed: paration: Units mg/L	Spike           Amount           138           the spike and           2010-03-0           2010-03-0           Dil.           50           the spike and	Matrix Result 120 nd spike du 22 11 Spike Amount 1380	Rec. 68 plicate r Ma Res 240	Rec. Limit 90 - 11 esult.	0 5 Analyzed E Prepared B Rec.	Limit By: AR By: AR Rec.
Param ulfate Percent recovery is based of Matrix Spike (MS-1) QC Batch: 67932 Prep Batch: 58087 Param Param Phloride Percent recovery is based of	4 n the spik Spiked Sa	MSD Result 213 e result. umple: 2 M Res 272 e result.	Units mg/L RPD is 23829 Date A QC Pre IS sult 200	Dil. 5 based on nalyzed: paration: Units mg/L	Spike Amount 138 the spike as 2010-03-0 2010-03-0 Dil. 50	Matrix Result 120 nd spike du 22 11 Spike Amount 1380 nd spike du	Rec. 68 plicate r Ma Res 240	Rec. Limit 90 - 11 esult.	0 5 Analyzed E Prepared B Rec.	Limit By: AR By: AR Rec. Limit 90 - 110
Param Param Percent recovery is based of Matrix Spike (MS-1) QC Batch: 67932 Prep Batch: 58087 Param Param	4 n the spik Spiked Sa	MSD Result 213 e result. umple: 2 MRes 272 e result. MSD	Units mg/L RPD is 23829 Date A QC Pre IS sult 200 RPD is	Dil. 5 based on nalyzed: paration: Units mg/L based on	Spike           Amount           138           the spike as           2010-03-0           2010-03-0           Dil.           50           the spike as	Matrix Result 120 nd spike du 22 11 Spike Amount 1380 nd spike du Matrix	Rec. 68 plicate r Ma Res 24( plicate r	Rec. Limit 90 - 11 esult.	0 5 Analyzed E Prepared E <u>Rec.</u> 232 RPD	Limit By: AR By: AR Rec. Limit 90 - 110 RPD

 $^{1}$ Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.  $^{2}$ MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

<sup>3</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>4</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly. <sup>5</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>6</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date: March 9, 2010 115-6403131A				er: 1002262 k Queen #					: 21 of 25 unty, NM
Matrix Spike (MS-1) Spike	ed Sample: 22	23829							
QC Batch: 67932		Date A	nalyzed:	2010-03-0	)2		An	alyzed H	By: AR
Prep Batch: 58087		QC Pre	paration:	2010-03-0	)1		Pro	epared E	By: AR
	М	S			Spike	Ma	trix		Rec.
Param	Res		Units	Dil.	Amount			lec.	Limit
Sulfate	7 150	00	mg/L	50	1380	4	63	75	90 - 110
Percent recovery is based on the	spike result.	RPD is		the spike a	nd spike du	plicate 1	result.		
	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD <sup>°</sup>	Limit
	<sup>8</sup> 1590	mg/L		1380	463	82	90 - 110	6	
Sulfate	-000								
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940		23817 Date A	nalyzed:	2010-03-0	12	plicate r	An	alyzed E	
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940	spike result.	23817 Date A		-	12	plicate r	An	alyzed E epared B	
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940	spike result. ed Sample: 22	23817 Date A QC Pre	nalyzed:	2010-03-0	2 2	-	An Pre		y: KV
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940	spike result.	23817 Date A QC Pre S	nalyzed:	2010-03-0	12	Ма	An Pre trix		
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940 Prep Batch: 58109 Param	spike result. ed Sample: 22 Mi	23817 Date A QC Pre S ult	nalyzed: paration:	2010-03-0 2010-03-0	2 2 Spike	Ma Re:	An Pre trix sult R	epared B	y: KV Rec. Limit
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium	spike result. ed Sample: 22 M Res	23817 Date A QC Pre S ult 6	nalyzed: paration: Units	2010-03-0 2010-03-0 Dil.	2 2 Spike Amount	Ma Res 30	An Pre trix sult R 26 1	epared E	y: KV Rec. Limit 75 - 125
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium	spike result. ed Sample: 22 M Res 36	23817 Date A QC Pre S ult 6 .6	nalyzed: paration: Units mg/L	2010-03-0 2010-03-0 Dil. 1	2 22 Spike Amount 50.0	Ma Re: 30 20	An Pre trix <u>sult R</u> 06 1 0.6 1 '1 9	epared B ec. 20 04 92	Rec. Limit 75 - 125 75 - 125 75 - 125
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium	spike result. ed Sample: 22 Mi Res 36 72.	23817 Date A QC Pre S ult 6 .6 7	nalyzed: sparation: Units mg/L mg/L	2010-03-0 2010-03-0 Dil. 1 1	2 22 Spike Amount 50.0 50.0	Ma Res 30 20 7	An Pre trix <u>sult R</u> 06 1 0.6 1 '1 9	epared B ec. 20 04	y: KV Rec.
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium	spike result. ed Sample: 22 M Ress 36 72. 11 48	23817 Date A QC Pre S ult 6 .6 7 5	nalyzed: paration: Units mg/L mg/L mg/L mg/L	2010-03-0 2010-03-0 Dil. 1 1 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ma Res 30 20 7 4	An Pre trix sult R 06 1 0.6 1 1 9 39 9	epared B ec. 20 04 92	Rec. Limit 75 - 125 75 - 125 75 - 125
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium	spike result. ed Sample: 22 M Ress 36 72. 11 48	23817 Date A QC Pre S ult 6 .6 7 5	nalyzed: paration: Units mg/L mg/L mg/L mg/L	2010-03-0 2010-03-0 Dil. 1 1 1 1 1 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ma Res 30 20 7 4	An Pre trix sult R 06 1 0.6 1 1 9 39 9	epared B ec. 20 04 92	Rec. Limit 75 - 125 75 - 125 75 - 125
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the	spike result. ed Sample: 22 Mi Ress 36 72. 11 48 spike result.	23817 Date A QC Pre S ult 6 .6 7 5	nalyzed: paration: Units mg/L mg/L mg/L mg/L	2010-03-0 2010-03-0 Dil. 1 1 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ma Res 30 20 7 4	An Pre sult . R 06 1 0.6 1 0.6 1 0.6 1 0.6 1 0.6 2 0.6 1 0.6 10 0.6 10 0.6 10 0.6 10 0.6 2 0.6 2 0.6 10 0.6 2 0.6 2 0.0 0000000000	epared B ec. 20 04 92	Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD
Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the Param	spike result. ed Sample: 22 M Res 36 72. 11 48 spike result. MSD	23817 Date A QC Pre S ult 6 .6 7 5 RPD is	nalyzed: paration: <u>Units</u> mg/L mg/L mg/L mg/L based on t	2010-03-0 2010-03-0 Dil. 1 1 1 1 1 1 5pike	2 22 22 22 22 22 20 20 20 20 20 20 20 20	Ma Re: 30 20 7 4: plicate r	An Pre sult R 06 1 0.6 1 '1 9 39 9 result. Rec.	epared B ec. 20 04 92 92	Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the Param Dissolved Calcium	spike result. ed Sample: 22 M Res 36 72. 11 48 spike result. MSD Result	23817 Date A QC Pre S ult 6 .6 7 5 RPD is Units	nalyzed: paration: mg/L mg/L mg/L based on t Dil.	2010-03-0 2010-03-0 Dil. 1 1 1 1 the spike an Spike Amount	2 Spike Amount 50.0 50.0 50.0 50.0 ad spike du Matrix Result	Ma Re: 30 20 7 4: plicate r Rec.	An Pre sult R 06 1 0.6 1 '1 9 39 9 result. Rec. Limit	epared B ec. 20 04 92 92 RPD	Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940 Prep Batch: 58109 Param Dissolved Calcium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the Param Dissolved Calcium Dissolved Calcium Dissolved Calcium Dissolved Potassium Dissolved Potassium	spike result. ed Sample: 22 Mi Ress 36 72. 11 48 spike result. MSD Result 356 75.6 120	23817 Date A QC Pre S ult 6 .6 7 5 RPD is <u>Units</u> mg/L mg/L mg/L	nalyzed: paration: mg/L mg/L mg/L based on t Dil. 1	2010-03-0 2010-03-0 Dil. 1 1 1 1 the spike an Spike Amount 50.0 50.0 50.0	2 22 Spike Amount 50.0 50.0 50.0 50.0 50.0 ad spike du Matrix Result 306 20.6 71	Ma Res 30 20 7 4: plicate r Rec. 100	An Pressult - R 26 1 26 1 26 1 21 9 39 9 29 20 20 20 20 20 20 20 20 20 20 20 20 20	epared B ec. 20 04 92 92 RPD 3	Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 20 20 20 20
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 67940 Prep Batch: 58109	spike result. ed Sample: 22 Mi Ress 36 72. 11 48 spike result. MSD Result 356 75.6	23817 Date A QC Pre S ult 6 .6 7 5 RPD is <u>Units</u> mg/L mg/L	nalyzed: paration: mg/L mg/L mg/L based on t Dil. 1 1	2010-03-0 2010-03-0 Dil. 1 1 1 1 the spike an Spike Amount 50.0 50.0	2 Spike Amount 50.0 50.0 50.0 50.0 ad spike du Matrix Result 306 20.6	Ma Res 30 20 7 43 plicate r <u>Rec.</u> 100 110	An Pre sult R 06 1 0.6 1 1 9 39 9 result. Rec. Limit 75 - 125 75 - 125	epared B ec. 20 04 92 92 8 PD 3 4	Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20

QC Batch: 67873

Date Analyzed: 2010-02-26

Analyzed By: AG

<sup>7</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

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Report Date: Ma 115-6403131A	arch 9, 2010		rk Order: 10 ro/ Rock Qu			umber: 22 of 2 ez County, NM
	• •					· · ·
		ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param F	lag Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH	s.u.	7.00	6.99	100	98 - 102	2010-02-26
				* .		
Standard (CCV	V-1)		•		· · · .	
QC Batch: 6787	73	Date Ana	lyzed: 2010	)-02-26	Analy	yzed By: AG
		· · · ·			Dencent	
		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param F	'lag Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH	s.u.	7.00	6.93	99	98 - 102	2010-02-26
•			•			
Standard (ICV	-1)					
QC Batch: 6789		Date Ana	yzed: 2010	)-03-01	Anal	vzed By: AR
			-			);
,	· ·		ICVs True	ICVs ICVs Found Percen		Date
Param	Flag	Units	Conc.	Conc. Recover	-	Analyzed
Hydroxide Alkalin		mg/L as CaCo3	0.00	17.0	0 - 200	2010-03-01
Carbonate Alkali	nity	mg/L as CaCo3	0.00	244	0 - 200	2010-03-01
Bicarbonate Alka	linity	mg/L as CaCo3	0.00	<4.00	0 - 200	2010-03-01
Total Alkalinity	•	mg/L as CaCo3	250	261 104	90 - 110	2010-03-01
		•				
Standard (CCV	/-1)		· ·			•
QC Batch: 6789	)4	Date Ana	lyzed: 2010	)-03-01	Anal	yzed By: AR
			CCVs	CCVs CCVs	s Percent	
			True	Found Percen		Date
7	Flag	Units	Conc.	Conc. Recover		Analyzed
	nity	mg/L as CaCo3	0.00	29.0	0 - 200	2010-03-01
Param Hydroxide Alkalin		mail on CoCo?	0.00		11 +1/1/1	2010-03-01 2010-03-01
Hydroxide Alkalin Carbonate Alkalin	nity	mg/L as CaCo3	0.00	224	0 - 200	7111113-011
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka	nity	mg/L as CaCo3	0.00	<4.00	0 - 200	
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka	nity					2010-03-01
	nity linity	mg/L as CaCo3	0.00	<4.00	0 - 200	
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00	<4.00 253 101	0 - 200 90 - 110	
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01
Hydroxide Alkalin Carbonate Alkalin Bicarbonate Alka Total Alkalinity Standard (CCV	nity linity /-2)	mg/L as CaCo3 mg/L as CaCo3	0.00 250	<4.00 253 101	0 - 200 90 - 110	2010-03-01

115-6403131A	9, 2010		k Order: 10022 o/ Rock Queen			umber: 23 of 25 vez County, NM
· ·		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param I	Flag Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	· mg/L	0.100	0.0945	94	80 - 120	2010-03-01
Toluene	mg/L	0.100	0.0943	94	80 - 120	2010-03-01
Ethylbenzene	mg/L	0.100	0.0941	94	80 - 120	2010-03-01
Xylene	mg/L	0.300	0.283	94	80 - 120	2010-03-01
Standard (CCV-3)						
QC Batch: 67911		Date Anal	yzed: 2010-03-	-01	Anal	yzed By: AG
		CCVs	CCVs	$\mathrm{CCVs}$	Percent	,
		True	Found	Percent	Recovery	Date
Param I	Flag Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	mg/L	0.100	0.0957	96	80 - 120	2010-03-01
Toluene	mg/L	0.100	0.0944	94	80 - 120	2010-03-01
				<u></u>	00 100	2010-03-01
	mg/L	0.100	0.0932	93	80 - 120	2010-03-01
Ethylbenzene Xylene	mg/L mg/L	0.100 0.300	0.0932 0.281	93 94	80 - 120 80 - 120	2010-03-01
Ethylbenzene Xylene Standard (ICV-1)			0.281	94	80 - 120	
Ethylbenzene Xylene Standard (ICV-1)		0.300 Date Anal	0.281	94	80 - 120	2010-03-01
Ethylbenzene Xylene Standard (ICV-1)		0.300	0.281 yzed: 2010-03	-02	80 - 120 Anal Percent	2010-03-01
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931	mg/L	0.300 Date Anal ICVs	0.281 yzed: 2010-03- ICVs	94 -02 ICVs Percent	80 - 120 Anal	2010-03-01 yzed By: AR Date
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931 Param Flag	mg/L	0.300 Date Anal ICVs True	0.281 yzed: 2010-03- ICVs Found	94 -02 ICVs	80 - 120 Anal Percent Recovery	2010-03-01 yzed By: AR
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931 Param Flag Chloride	mg/L Units	0.300 Date Anal ICVs True Conc.	0.281 yzed: 2010-03 ICVs Found Conc.	94 -02 ICVs Percent Recovery	80 - 120 Anal Percent Recovery Limits	2010-03-01 yzed By: AR Date Analyzed
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931 Param Flag Chloride Standard (ICV-1)	mg/L Units	0.300 Date Anal ICVs True Conc.	0.281 yzed: 2010-03 ICVs Found Conc. 23.8	94 -02 ICVs Percent Recovery 95	80 - 120 Anal Percent Recovery Limits 90 - 110	2010-03-01 yzed By: AR Date Analyzed
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931	mg/L Units	0.300 Date Anal ICVs True Conc. 25.0 Date Anal ICVs	0.281 yzed: 2010-03 ICVs Found Conc. 23.8 yzed: 2010-03 ICVs	94 -02 ICVs Percent Recovery 95 -02 ICVs	80 - 120 Anal Percent Recovery Limits 90 - 110 Anal Percent	2010-03-01 yzed By: AR Date Analyzed 2010-03-02 yzed By: AR
Ethylbenzene Xylene Standard (ICV-1) QC Batch: 67931 Param Flag Chloride Standard (ICV-1)	mg/L Units	0.300 Date Anal ICVs True Conc. 25.0 Date Anal	0.281 yzed: 2010-03 ICVs Found Conc. 23.8 yzed: 2010-03	94 -02 ICVs Percent Recovery 95	80 - 120 Anal Percent Recovery Limits 90 - 110 Anal	2010-03-01 yzed By: AR Date <u>Analyzed</u> 2010-03-02

QC Batch: 67931

Date Analyzed: 2010-03-02

Analyzed By: AR

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115-6403131A       Celero/ Rock Queen #11       Chavez County, N         Param       Flag       Units       CCVs       CCVs       Percent       Recovery       Date         Chloride       mg/L       25.0       23.4       94       90 - 110       2010-03-02         Standard (CCV-1)       QC Batch:       67931       Date Analyzed:       2010-03-02       Analyzed By: A         Param       Flag       Units       Conc.       Corvs       CCVs       Percent         Param       Flag       Units       Conc.       Corvs       Percent       Limits       Analyzed By: A         Param       Flag       Units       Conc.       Corvs       Percent       Limits       Analyzed By: A         Standard (ICV-1)       QC Batch:       67932       Date Analyzed:       2010-03-02       Analyzed By: A         Param       Flag       Units       Conc.       Conc.       Recovery       Date         QC Batch:       67932       Date Analyzed:       2010-03-02       Analyzed By: A         Chloride       mg/L       25.0       23.4       94       90 - 110       2010-03-03         Standard (ICV-1)       QC Batch:       67932       Date Analyzed:       2010-03-02 <th></th> <th>•</th> <th>1. · ·</th> <th></th> <th></th> <th></th> <th></th> <th>,</th>		•	1. · ·					,	
Li5-6403131ACelero/ Rock Queen #11Chavez County, NCCVsCCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzeChloridemg/L25.023.49490 - 1102010-03-02Standard (CCV-1)QC Batch:67931Date Analyzed:2010-03-02Analyzed By: ACCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateSulfatemg/L25.025.310190 - 1102010-03-02Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: ACVsICVsICVsICVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateQC Batch:67932Date Analyzed:2010-03-02Analyzed By: AParamFlagUnitsConc.Conc.RecoveryDateChoridemg/L25.023.49490 - 1102010-03-02Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: ACloridemg/L25.025.310190 - 1102010-03-03Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: AParamFlagUnitsConc.Conc.Reco			•			•		•	
Li5-6403131ACelero/ Rock Queen #11Chavez County, NCCVsCCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzeChloridemg/L25.023.49490 - 1102010-03-02Standard (CCV-1)QC Batch:67931Date Analyzed:2010-03-02Analyzed By: ACCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateSulfatemg/L25.025.310190 - 1102010-03-02Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: ACVsICVsICVsICVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateQC Batch:67932Date Analyzed:2010-03-02Analyzed By: AParamFlagUnitsConc.Conc.RecoveryDateChoridemg/L25.023.49490 - 1102010-03-02Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: ACloridemg/L25.025.310190 - 1102010-03-03Standard (ICV-1)QC Batch:67932Date Analyzed:2010-03-02Analyzed By: AParamFlagUnitsConc.Conc.Reco									
Li5-6403131ACelero/ Rock Queen #11Chavez County, NCCV'sCCV'sCCV'sCCV'sPercentParamFlagUnitsCOV'sCC'sCC'sCC's <th co<="" td=""><td>Dan aut Date</td><td>Menah 0 f</td><td>9010</td><td></td><td></td><td>00000</td><td>۰ ۲</td><td></td></th>	<td>Dan aut Date</td> <td>Menah 0 f</td> <td>9010</td> <td></td> <td></td> <td>00000</td> <td>۰ ۲</td> <td></td>	Dan aut Date	Menah 0 f	9010			00000	۰ ۲	
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Chloride         mg/L         25.0         23.0         92         90 - 110         2010-03-           Standard (CCV-1)	Param	Flag	Units					Analyzed	
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Param	0		CCV True Conc	Fc	CVs ound onc.	CCVs Percent Recoverv	Percent Recovery Limits	Date Analyzed
Sulfate		Units mg/L	25.0		24.9	100	90 - 110	2010-03-02
Standard QC Batch:	. ,		Dat	e Analyzed:	2010-03-0	)2	Analy	yzed By: RR
				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
	otassium		mg/L mg/L	50.0 50.0	51.3 50.3	103 · 101	90 - 110 90 - 110	2010-03-02 2010-03-02
Dissolved Potassium Dissolved Magnesium Dissolved Sodium			mg/L mg/L	50.0 50.0	51.6 49.8	103 100	90 - 110 90 - 110	2010-03-02 2010-03-02

## Standard (CCV-1)

QC Batch: 67940			Date Analyzed:	2010-03-02		Analy	zed By: RR
			$\mathrm{CCVs}$	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	51.0	50.5	99	90 - 110	2010-03-02
Dissolved Potassium		, mg/L	55.0	55.3	100	90 - 110	2010-03-02
Dissolved Magnesium		mg/L	51.0	50.6	99	90 - 110	2010-03-02
Dissolved Sodium		mg/L	51.0	51.2	100	90 - 110	2010-03-02

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-				F	<b>TETRATECH</b> 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-394	46							5 (Ext. to C35)	I Cr Pb Hg Se	Vr Pd Hg								TDS /		
CLIENT NAM	NE: To Entra	ч			SITE MANAGER: Left Kindly		NERS	P		ERV			TX1005	As Ba Cd	s Ba C			60/624 270/625					tions, pH, 1		
PROJECT N					NAME: Enercy / Rock Queen #11		F CONTAI						5 MOD.	als Ag	9	i Volatiles		. 8240/82 mi. Vol. 8:	0/608	208	Jec.	a (Air) Istos)	ins/Catio		
LAB I.D. NUMBER	DATE	TIME	MATRIX	GRAB	SAMPLE IDENTIFICATION	v	NUMBER OF CONTAINERS	HOL	HN03	ICE	NONE	BTEX 8021B	TPH 8015	RCRA Metals Ag	TCLP Metals Ag	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624 GC.MS Sami Vol. 8270/625	PCB's 8080/608	Pest. 808/608 Chloride	Gamma Spec.	Alpha Beta (Air) PLM (Asbestos)	Major Anions/Ca		
व्यउहरूप	2/25	1765	ω	X	MW-1		4,	v 3		X	1	Х											X		
825	/	1715	1/1	$\bot$	mw-Z		///	1		$\left( \right)$	$\square$	]]													
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MULILIUM TRACEANALYSIS, INC. MULILIUM MULIUM

6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 F

Lubbock, Texas 79424 800•378•1296 El.Paso, Texas 79922 888•588•3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com 806+794+1296 F/ 915+585+3443 F/ 432+689+6301 F/ 817+201+5260

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 FAX 806 • 794 • 1298

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 FAX 915 • 585 • 4944

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**WBENC:** 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

**DBE:** VN 20657

T104704392-08-TX

Midland:

# **NELAP** Certifications

Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002

# Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: August 5, 2010

Work Order: 10071416

Project Location:Chavez County, NMProject Name:Celero/ Rock Queen #11Project Number:115-6403131A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

	•		Date .	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
237463	MW-1	water	2010-07-13	15:30	2010-07-14
237464	MW-2	water	2010-07-13	15:40	2010-07-14
237465	MW-3	water	2010-07-13	15:20	2010-07-14
237466	MW-4	water ·	2010-07-13	15:10	2010-07-14

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

А Sla U

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

### Standard Flags

 ${\bf B}$  - The sample contains less than ten times the concentration found in the method blank.

Page 2 of 16

# Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071416. Samples for work order 10071416 were received intact without headspace and at a temperature of 3.9 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	61451	2010-07-14 at 16:00	71724	2010-07-14 at 16:42
Chloride (IC)	E 300.0	61483	2010-07-15 at 09:54	71930	2010-07-16 at 09:28
Chloride (IC)	E 300.0	62048	2010-08-04 at 16:09	72386	2010-08-05 at 04:13
SO4 (IC)	E 300.0	61483	2010-07-15 at 09:54	71930	2010-07-16 at 09:28
TDS	SM 2540C	61516	2010-07-15 at 10:29	72039	2010-07-26 at 12:30

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10071416 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 5, 2010 115-6403131A Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 4 of 16 Chavez County, NM

# **Analytical Report**

### Sample: 237463 - MW-1

Laboratory: Midland			
Analysis: BTEX	Analytical Method:	S 8021B	Prep Method: S 5030B
QC Batch: 71724	Date Analyzed:	2010-07-14	Analyzed By: AG
Prep Batch: 61451	Sample Preparation:	2010-07-14	Prepared By: AG
-			

		RI	L				
Parameter Fl	ag	Result	t	Units	Di	lution	$\operatorname{RL}$
Benzene		< 0.00100	)	mg/L		1	0.00100
Toluene		< 0.00100	)	mg/L		1	0.00100
Ethylbenzene		< 0.00100	)	mg/L		1	0.00100
Xylene		< 0.00100	) .	mg/L		1	0.00100
	а. С				Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0848	mg/L	1	0.100	85	67.8 - 126
4-Bromofluorobenzene (4-BFB	)	0.0693	mg/L	1	0.100	69	51.1 - 128

### Sample: 237463 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 72386 62048	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-08-05 2010-08-04	Prep Method: Analyzed By: Prepared By:	N/A SS SS
		RL			
Parameter	Flag	$\operatorname{Result}$	Units	Dilution	$\mathbf{RL}$
Chloride		12300	mg/L	1000	2.50

#### Sample: 237463 - MW-1

Sulfate		186	mg/L	5	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepare	d By: AR
Analysis: QC Batch:	SO4 (IC) 71930	Analytical Method: Date Analyzed:	E 300.0 2010-07-16	•	ethod: N/A ed By: AR

Report Date: Au 115-6403131A	igust 5, 2010			r: 10071416 k Queen #11			nber: 5 of 16 County, NM
Sample: 23746;	3 - MW-1						
	dland					<b>D</b> 14	
Analysis: TD QC Batch: 720			Analytical Method: Date Analyzed:	SM 2540C 2010-07-26		Prep Me Analyzed	
Prep Batch: 615			Sample Preparation			Prepared	
· ·			Sample Treparation	. 2010-01-10		incharce	i Dy. Ait
			$\operatorname{RL}$				
Parameter		Flag	Result	Units		Dilution	$\mathbf{RL}$
Total Dissolved S	olids	·	11600	mg/L		100	10.0
		2					
Sample: 237464	4 - MW-2		·				
Laboratory: Mid	dland				•		
•	ΈX		Analytical Method:	S 8021B		Prep Metho	d: S 5030B
QC Batch: 717	'24		Date Analyzed:	2010-07-14		Analyzed By	
Prep Batch: 614	51		Sample Preparation:	2010-07-14		Prepared By	7: AG
			RL				
Parameter	Flag		Result	Units	Di	lution	RL
Benzene			< 0.00100	mg/L		1	0.00100
Toluene			< 0.00100	mg/L		1	0.00100
Ethylbenzene			< 0.00100	mg/L		1	0.00100
Xylene			<0.00100	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate		Flag	Result Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (			0.0927 mg/L	1	0.100	93	67.8 - 126
4-Bromofluorober	zene (4-BFB)	•	0.0752 mg/L	1	0.100	75	51.1 - 128
							•
Sample: 237464	4 - MW-2						
Laboratory: Mid	dland						
	loride (IC)		Analytical Metho	od: E 300.0		Prep Me	
QC Batch: 719			Date Analyzed:	2010-07-16		Analyze	
Prep Batch: 614	.83		Sample Preparat	ion: 2010-07-15		Preparec	l By: AR

		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		. 16400	mg/L	1000	2.50

Analysis:       SO4 (IC)       Analytical Method:       E 300.0       Prep Method:       N//         QC Batch:       71930       Date Analyzed:       2010-07-16       Analyzed By:       AR         Prep Batch:       61483       Sample Preparation:       2010-07-15       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Sulfate       355       mg/L       100       2.5         Sample:       237464 - MW-2       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N//         QC Batch:       72039       Date Analyzed:       2010-07-26       Analyzed By:       AR         Prep Batch:       61516       Sample Preparation:       2010-07-16       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Total Dissolved Solids       31700       mg/L       100       10.         Sample:       237465 - MW-3       Laboratory:       Midland       Analyzed:       S010-07-14       Analyzed By:       AG         Prep Batch:       61451       Sample Preparation:       2010-07-14									
113-6403131A       Celero/ Rock Queen #11       Chaves County, NI         Sample: 237464 - MW-2         Laboratory:       Midland       Analyzadi       E 300.0       Prep Method:       N//         QC Batch:       71930       Date Analyzadi:       2010-07-16       Analyzad By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Sulfate       355       mg/L       100       2.5         Sample: 237464 - MW-2         Laboratory:       Midland       Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N//         QC Batch:       7039       Date Analyzed:       2010-07-26       Analyzed By:       AR         Prep Batch:       61516       Sample Preparation:       2010-07-16       Prep Method:       N//         QC Batch:       7039       Date Analyzed:       2010-07-26       Analyzed By:       AR         Prep Batch:       61516       Sample Preparation:       2010-07-16       Prep Method:       S 50301         QC Batch:       7039       Date Analyzed:       2010-07-16       Prep Method:       S 50301         QC Batch:       1724       Date			•			1		· ·	
Laboratory:Midland Analysis:SO4 (IC) S04 (IC)Analytical Method:E 300.0 2010-07-16Prep Method:N// 			· ·						
Analysis:       SO4 (IC)       Analytical Method:       E 300.0       Prep Method:       N//         QC Batch:       71930       Date Analyzed:       2010-07-16       Analyzed By:       AR         Prep Batch:       61483       Sample Preparation:       2010-07-15       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Sulfate       355       mg/L       100       2.5         Sample:       237464 - MW-2       Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N//         QC Batch:       72039       Date Analyzed:       2010-07-26       Analyzed By:       AR         Prep Batch:       61516       Sample Preparation:       2010-07-16       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Total Dissolved Solids       31700       mg/L       100       10.         Sample:       237465 - MW-3       Laboratory:       Midland       Analyzed:       S010-07-14       Analyzed By:       AG         Prep Batch:       61451       Sample Preparation:       2010-07-14	Sample: 237	7464 - MW-2	•			· .			
ParameterFlagResultUnitsDilutionRdSulfate355mg/L1002.5Sample: 237464 - MW-2Laboratory:MidlandAnalysis:TDSAnalytical Method:SM 2540CPrep Method:N//QC Batch:72039Date Analyzed:2010-07-26Analyzed By:ARPrep Batch:61516Sample Preparation:2010-07-16Prepared By:ARParameterFlagResultUnitsDilutionRITotal Dissolved Solids31700mg/L10010.1Sample:237465 - MW-3Laboratory:MidlandLaboratory:MidlandAnalysics:BTEXAnalytical Method:S 8021BPrep Method:S 5030IQC Batch:71724Date Analyzed:2010-07-14Analyzed By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGPrep Batch:61451Sample Preparation:10.001000.00100RL10.00100mg/L10.00100SurgeateFlagResultUnitsDilutionRIBenzene<0.00100	Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 71930		Date Analy	yzed:	2010-07-16		Analyzed	By: AR
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Sample: 237464 - MW-2         Laboratory:       Midland         Analysis:       TDS       Analytical Method:       SM 2540C       Prep Method:       N//         QC Batch:       72039       Date Analyzed:       2010-07-26       Analyzed By:       AR         Prep Batch:       61516       Sample Preparation:       2010-07-16       Prepared By:       AR         Parameter       Flag       Result       Units       Dilution       RI         Total Dissolved Solids       31700       mg/L       100       10.         Sample: 237465 - MW-3         Laboratory:       Midland       Analysis:       BTEX       Analytical Method:       S 8021B       Prep Method:       S 5030I         QC Batch:       71724       Date Analyzed:       2010-07-14       Analyzed By:       AG         Prep Batch:       61451       Sample Preparation:       2010-07-14       Prepared By:       AG         RL         Parameter       Flag       Result       Units       Dilution       RI         Benzene       <0.00100	Parameter	Flag	· •	Result		Units	. 3		$\mathbf{RL}$
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Sample: 237465 - MW-3Laboratory:MidlandAnalysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030FQC Batch:71724Date Analyzed:2010-07-14Analyzed By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGBenzene< 0.00100mg/L10.00100Toluene< 0.00100mg/L10.00100Ethylbenzene< 0.00100mg/L10.00100Xylene< 0.00100mg/L10.00100SurrogateFlagResultUnitsDilutionAmountSurrogateFlagResultUnitsDilutionAmountTrifluorotoluene (TFT)0.106mg/L10.10010667.8 - 126		ad Calida	Flag						RL
Laboratory:Midland Analysis:Analytical Method:S 8021BPrep Method:S 5030HQC Batch:71724Date Analyzed:2010-07-14Analyzed By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGParameterFlagResultUnitsDilutionRIBenzene<0.00100mg/L10.00100Toluene<0.00100mg/L10.00100Ethylbenzene<0.00100mg/L10.00100Xylene<0.00100mg/L10.00100SurrogateFlagResultUnitsDilutionRecoveryTrifluorotoluene (TFT)0.106mg/L10.10010667.8 - 126									
Analysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030HQC Batch:71724Date Analyzed:2010-07-14Analyzed By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGParameterFlagResultUnitsDilutionRIBenzene<0.00100	Sample: 237	'465 - MW-3		· .					
Analysis:BTEXAnalytical Method:S 8021BPrep Method:S 5030HQC Batch:71724Date Analyzed:2010-07-14Analyzed By:AGPrep Batch:61451Sample Preparation:2010-07-14Prepared By:AGParameterFlagResultUnitsDilutionRIBenzene<0.00100	Laboratory:	Midland					:		*
Prep Batch: $61451$ Sample Preparation: $2010-07-14$ Prepared By:AGRLRLDilutionRIParameterFlagResultUnitsDilutionRIBenzene $<0.00100$ mg/L1 $0.00100$ Toluene $<0.00100$ mg/L1 $0.00100$ Ethylbenzene $<0.00100$ mg/L1 $0.00100$ Xylene $<0.00100$ mg/L1 $0.00100$ SurrogateFlagResultUnitsDilutionAmountTrifluorotoluene (TFT) $0.106$ mg/L1 $0.100$ $106$ $67.8-126$	Analysis:	BTEX							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	QC Batch:								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Prep Batch:	61451		Sample Prepa	tration:	2010-07-14		Prepared By:	: AG
$\begin{array}{cccccccccccccccccccccccccccccccccccc$									
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Flag	<u> </u>				Di		RL
Ethylbenzene         <0.00100         mg/L         1         0.00100           Xylene         <0.00100									
Xylene<0.00100mg/L10.00100SpikePercentRecoverySurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT)0.106mg/L10.10010667.8 - 126	Ethylbenzene			< 0.00100	i i				0.00100
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT)0.106mg/L10.10010667.8 - 126	Xylene		<u> </u>	< 0.00100					0.00100
Trifluorotoluene (TFT)         0.106         mg/L         1         0.100         106         67.8 - 126	Surrogate		Flag	Result	Units	Dilution			Recovery Limits
4 Bromofluorohangana (4-RFR) 0.0853 mg/L 1 0.100 85 51.1 - 12	Trifluorotolue			0.106	mg/L		0.100	106	67.8 - 126
	4-Bromofluoro	obenzene (4-BFB)		0.0853	mg/L	1	0.100	85	51.1 - 128
				•					
				•					
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<b>D</b> (D)				10051410		
Report Date 115-6403131.	: August 5,-2010 A		Work Order: Celero/ Rock (			umber: 7 of 16 ez County, NM
Sample: 23	7465 - MW-3					
Laboratory:	Midland					
Analysis:	Chloride (IC)		Analytical Method:	: E 300.0	Prep 1	Method: N/A
QC Batch:	71930	·,	Date Analyzed:	2010-07-16		zed By: AR
Prep Batch:	61483		Sample Preparation	n: 2010-07-15	Prepa	red By: AR
			RL			
Parameter	Flag		Result	Units	Dilution	$\mathbf{RL}$
Chloride			3260	mg/L	100	2.50
Sample: 23	7465 - MW-3					
Laboratory:	Midland		·			
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	· Prep 1	Method: N/A
QC Batch:	71930		Date Analyzed:	2010-07-16	Analy	zed By: AR
Prep Batch:	61483	•	Sample Preparation:	2010-07-15	Prepa	red By: AR
D	Tēla a		RL Desult	TT:: : t =	Dilution	RL
Parameter Sulfate	Flag	· .	Result 52.8	Units	Dilution5	2.50
Juliate			04.0	mg/L		2.00
Sample: 23'	7465 - MW-3					1
-				• •		
Laboratory:			A 1 (F 1 5 F (1 1	Che or loc		
Analysis:	TDS		Analytical Method:	SM 2540C		Method: N/A
QC Batch: Prep Batch:	72039 61516		Date Analyzed: Sample Preparation:	2010-07-26 2010-07-16		zed By: AR red By: AR
Frep Datch:	01310		Sample Freparation:	2010-07-10	гтера	ieu by. An
			$\cdot$ RL			<u> </u>
Parameter		Flag	Result	Units	Dilution	RL
Total Dissolv	ed Solids		4190	mg/L	10	10.0
			•			
Sample: 23'	7466 - MW-4					
Laboratory:	Midland					2
Analysis:	BTEX	, <i>•</i>	5	5 8021B	Prep Met	
QC Batch:	71724		•	2010-07-14	Analyzed	
Prep Batch:	61451	•	Sample Preparation: 2	2010-07-14	Prepared	By: AG
			$\operatorname{RL}$			
Parameter	. Flag		Result	Units	Dilution	RL
Benzene			<0.00100	mg/L	1	0.00100
Toluene			<0.00100	mg/L	1 acontinued	0.00100
					continued	

				÷				
								•
Report Date: Aug 115-6403131A	ust 5, 2010			ork Order: ero/ Rock (	10071416 Queen #11			nber: 8 of 16 County, NM
sample 237466 con	tinued		· .		*. •			· ·
			RL					
Parameter Ethylbenzene	Flag		Result <0.00100		Units mg/L	Dil	ution 1	RL 0.00100
Xylene			< 0.00100		mg/L	•	1	0.00100
Surrogate	:	Flag	Result	Units	Dilution	.Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (T		1100	0.0995	mg/L	1	0.100	100	67.8 - 126
4-Bromofluorobenz	ene (4-BFB)		0.0786	mg/L	1	0.100	79	51.1 - 128
Sample: 237466	- MW-4				• •			
Laboratory: Lubb	oock ride (IC)		Analytic Date An	al Method: alyzed:	: E 300.0 2010-08-05	•	Prep Me Analyzeo	
Prep Batch: 62048			Sample l	Preparation			Preparec	
Parameter	Flag		RL Result		Units	'n	ilution	RL
Chloride	Plag	· · · · · · · · · · · · · · · · · · ·	<u>857</u>		mg/L	D	100	2.50
Sample:237466Laboratory:MidlaAnalysis:SO4QC Batch:71930Prep Batch:61483	and (IC) )		Analytical Date Analy Sample Pro	yzed:	E 300.0 2010-07-16 2010-07-15		Prep Me Analyzec Preparec	By: AR
			$\mathbf{RL}$					
Parameter Sulfate	Flag		Result		Units	. D	ilution	RL 2.50
Sullate			47.4		mg/L	<u> </u>	5	2.30
		·						
Sample: 237466 -								,
Laboratory: Midla Analysis: TDS QC Batch: 72039 Prep Batch: 61516	•		Analytical Date Analy Sample Pre	zed:	SM 2540C 2010-07-26 2010-07-16		Prep Me Analyzed Prepared	l By: AR
			•	-			• •	-
Parameter		Flag	R	RL . esult	Units		Dilution	RL
Total Dissolved Sol	ids			1610	mg/L	······································	10	10.0
		•						
						•		

Report Date: August 5, 115-6403131A	, 2010			r: 10071416 k Queen #11	Page Number: 9 of 16 Chavez County, NM			
Method Blank (1)	QC Batch: 71724					- 	-	
QC Batch: 71724 Prep Batch: 61451		Date Anal QC Prepar		2010-07-14 2010-07-14			ed By: AG ed By: AG	
Parameter	Flag		Re	MDL esult	Units		RL	
Benzene Toluene Ethylbenzene Xylene			<0.00 <0.00 <0.00 <0.00	0600 0800	mg/L mg/L mg/L mg/L	• •	0.001 0.001 0.001 0.001	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (		0.0973 0.0848	mg/L mg/L	1 1	0.100 0.100	97 85	70.2 - 118 47.3 - 116	
QC Batch: 71930 Prep Batch: 61483		Date Anal QC Prepa	•	2010-07-16 2010-07-15 DL		Analyze Prepare	ed By: AR ed By: AR	
Parameter	Flag		Resu 0.42	ılt	Units mg/L		RL 2.5	
	·				0			
							¢	
Method Blank (1)	QC Batch: 71930					- Analyze	ed By: AR ed By: AR	
Method Blank (1) QC Batch: 71930 Prep Batch: 61483	QC Batch: 71930	Date Anal QC Prepar		2010-07-16 2010-07-15		Prepare	u by: An	
QC Batch: 71930	QC Batch: 71930 Flag			2010-07-15 DL ult	Units mg/L	Prepare	$\frac{\text{RL}}{2.5}$	
QC Batch: 71930 Prep Batch: 61483 Parameter	· · ·		ration: 2 ME Resu	2010-07-15 DL ult	Units mg/L	Prepare	RL	
QC Batch: 71930 Prep Batch: 61483 Parameter	· · ·		ration: 2 ME Resu	2010-07-15 DL ult		Prepare	RL	
QC Batch: 71930 Prep Batch: 61483 Parameter Sulfate	Flag		ration: 1 ME Resu <0.1	2010-07-15 DL ult		Prepare Analyze Prepare	RL 2.5 ed By: AR	

		-										
Report Date: 115-6403131A	August 5, 2010				Order: 1007 Rock Quee				P		imber: 1 ez Count	
Method Bla	.nk (1) QC B	Batch: 72386										
•	72386 62048			Analyzec Preparatic		-08-05 -08-04					yzed By ared By:	
Parameter		Flag			MDL Result			Ur	nits			RL
Chloride				<	<0.0402			mg				2.5
•	72039 61516	Durali	QC P	Analyzed Preparatio	on: 2010-0						vzed By: ared By:	AR
		Dupli	cate	San	nple							RPD
Param		Rest				Units		Dilutio	n	RPD	)	Limit
Total Dissolve		Rest 1090	ult )00	Res 59	sult 910	mg/L	1	100	n	7	)	Limit 10
Total Dissolve Total Dissolve Laboratory ( QC Batch:	ed Solids Control Spike (1 71724	1090 1090	ult 000 000 Date	Res 59 102 Analyzed	sult	mg/L mg/L : : :	1		<u>.</u>	7 7 Analy	vzed By:	Limit 10 10 AG
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch:	ed Solids Control Spike (1	1090 1090 LCS-1) LCS	ult )00 Dote QC P S	Res 59 102 Analyzed Preparatio	sult 2000 1: 2010-( 2010-( 2010-(	mg/L mg/L 07-14 07-14 Spike		100 100	ix	7 7 Analy Prepa	vzed By: ared By: F	Limit 10 10 AG AG AG Rec.
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch: Param	ed Solids Control Spike (1 71724	1090 1090 LCS-1) LCS Resu	ult 000 Date QC P S Ilt	Res 59 102 Analyzed reparatio Units	sult 2000 1: 2010-0 2010-0 2010-0 Dil.	mg/L mg/L 07-14 07-14 Spike Amou	se int	100 100 Matri Resu	ix lt	7 7 Analy Prepa Rec.	vzed By: ared By: F L	Limit 10 10 AG AG AG Rec. imit
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch:	ed Solids Control Spike (1 71724	1090 1090 LCS-1) LCS Resu 0.10	ult 000 Date QC P S Ilt	Res 59 102 Analyzed reparatio Units mg/L	sult 2000 1: 2010-0 2010-0 2010-0 Dil. 1	mg/L mg/L 07-14 07-14 Spike	te int0	100 100	ix lt 600	7 7 Analy Prepa	vzed By: ared By: F L 82.9	Limit 10 10 AG AG AG Rec.
Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Param Benzene Toluene Ethylbenzene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.099 0.094	ult 000 000 Date QC P S 11t 00 92 49	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L	sult 010 0000 1: 2010-( on: 2010-( Dil. 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100		100 100 Matri Resu <0.000 <0.000 <0.000	ix lt 600 600 800	7 7 Analy Prepa Rec. 100 99 95	vzed By: ared By: F L 82.9 82.7 78.8	Limit 10 10 AG AG AG AG AG () - 108 7 - 107 3 - 106
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.09 0.09 0.28	ult 000 000 Date QC P S 11t 00 92 49 37	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L mg/L	sult 2000 l: 2010-( 2010-( 2010-( Dil. 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.100 0.300	xe int 0 0 0 0	100 100 Matri Resu <0.000 <0.000 <0.000 <0.000	ix lt 600 600 800 1767	7 7 Analy Prepa <u>Rec.</u> 100 99	vzed By: ared By: F L 82.9 82.7 78.8	Limit 10 10 AG AG AG Rec. imit 9 - 108 7 - 107
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.09 0.09 0.28 e spike result.	ult 000 000 Date QC P S 11t 00 92 49 37	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L mg/L	sult 2000 1: 2010-( on: 2010-( Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.100 0.300 xe and sp	e int 0 0 0 0 pike dup	100 100 Matri Resu <0.000 <0.000 <0.000 <0.000	ix lt 600 600 800 1767 result.	7 7 Analy Prepa Rec. 100 99 95 96	vzed By: ared By: F L 82.9 82.7 78.8	Limit 10 10 AG AG AG AG - 107 3 - 106 3 - 106
Total Dissolve Total Dissolve Laboratory QC Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.09 0.28 e spike result. LCSD	ult 000 000 Date QC P S 11t 00 92 49 37	Res 59 102 Analyzed Preparatio Units mg/L mg/L mg/L mg/L is based of	sult 2000 1: 2010-( 2010-( 2010-( Dil. 1 1 1 1 1 1 5 5 5 5 5 5 5 5 5 5 5 5 5	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.100 0.300 ke and sp Ma	xe int 0 0 0 0	100 100 Matri Resu <0.000 <0.000 <0.000 <0.000	ix lt 600 600 800 1767	7 7 Analy Prepa <u>Rec.</u> 100 99 95 96 c.	vzed By: ared By: F L 82.9 82.7 78.8	Limit 10 10 AG AG AG C: imit 9 - 108 7 - 107 3 - 106
Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.09 0.09 0.09 0.28 e spike result. LCSD Result 0.101	ult 000 000 Date QC P S 1lt 00 92 49 37 RPD 1 Units mg/L	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L is based o Dil.	sult 2000 1: 2010-0 2010-0 2010-0 Dil. 1 1 1 1 1 1 1 1 2010-0 Dil. 1 1 1 1 1 1 1 1 1 1 0 nthe spike Amount 0.100	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.300 ke and sp Ma Res <0.00	te int 0 0 0 0 pike dup atrix sult 00600	100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101	ix lt 600 600 9800 9767 result. Ree Lim 82.9 -	7 7 Analy Prepa Rec. 100 99 95 96 c. nit 108	vzed By: ared By: F L 82.9 82.7 78.8 79.3 RPD 1	Limit 10 10 AG AG AG AG Rec: imit 2 - 108 7 - 107 3 - 106 3 - 106 RPD Limit 20
Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS Resu 0.10 0.09 0.09 0.09 0.28 e spike result. LCSD Result 0.101 0.101	ult 000 000 Date QC P S 1lt 00 92 49 37 RPD Units mg/L mg/L	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L mg/L is based o Dil. 1 1	sult 2000 1: 2010-0 2: 2010-0 2: 2010-0 Dil. 1 1 1 1 1 1 1 1 1 2: 2010-0 0: 2010-0	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.300 0.300 xe and sp Ma Res <0.00 <0.00	te int 0 0 0 0 pike dup atrix sult 00600 00600	100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101 101	ix lt 1600 600 9800 9767 result. Re Lim 82.9 - 82.7 -	7 7 8 9 9 95 96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	vzed By: ared By: E 82.9 82.7 78.8 79.3 RPD 1 2	Limit 10 10 AG AG AG Rec: imit - 108 7 - 107 3 - 106 3 - 106 RPD Limit 20 20
Total Dissolve Total Dissolve <b>Laboratory</b> QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene Ethylbenzene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS-1) LCS Resu 0.10 0.09 0.28 e spike result. LCSD Result 0.101 0.101 0.101 0.101 0.0967	ult 000 000 Date QC P S 1lt 00 92 49 87 RPD Units mg/L mg/L	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L is based o Dil. 1 1 1	sult 2000 d: 2010-0 2010-0 2010-0 Dil. 1 1 1 1 1 1 1 201 the spike Spike Amount 0.100 0.100 0.100	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.100 0.100 0.100 0.300 ce and sp Ma Res <0.00 <0.00 <0.00	te int 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101 101 97	ix lt 600 600 800 767 result. Ret Lim 82.9 - 82.7 - 78.8 -	7 7 8 9 9 95 96 0 0 0 99 95 96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	vzed By: ared By: F L 82.9 82.7 78.8 79.3 RPD 1 2 2	Limit 10 10 AG AG AG AG - 108 7 - 107 3 - 106 3 - 106 - 106 - 106 - 20 20 20 20
Total Dissolve Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451 ery is based on the	1090 1090 LCS-1) LCS-1) LCS Resu 0.10 0.09 0.28 e spike result. LCSD Result 0.101 0.101 0.101 0.0967 0.292	ult 000 000 Date QC P S 1lt 00 92 49 87 RPD mg/L mg/L mg/L	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L is based o Dil. 1 1 1 1 1	sult 2000 1: 2010-( 2010-( 2010-( Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.000 0.100 0.000000	e int 0 0 0 pike dup trix sult 00600 00800 00767	100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101 101 97 97	ix lt 600 600 800 767 result. Ret Lim 82.9 - 82.7 - 78.8 - 79.3 -	7 7 8 9 9 95 96 0 0 0 99 95 96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	vzed By: ared By: E 82.9 82.7 78.8 79.3 RPD 1 2	Limit 10 10 AG AG AG Rec: imit - 108 7 - 107 3 - 106 3 - 106 RPD Limit 20 20
Total Dissolve Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451	1090 1090 LCS-1) LCS-1) LCS-1) LCS Resul 0.10 0.094 0.28 e spike result. LCSD Result 0.101 0.101 0.101 0.101 0.292 e spike result.	ult 000 Date QC P S 1lt 00 92 49 37 RPD mg/L mg/L mg/L RPD	Res 59 102 Analyzed Preparatio Units mg/L mg/L mg/L is based of Dil. 1 1 1 1 1 1 1 1 1	sult 2000 1: 2010-( 2010-( 2010-( Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.000 0.100 0.000000	te int 0 0 0 pike dup trix sult 00600 00800 00767 pike dup	100 100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101 101 97 97 plicate n	ix lt 600 600 800 1767 result. Ree Lim 82.9 - 82.7 - 78.8 - 79.3 - result.	7 7 8 9 9 9 9 9 5 9 6 0 7 108 107 106 106	22ed By: ared By: F L 82.9 82.7 78.8 79.3 RPD 1 2 2 2 2	Limit 10 10 AG AG AG AG AG - 107 3 - 106 3 - 106 3 - 106 - 107 2 - 107 2 - 107 - 20 20 20 20
Total Dissolve Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene Ethylbenzene Xylene	ed Solids Control Spike (1 71724 61451 ery is based on the	1090 1090 LCS-1) LCS-1) LCS Resu 0.10 0.09 0.28 e spike result. LCSD Result 0.101 0.101 0.101 0.0967 0.292	ult 000 000 Date QC P S 1lt 00 92 49 87 RPD Mg/L mg/L RPD S	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L is based o Dil. 1 1 1 1 1	sult 2000 1: 2010-( 2010-( 2010-( Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.000 0.100 0.000000	e int 0 0 0 pike dup trix sult 00600 00800 00767	100 100 100 100 Matri Resu <0.000 <0.000 <0.000 <0.000 <0.000 plicate n Rec. 101 101 97 97 plicate n	ix lt 600 600 800 767 result. Ret Lim 82.9 - 82.7 - 78.8 - 79.3 -	7 7 8 9 9 95 96 0 0 0 99 95 96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	vzed By: ared By: F L 82.9 82.7 78.8 79.3 RPD 1 2 2 2 2	Limit 10 10 AG AG AG AG - 108 7 - 107 3 - 106 3 - 106 - 106 - 106 - 20 20 20 20
Total Dissolve Total Dissolve Total Dissolve Laboratory ( QC Batch: Prep Batch: Prep Batch: Param Benzene Toluene Ethylbenzene Xylene Percent recove Param Benzene Toluene Ethylbenzene Xylene Percent recove Surrogate Trifluorotoluer	ed Solids Control Spike (1 71724 61451 ery is based on the	1090 1090 LCS-1) LCS-1) LCS-1) LCS-1) 0.094 0.094 0.094 0.28 e spike result. LCSD Result 0.101 0.101 0.101 0.101 0.101 0.292 e spike result. LCSD Result 0.101 0.292 e spike result. LCSD	ult 1000 1000 1000 1000 1000 11t 100 11t 100 100	Res 59 102 Analyzed reparatio Units mg/L mg/L mg/L is based o Dil. 1 1 1 1 1 1 1 1 1 2 1 1 2 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1	sult 2000 1: 2010-0 2: 2010-0 2: 2010-0 Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L mg/L 07-14 07-14 Spike Amou 0.100 0.000 0.100 0.000 0.100 0.000000	e int 0 0 0 pike dup trix sult 00600 00600 00800 00767 pike dup Spik	100 100 100 100 100 8 8 8 8 8 9 0 9 0 100	ix lt 600 600 800 767 result. 82.9 - 82.7 - 78.8 - 79.3 - result. LCS	7 7 8 9 9 9 9 9 9 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 9 6 2 5 10 7 10 9 9 9 9 9 9 5 9 2 5 9 6 2 5 10 10 10 10 10 10 10 10 10 10 10 10 10	vzed By: ared By: F L 82.9 82.7 78.8 79.3 RPD 1 2 2 2 2 F L 67.3	Limit 10 10 AG AG AG AG AG 20 20 20 Rec.

Report Date: August 5, 2010		Work Order: 10071416						e Number	
115-6403131A	Celero/ Rock Queen #11						· (	Chavez Co	unty, N
Laboratory Control Spike (L	2 <b>CS-1)</b>							•	
QC Batch: 71930 Prep Batch: 61483	•		nalyzed: eparation:	2010-07-1 2010-07-1		2		nalyzed E repared E	
	Ť	CS			Spike	Ma	trix		Rec.
Param	Re	sult	Units	Dil.	Amount	Res	sult	Rec.	Limi
Chloride	. 25	5.8	mg/L	1	25.0	<0.	265	103	90 - 1
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
	LCSD			Spike	Matrix		Rec.		RP
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Lim
Chloride	26.1	mg/L	1	25.0	< 0.265	104	90 - 110	1	20
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.	• .	
Laboratory Control Spike (L	CS-1)	•							
QQ D_+_+, 71020		Data A		2010-07-1		·		nolward D	···· A 1
QC Batch: 71930 Prep Batch: 61483	·		nalyzed:	2010-07-1		۰.		nalyzed E repared B	
rep Daten. 01405		QC Preparation: 2010-07-15					· •	repared D	y. 111
	-	~~			0.11				P
Damana		CS sult	Units	Dil.	Spike Amount	Mat Res		Rec.	Rec. Limit
Param Sulfate		3.1	mg/L	<u> </u>	Amount 25.0			<u>nec.</u> 92	90 - 1
Percent recovery is based on the									00 1.
reicent recovery is based on the	- ·	IU D IS	Daseu on			pilcate to	-		
	LCSD		· .	Spike	Matrix	-	Rec.		RP
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Lim
Sulfate	22.7	mg/L	1	25.0	< 0.177	91	90 - 110	2	20
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	nd spike du	plicate re	esult.		•
									•
Laboratory Control Spike (L	μCS-2)		- ,						
QC Batch: 72039		Date A	nalyzed:	2010-07-2	26		А	nalyzed B	y: AF
Prep Batch: 61516			paration:	2010-07-1				repared B	
		•		-					
	· T.(	ĊS	· .	•	Spike	Mat	rix	÷	Rec.
Param		sult	Units	Dil.	Amount	Res		Rec.	Limit
Total Dissolved Solids		030	mg/L	1	1000	<9.		103	90 - 11
Percent recovery is based on the	spike result.	RPD is		the spike a	nd spike du	plicate re	esult.		
			•			-	•		יחה
Panana	LCSD <sup>*</sup>	TImit-	Dil.	Spike Amount	Matrix Result	Rog	Rec. Limit	RPD	RPI
Param Total Dissolved Solids	Result 1050	Units mg/L	$\frac{Dn}{1}$	1000	<9.75	Rec. 105	1000000000000000000000000000000000000		 
								<u> </u>	
	snike result	KPUS	uased on 1	LOE SDIKE A	ua sdike dii	plicate re	esuit.		
Percent recovery is based on the	spine result.			one spine a	na spine an	•			

. . . .

Report Date: August 5, 2 115-6403131A	010		(		rder: 10071 Rock Queen			ł			12 of 16 nty, NM
Laboratory Control Sp	ike (LCS	5-1)									
QC Batch: 72386 Prep Batch: 62048				Analyzec reparatio						lyzed B bared B	
			CS			Spike		atrix			Rec.
Param	······		sult	Units	Dil.	Amount		sult	Rec		Limit
Chloride			3.9	mg/L	1	25.0		0402	96		90 - 110
Percent recovery is based of	on the spi	ike result.	RPD is	s based o	on the spike	and spike d	uplicate	result.			
		LCSD			Spike	Matrix.		Re	e.		RPD
Param		Result	Units	Dil.	Amount		Rec.	Lin		RPD	Limit
Chloride		24.3	mg/L		25.0	<0.0402	97	90 -		2	20
Percent recovery is based of	on the spi	ike result			n the snike	and spike d	unlicate	result			
QC Batch: 71724			Date A	Analyzed	: 2010-07	7-14			Anal	vzed By	v: AG
			QC Pr	eparatio						ared By	
	•		-			7-14				ared By	r: AG
Prep Batch: 61451	•	M	5.	eparatio	n: 2010-07	7-14 Spike	Matr		Prep		r: AG Rec.
Prep Batch: 61451 Param	: :	Res	S . 1lt	eparatio Units	n: 2010-07 Dil.	7-14 Spike Amount	Resu	ılt	Prepa Rec.		r: AG Rec. Limit
Prep Batch: 61451 Param Benzene		Rest 0.10	S 1lt 00	eparatio Units mg/L	n: 2010-07 Dil. 1	7-14 Spike Amount 0.100	Resu 0.003	ılt31	Prepa Rec. 97	77	7: AG Rec. Limit 7.9 - 114
Prep Batch: 61451 Param Benzene Toluene	:	Res	5 1lt 00 00	units mg/L mg/L	n: 2010-07 Dil.	7-14 Spike Amount	Resu	ilt 31 0600	Prepa Rec.	77 78	r: AG Rec.
•	1 2	Rest 0.10 0.08 0.06	5 1lt 00 00 95	eparatio Units mg/L	n: 2010-07 Dil. 1 1	7-14 Spike <u>Amount</u> 0.100 0.100	Resu 0.003 <0.000	ilt 31 )600 )800	Prep. Rec. 97 80	77 78 75	<ul> <li>AG</li> <li>Rec.</li> <li>Limit</li> <li>7.9 - 114</li> <li>8.3 - 111</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene	2	Rest 0.10 0.08 0.06 0.21	5 1lt 00 00 95 11	eparatio Units mg/L mg/L mg/L mg/L	n: 2010-07 Dil. 1 1 1 1 1	7-14 Spike <u>Amount</u> 0.100 0.100 0.100 0.300	Resu 0.000 <0.000 <0.000 <0.000	llt 31 )600 )800 )767	Prep. Rec. 97 80 70	77 78 75	<ul> <li>Rec.</li> <li>Limit</li> <li>7.9 - 114</li> <li>8.3 - 111</li> <li>5.3 - 110</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene	2	Ress 0.10 0.08 0.06 0.2 ke result.	5 1lt 00 00 95 11	eparatio Units mg/L mg/L mg/L mg/L	n: 2010-07 Dil. 1 1 1 1 1 0n the spike	7-14 Spike Amount 0.100 0.100 0.100 0.300 and spike d	Resu 0.000 <0.000 <0.000 <0.000	llt 31 0600 0800 0767 result.	Prep. Rec. 97 80 70 70	77 78 75	Rec. Limit 7.9 - 114 3.3 - 111 5.3 - 110 5.7 - 109
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based o	2	Rest 0.10 0.08 0.06 0.21	5 1lt 00 00 95 11	eparatio Units mg/L mg/L mg/L mg/L	n: 2010-07 Dil. 1 1 1 1 1	7-14 Spike <u>Amount</u> 0.100 0.100 0.100 0.300	Resu 0.000 <0.000 <0.000 <0.000	llt 31 )600 )800 )767	Prep. Rec. 97 80 70 70 20.	77 78 75	<ul> <li>Rec.</li> <li>Limit</li> <li>7.9 - 114</li> <li>8.3 - 111</li> <li>5.3 - 110</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based o Param	2	Ress 0.10 0.08 0.06 0.2 ike result. MSD	5 1lt 00 00 95 11 RPD is	Units mg/L mg/L mg/L mg/L s based c	n: 2010-07 Dil. 1 1 1 1 1 0n the spike Spike	7-14 Spike Amount 0.100 0.100 0.100 0.300 and spike d Matrix	Resu 0.000 <0.000 <0.000 <0.000 uplicate	llt 31 )600 )800 )767 result. Re	Prep. <u>Rec.</u> 97 80 70 70    	77 78 75 75	Rec. Limit 7.9 - 114 3.3 - 111 5.3 - 110 5.7 - 109 RPD
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param	2	Ress 0.10 0.08 0.06 0.2 ke result. MSD Result	5 1lt 00 00 95 11 RPD is Units	units mg/L mg/L mg/L mg/L s based c Dil.	n: 2010-07 Dil. 1 1 1 n the spike Spike Amount	7-14 Spike Amount 0.100 0.100 0.100 0.300 and spike d Matrix Result	Resu 0.00 <0.000 <0.000 <0.000 uplicate Rec.	llt 31 )600 )800 )767 result. Re Lin	Prep. <u>Rec.</u> 97 80 70 70      	77 78 75 75 RPD	Rec. Limit 7.9 - 114 3.3 - 111 5.3 - 110 5.7 - 109 RPD Limit
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based o Param Benzene Toluene Ethylbenzene	2 on the spi 3 4	Ress 0.10 0.08 0.06 0.2 ike result. MSD Result 0.0908 0.0719 0.0623	S 1lt 00 95 11 RPD is Units mg/L mg/L	Units mg/L mg/L mg/L mg/L s based c Dil. 1	n: 2010-07 Dil. 1 1 1 1 5 n the spike Spike Amount 0.100 0.100 0.100	7-14 Spike <u>Amount</u> 0.100 0.100 0.300 and spike d Matrix <u>Result</u> 0.0031 <0.000600 <0.000800	Result           0.000           <0.000	llt 31 )600 )800 )767 result. Re Lin 77.9 - 78.3 - 75.3 -	Prep. Rec. 97 80 70 70 20 20 20 20 20 20 20 20 20 2	77 78 75 75 8 75 75 8 75 10 11 11	<ul> <li>Rec. Limit</li> <li>1.9 - 114</li> <li>3.3 - 111</li> <li>5.3 - 110</li> <li>5.7 - 109</li> <li>RPD Limit</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene Ethylbenzene	2 on the spi 3	Ress 0.10 0.08 0.06 0.2 ke result. MSD Result 0.0908 0.0719	S 1lt 00 00 95 11 RPD is Units mg/L mg/L	Units mg/L mg/L mg/L mg/L s based c Dil. 1 1	n: 2010-07 Dil. 1 1 1 2 5 5 9 1 5 9 1 5 9 1 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7-14 Spike <u>Amount</u> 0.100 0.100 0.300 and spike d Matrix <u>Result</u> 0.0031 <0.000600	Result           0.000           <0.000	llt 31 )600 )800 )767 result. Re Lin 77.9 - 78.3 -	Prep. Rec. 97 80 70 70 20 20 20 20 20 20 20 20 20 2	77 78 75 75 <b>RPD</b> 10 11	<ul> <li>Rec. Limit</li> <li>9 - 114</li> <li>3 - 111</li> <li>3 - 110</li> <li>7 - 109</li> <li>RPD Limit</li> <li>20</li> <li>20</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based o Param Benzene Toluene Ethylbenzene Xylene Xylene	2 on the spi 3 4 5	Ress 0.10 0.08 0.06 0.2 ike result. MSD Result 0.0908 0.0719 0.0623 0.189	S 1lt 100 00 95 11 RPD is Units mg/L mg/L mg/L mg/L	Units mg/L mg/L mg/L mg/L based o Dil. 1 1 1 1 1	n: 2010-07 Dil. 1 1 1 1 1 1 0 n the spike Spike Amount 0.100 0.100 0.100 0.300	7-14 Spike Amount 0.100 0.100 0.100 0.300 and spike d Matrix Result 0.0031 <0.000600 <0.000800 <0.000767	Result           0.000           <0.000	llt 31 0600 0800 0767 result. Re Lin 77.9 - 78.3 - 75.3 - 75.3 - 75.7 -	Prep. Rec. 97 80 70 70 20 20 20 20 20 20 20 20 20 2	77 78 75 75 8 75 75 8 75 10 11 11	<ul> <li>Rec. Limit</li> <li>7.9 - 114</li> <li>3.3 - 111</li> <li>5.3 - 110</li> <li>5.7 - 109</li> <li>RPD Limit</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based of	2 on the spi 3 4 5	Ress 0.10 0.08 0.06 0.22 ke result MSD Result 0.0908 0.0719 0.0623 0.189 ke result:	S 1lt 100 00 95 11 RPD is mg/L mg/L mg/L mg/L MS	Units mg/L mg/L mg/L based of Dil. 1 1 1 1 5 based of MSD	n: 2010-07 Dil. 1 1 1 1 1 1 on the spike Spike Amount 0.100 0.100 0.100 0.300 on the spike	7-14 Spike Amount 0.100 0.100 0.300 and spike d Matrix Result 0.0031 <0.000600 <0.000800 <0.000767 and spike d S	Result           0.000           <0.000	llt 31 0600 0800 0767 result. Re Lin 77.9 - 78.3 - 75.3 - 75.3 - 75.7 -	Prep. Rec. 97 80 70 70 ec. nit 111 110 109 MSI	77 78 75 75 <u>RPD</u> 10 11 11 11	<ul> <li>AG</li> <li>Rec.</li> <li>Limit</li> <li>29 - 114</li> <li>3.3 - 111</li> <li>3.3 - 110</li> <li>5.7 - 109</li> <li>RPD</li> <li>Limit</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> <li>Rec.</li> </ul>
Prep Batch: 61451 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based o Param Benzene Toluene Ethylbenzene Xylene Xylene	2 on the spi 3 4 5 on the spi	Ress 0.10 0.08 0.06 0.22 ke result. MSD Result 0.0908 0.0719 0.0623 0.189 ke result.	S 1lt 00 95 11 RPD is mg/L mg/L mg/L mg/L RPD is	Units mg/L mg/L mg/L based of Dil. 1 1 1 1 1 5 based of	n: 2010-07 Dil. 1 1 1 1 1 1 0 n the spike Spike Amount 0.100 0.100 0.100 0.300	7-14 Spike Amount 0.100 0.100 0.300 and spike d Matrix Result 0.0031 <0.000600 <0.000800 <0.000767 and spike d S	Result           0.000           <0.000	llt 31 0600 0800 0767 result. Re Lin 77.9 - 78.3 - 75.3 - 75.3 - 75.7 - result.	Prep. Rec. 97 80 70 70 ec. nit - 114 - 111 - 110 - 109	77 78 75 75 <b>RPD</b> 10 11 11 11 11	<ul> <li>r: AG</li> <li>Rec.</li> <li>Limit</li> <li>7.9 - 114</li> <li>3.3 - 111</li> <li>5.3 - 110</li> <li>5.7 - 109</li> <li>RPD</li> <li>Limit</li> <li>20</li> <li>20</li> <li>20</li> <li>20</li> </ul>

Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>2</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>3</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly. <sup>4</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

<sup>5</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

<sup>6</sup>Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

<sup>7</sup>Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

IS MSD ec. Rec. 2 52 Analyze Prepare x t Rec. 5 ult.	•
ec. Rec. 2 52 Analyze Prepare x t Rec. 5	Limit 60.1 - 135 ed By: AR ed By: AR Rec.
2 52 Analyze Prepare x t Rec. 5	60.1 - 135 ed By: AR ed By: AR Rec.
Analyza Prepara x t Rec. 5	ed By: AR ed By: AR Rec.
Prepare x t Rec. 5	ed By: AR Rec.
Prepare x t Rec. 5	ed By: AR Rec.
Prepare x t Rec. 5	ed By: AR Rec.
x t Rec. 5	Rec.
t Rec.	
t Rec.	
5	
	90 - 110
u10.	
Rec.	RPD
	PD Limit
90 - 110 ult.	20.
Analyze Prepare	•
x	Rec.
lt Rec.	Limit
80	90 - 110
ult.	
Rec	RPD
	PD Limit
	3 20
ult.	
	zed By: SS
-	red By: SS
-	90 - 110 Ilt. Analy:

<sup>8</sup>Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample. <sup>9</sup>Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.

<sup>10</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>11</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date: August 115-6403131A	5, 2010				der: 1007141 ock Queen #					14 of 1 inty, NM
- -		M	IS		,	Spike	Matrix	κ.		Rec.
Param				Units	Dil.	Amount	Result		ec.	Limit
Chloride	·	34	70	mg/L	100	2500	1140	9	3	90 - 110
Percent_recovery is bas	ed on the spi	ke result.	RPD is	based or	n the spike a	nd spike dup	licate resu	ılt.		
e i i		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		3440	mg/L	100	2500	1140	92 · 9	0 - 110	1	20
Percent recovery is bas	ed on the spi	ke result.	RPD is	based or	n the spike a	nd spike dup	licate resu	ılt.		
						·				
Standard (CCV-1)										
QC Batch: 71724			Date Ar	nalyzed:	2010-07-14			Ana	lyzed B	y: AG
	•		CCVs		CCVs	CCVs	P	ercent		
			True		Found	Percent		covery		Date
	<u> </u>	Inits	Conc.		conc.	Recovery		imits		nalyzed
Benzene Toluene		ng/L	0.100 0.100		0.0986 0.0974	99 97		) - 120 ) - 120		10-07-14 10-07-14
Toluene Ethylbenzene		ng/L ng/L	0.100		0.0974 0.0912	97 91		) - 120 ) - 120		10-07-14
Xylene		ng/L	0.300		0.274	91 91		- 120		10-07-14
Standard (CCV-2)									•	
QC Batch: 71724			Date An	alyzed:	2010-07-14	. ·		Ana	lyzed B	y: AG
			CCVs		CCVs	CCVs	Pe	ercent		
			True		Found	Percent		covery		Date
	4	nits	Conc.		Conc.	Recovery		imits		nalyzed
Benzene Toluene		ig/L	0.100		0.0999	100		- 120 - 120		10-07-14 10-07-14
Ethylbenzene		ıg/L ıg/L	0.100		0.100 0.0966	100 97		- 120 - 120		10-07-14
Xylene		ig/L	0.300		0.292	97		- 120		10-07-14
					· · · · · · · · · · · · · · · · · · ·					
Standard (CCV-3)										
				• l• ···· 1	0010 07 1 (			*	1	
QC Batch: 71724			Date An	iaryzed:	2010-07-14			Ana	lyzed B	y: AG
			CCVs		CCVs	CCVs		ercent		
<b>-</b>		· •.	True		Found	Percent		covery		Date
		nits	Conc. 0.100		Conc. 0.0992	Recovery 99		imits - 120		nalyzed
Benzene Toluene		ıg/L ıg/L	0.100		0.0992 0.0982	99 98		- 120 - 120		10-07-14 10-07-14
Ethylbenzene		ig/L	0.100		0.0982	98 94		- 120		10-07-14
Xylene	m	ig/L	0.300		0.283	94		- 120		10-07-14
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Report Date 115-6403131	e: August 5, 2 IA	2010		ork Order: 100 ero/ Rock Que			umber: 15 of 16 vez County, NM
Standard (	ICV-1)			<u> </u>		· · · ·	<u></u>
QC Batch:			Date Ana	alyzed: 2010-0	)7-16	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
•		<b>**</b> •.	True	Found	Percent	Recovery	Date
Param Chloride	Flag	Units mg/L	<u>Conc.</u> 25.0	Conc. 26.9	Recovery 108	Limits 90 - 110	Analyzed 2010-07-16
Standard (	ICV-1)						
QC Batch:	71930		Date Ana	alyzed: 2010-0	7-16	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	26.4	106	90 - 110	2010-07-16
Standard (	CCV-1)						
QC Batch:	71930	•	Date Ana	alyzed: 2010-0	7-16	Anal	yzed By: AR
go Datom	12000		•	-			.,
			CCVs	CCVs	CCVs	Percent	Dete
Param	Flag	Units	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
Chloride	1 145	mg/L	25.0	25.1	100	90 - 110	2010-07-16
				······································		······	
Standard (	CCV-1)						•
QC Batch:	71930	,	Date Ana	alyzed: 2010-0	7-16	Anal	yzed By: AR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	26.3	105	90 - 110	2010-07-16
Standard (	CCV-1)			,			
QC Batch:			Date An	alyzed: 2010-(	)8-05	Ana	lyzed By: SS
•			CCVs	CCVs	CCVs	Percent	
			True	Found	· Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.9	96	90 - 110	2010-08-05
			•				
·			•				

Report Da 115-64031	ate: August 5, 201 31A	0		ork Order: 100' ero/ Rock Quee		Ŷ	umber: 16 of 16 vez County, NM
Standard	(CCV-2)						
QC Batch:	72386		Date Ana	alyzed: 2010-0	8-05	Ana	lyzed By: SS
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{F}$ lag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	······································	mg/L	25.0	24.3	97	90 - 110	2010-08-05

	. 1	$\underline{O}$	Las		#: 1007141		l <b>F</b>							-				P/	AGE:		$\overline{T}$		F:	<del>7</del>
An	alys		{e	qu	est of Cha	ain of Custo	Day F	16		or	a	╞				(Circ			IS RE					
				R		Spring St. as 79705 Fax (432) 682-3946						_	005 (Ext. to C35)	Cd Cr Pb Hg Se	31								(co)	
CLIENT NAM	ne: Celero				SITE MANAGE	R:	VERS			ESER METH	vative 10d		TX1005	Ba	Ba		50/62	70/62					s, pH	
PROJECT N 115 - 64 LAB I.D. NUMBER	0.:	l TIME	MATRIX		NAME: lero / Rock Que Chavez Q,			FILTERED (Y/N)	HCL HN03	ICE	NONE	BTEX 8021B	TPH 8015 MOD.	tals Ag	TCLP Metals Ag As TCLP Volatiles	TCLP Semi Volatiles	HCI GC.MS Vol. 8240/82	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Chloride	Gamma Spec.	PLM (Asbestos)	Major Anions/Cation	· and Levie
237463	7/.3	1530		X	MW-1	-	4	ົ້	x	Tx		X		ŀ		┋	╈		$\square$	k			XX	
464	-7-	1546	+-/+	17				7	7	17	<b>†</b> – † -	1/				$\dagger$	╈		╏┤	ŤŤ		$\uparrow \uparrow$	11	
465		1520			MW-Z MW-3	· · ·		ť	$\uparrow$	$\uparrow$		╢				$\dagger \dagger$	+	1		$\uparrow$				
466	+	1510	ł	ł	mw-4		*	A A	4	F		Į.								T T			11	
·											┠╌┼╴			+				-		-				
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FAX 806 • 794 • 1298 6701 Aberdeen Avenue, Suite 9 Lubbock Texas 79424 800+378+1296 806 • 794 • 1296 200 East Sunset Road, Suite E El Paso, Texas 79922 915 • 585 • 3443 FAX 915+585+4944 888 • 588 • 3443 5002 Basin Street, Suite A1 Midland, Texas 79703 432+689+6301 FAX 432 • 689 • 6313 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817 • 201 • 5260 E-Mail: lab@traceanalysis.com Certifications 1752439743100-86536 WBENC: 237019 HUB: DBE: VN 20657 NCTRCA WFWB38444Y0909 **NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

## Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: November 10, 2010

Work Order: 10101410

Project Location:Chavez County, NMProject Name:Celero/Rock Queen #11Project Number:115-6403131A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

		-	Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
247518	MW-1	water	2010-10-13	10:50	2010-10-13
247519	MW-2	water	2010-10-13	10:40	2010-10-13
247520	MW-3	water	2010-10-13	11:00	2010-10-13
247521	MW-4	water	2010-10-13	10:30	2010-10-13

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michae april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

#### Standard Flags

 ${\bf B}\,$  - The sample contains less than ten times the concentration found in the method blank.

## Case Narrative

Samples for project Celero/Rock Queen #11 were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101410. Samples for work order 10101410 were received intact without headspace and at a temperature of 3.5 C.

Samples were analyzed for the following tests using their respective methods.

· ·		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	63840	2010-10-14 at 13:40	74557	2010-10-14 at 18:04
Chloride (IC)	E 300.0	64403	2010-11-03 at 10:35	75072	2010-11-03 at 20:21
SO4 (IC)	E 300.0	64442	2010-11-04 at 09:41	75136	2010-11-04 at 19:05
SO4 (IC)	E 300.0	64531	2010-11-09 at 10:50	75231	2010-11-09 at 22:48
TDS	SM 2540C	63873	2010-10-15 at 10:25	74622	2010-10-21 at 14:52

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10101410 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 10, 2010 115-6403131A Work Order: 10101410 Celero/Rock Queen #11 Page Number: 4 of 15 Chavez County, NM

# **Analytical Report**

Sample: 247518 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 74557 63840		•	Analytical M Date Analyz Sample Prep	ed:	S 8021B 2010-10-14 2010-10-14		Prep Metho Analyzed B Prepared By	y: AG
				RI	J				
Parameter		Flag		Result	t	Units	D	ilution	$\mathbf{RL}$
Benzene	•			< 0.00100	)	mg/L		1	0.00100
Toluene				< 0.00100	)	mg/L		1	0.00100
Ethylbenzene				< 0.00100	)	mg/L		1	0.00100
Xylene				< 0.00100	)	mg/L		1	0.00100
. 1							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	a Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		<u>v</u>	0.0890	mg/L	1	0.100	89	66.2 - 107
4-Bromofluor	obenzene (4-)	BFB)		0.0750	mg/L	1	0.100	75	39 - 138

### Sample: 247518 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 75072 64403	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-11-03 2010-11-03	Prep Method: Analyzed By: Prepared By:	N/A PG PG
		$\mathbf{RL}$			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride	:	20400	mg/L	1000	2.50
· · ·	•		· ·		
Sample: 24	7518 - MW-1				
Laboratory: Analysis:	Lubbock SO4 (IC)	Analytical Method: 1	E <b>300</b> .0	Prep Method:	N/A

Sulfate	•	455	mg/L	50	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
QC Batch: A	64531	Date Analyzed: Sample Preparatio	2010-11-09 n: 2010-11-09	Analyzed I Prepared I	•

Report Date: November 10, 2010 15-6403131A ample: 247518 - MW-1			ler: 10101410 ck Queen #11		Number: 5 of 15 vez County, NM
Sample: 247518 - MW-1		· .			
Laboratory: Midland			0.0000	D	
Analysis: TDS		Analytical Method:	SM 2540C		Method: N/A
QC Batch: 74622 Prep Batch: 63873		Date Analyzed: Sample Preparation	2010-10-21 : 2010-10-15		vzed By: AR ared By: AR
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolved Solids		42700	mg/L	100	10.0
Sample: 247519 - MW-2 Laboratory: Midland					
Analysis:BTEXQC Batch:74557Prep Batch:63840		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2010-10-14 2010-10-14	Prep Met Analyzed Prepared	By: AG
QC Batch: 74557 Prep Batch: 63840		Date Analyzed: Sample Preparation: RL	2010-10-14 2010-10-14	Analyzed Prepared	By: AG By: AG
QC Batch: 74557 Prep Batch: 63840 Parameter Flag		Date Analyzed: Sample Preparation: RL Result	2010-10-14 2010-10-14 Units	Analyzed Prepared Dilution	By: AG By: AG RL
QC Batch: 74557 Prep Batch: 63840		Date Analyzed: Sample Preparation: RL	2010-10-14 2010-10-14 Units mg/L	Analyzed Prepared	By: AG By: AG
QC Batch: 74557 Prep Batch: 63840 Parameter Flag Benzene Toluene		Date Analyzed: Sample Preparation: RL Result <0.00100	2010-10-14 2010-10-14 Units mg/L mg/L	Analyzed Prepared Dilution 1	By: AG By: AG RL 0.00100
QC Batch: 74557 Prep Batch: 63840 Parameter Flag Benzene		Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100	2010-10-14 2010-10-14 Units mg/L	Analyzed Prepared Dilution 1 1	By: AG By: AG RL 0.00100 0.00100
QC Batch: 74557 Prep Batch: 63840 Parameter Flag Benzene Toluene Ethylbenzene		Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100	2010-10-14 2010-10-14 Units mg/L mg/L mg/L	Analyzed Prepared Dilution 1 1 1 1	By: AG By: AG RL 0.00100 0.00100 0.00100
QC Batch: 74557 Prep Batch: 63840 Parameter Flag Benzene Toluene Ethylbenzene	Flag	Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100	2010-10-14 2010-10-14 Units mg/L mg/L mg/L	Analyzed Prepared Dilution 1 1 1 1 1	By: AG By: AG RL 0.00100 0.00100 0.00100 0.00100
QC Batch: 74557 Prep Batch: 63840 Parameter Flag Benzene Toluene Ethylbenzene Xylene	Flag	Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100	2010-10-14 2010-10-14 <u>Units</u> mg/L mg/L mg/L mg/L	Analyzed Prepared Dilution 1 1 1 1 1 Spike Percent	By: AG By: AG RL 0.00100 0.00100 0.00100 0.00100 Recovery

### Sample: 247519 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (IC) 75072	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-11-03 2010-11-03	Prep Method: Analyzed By: Prepared By:	PG
	•	RL		· · ·	
Parameter	Flag	Result	Units	Dilution	$\mathbf{RL}$
Chloride		24000	mg/L	1000	2.50

Report Date: 115-6403131A		10, 2010	u		der: 10101410 ock Queen #11	Page Number Chavez Cou	
Sample: 247	7519 - MV	V-2	λ,	•			
Laboratory:	Lubbock					•	÷
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method	l: N/A
QC Batch:	75231 Ú			Date Analyzed:	2010-11-09	Analyzed By	
Prep Batch:	64531			Sample Preparation	n: 2010-11-09	Prepared By	: PG
				DT			
<b>D</b>				RL	TT */	Diluction	זת
Parameter		Flag		Result	Units	Dilution 50	$\frac{\text{RL}}{2.50}$
Sulfate				547	mg/L	00	2.50
Sample: 247	7519 - MV	V-2					
Sample. #41	1010 101 1	• •					
Laboratory:	Midland						
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method	
QC Batch:	74622			Date Analyzed:	2010-10-21	Analyzed By	
Prep Batch:	63873			Sample Preparation	: 2010-10-15	Prepared By	: AR
.'				RL			
Parameter		•	Flag	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolve	ed Solids	<u> </u>		38400	mg/L	100	10.0
Sample: 247	7520 - MV	V-3					
Laboratory:	Midland				•		
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	74557			Date Analyzed:	2010-10-14		AG
Prep Batch:	63840			Sample Preparation:	2010-10-14		AG
				RL			
Parameter		Flag		Result	Units	Dilution	$\mathbf{RL}$
Benzene				< 0.00100	mg/L	1	0.00100
Toluene				< 0.00100	mg/L		0.00100
Ethylbenzene	:			< 0.00100	mg/L	1	0.00100
				< 0.00100	mg/L	1	0.00100

SurrogateFlagResultUnitsDilutionAmountPercentRecoveryLimitsTrifluorotoluene (TFT)0.0968mg/L10.1009766.2 - 1074-Bromofluorobenzene (4-BFB)0.0811mg/L10.1008139 - 138

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				· · ·			
Report Date 115-6403131	e: November 1 A	0, 2010	•		der: 10101410 ck Queen #11	Page Number Chavez Cou	
Sample: 24	7520 - MW	-3					
Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (IC 75072	<b>C)</b>		Analytical Metho Date Analyzed: Sample Preparati	2010-11-03	Prep Method Analyzed By Prepared By	: PG
				$\mathbf{RL}$			
Parameter Chloride		Flag		Result 2700	Units mg/L	Dilution 100	RL 2.50
				2100			
Sample: 24	7520 - MW-	-3			· · ·		٩
Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 75136	. ·	•	Analytical Method: Date Analyzed: Sample Preparation	2010-11-04	Prep Method Analyzed By Prepared By	r: PG
				RL	,		
Parameter Sulfate		Flag		Result 73.6	Units mg/L	Dilution 5	RL 2.50
			·				
-	7520 - MW-	-3	·				
- Laboratory:	Midland	-3	·	Analytical Method:	SM 2540C	Prep Method	1: N/A
Laboratory: Analysis: QC Batch:	Midland TDS 74622	-3		Analytical Method: Date Analyzed:	SM 2540C 2010-10-21	Prep Methoo Analyzed By	AR
Laboratory: Analysis:	Midland TDS	-3			2010-10-21		AR
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 74622	-3	Flag	Date Analyzed: Sample Preparation RL	2010-10-21 : 2010-10-15	Analyzed By Prepared By	AR AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TDS 74622 63873	-3	Flag	Date Analyzed: Sample Preparation RL Result	2010-10-21 : 2010-10-15 Units	Analyzed By Prepared By Dilution	r: AR : AR RL
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 74622 63873	-3	Flag	Date Analyzed: Sample Preparation RL	2010-10-21 : 2010-10-15	Analyzed By Prepared By	AR AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TDS 74622 63873 ed Solids		Flag	Date Analyzed: Sample Preparation RL Result	2010-10-21 : 2010-10-15 Units	Analyzed By Prepared By Dilution	r: AR : AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24' Laboratory: Analysis: QC Batch:	Midland TDS 74622 63873 red Solids 7521 - MW-		Flag	Date Analyzed: Sample Preparation RL Result	2010-10-21 : 2010-10-15 Units	Analyzed By Prepared By Dilution 10 Prep Method: Analyzed By:	r: AR : AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24 <sup>4</sup> Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14	Analyzed By Prepared By 10 Prep Method: Analyzed By: Prepared By:	: AR : AR <u>RL</u> 10.0 S 5030B AG AG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24' Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch:	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14 Units	Analyzed By Prepared By Dilution 10 Prep Method: Analyzed By: Prepared By: Dilution	: AR : AR <u>RL</u> 10.0 S 5030B AG AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24 <sup>4</sup> Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14	Analyzed By Prepared By 10 Prep Method: Analyzed By: Prepared By:	: AR : AR <u>RL</u> 10.0 S 5030B AG AG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24' Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14 2010-10-14 Units mg/L	Analyzed By Prepared By Dilution 10 Prep Method: Analyzed By: Prepared By: Dilution 1	<ul> <li>AR</li> <li>AR</li> <li>RL</li> <li>10.0</li> <li>S 5030B</li> <li>AG</li> <li>AG</li> <li>AG</li> <li>RL</li> <li>0.00100</li> </ul>
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24' Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14 2010-10-14 Units mg/L	Analyzed By Prepared By Dilution 10 Prep Method: Analyzed By: Prepared By: Dilution 1 1	<ul> <li>AR</li> <li>AR</li> <li>RL</li> <li>10.0</li> <li>S 5030B</li> <li>AG</li> <li>AG</li> <li>AG</li> <li>RL</li> <li>0.00100</li> </ul>
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 24' Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 74622 63873 ed Solids 7521 - MW- Midland BTEX 74557		Flag	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-10-21 : 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14 2010-10-14 Units mg/L	Analyzed By Prepared By Dilution 10 Prep Method: Analyzed By: Prepared By: Dilution 1 1	<ul> <li>AR</li> <li>AR</li> <li>RL</li> <li>10.0</li> <li>S 5030B</li> <li>AG</li> <li>AG</li> <li>AG</li> <li>RL</li> <li>0.00100</li> </ul>

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Report Date: N 115-6403131A	November 10, 2010				er: 10101410 k Queen #11				nber: 8 of 15 County, NM
sample 247521	continued								
			RL	1					
Parameter	Flag		Result		Units		Dilution	1	RL
Ethylbenzene			< 0.00100		mg/L		1		0.00100
Xylene			< 0.00100	)	mg/L	· · · · ·	1	L	0.00100
						Spike		Percent	Recovery
Surrogate	((2)17(2))	Flag	Result	Units	Dilution	Amount	, Re	ecovery	Limits
Trifluorotoluene 4-Bromofluorob			0.0916 0.0803	mg/L mg/L	$\frac{1}{1}$	$\begin{array}{c} 0.100\\ 0.100\end{array}$	• ,	92 80	66.2 - 107 39 - 138
			0.0000		1	0.100			001 - 00
Sample: 2475	21 - MW-4								
-	ubbock								
	Chloride (IC)		Analytic	al Method	: E 300.0	۰ <i>.</i>		Prep Me	thod: N/A
	5072		Date An		2010-11-03			Analyzed	
•	4403			Preparatio				Prepared	
			RL						
Parameter	Elan				<b>**</b> •				
	FIRE		Result		Units		Dilutic	าท	RI.
Chloride	Flag	· · · · · · · · · · · · · · · · · · ·	Result 7140		Units mg/L		Dilutio 50	on 00	RL 2.50
Chloride Sample: 2475 Laboratory: L	21 - MW-4 ubbock		7140	Mathadi	mg/L			00	2.50
Chloride Sample: 2475 Laboratory: L Analysis: S	<b>21 - MW-4</b> ubbock O4 (IC)		7140 Analytical		mg/L E 300.0			00 Prep Met	2.50 thod: N/A
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 75	21 - MW-4 ubbock	· · · · · · · · · · · · · · · · · · ·	7140	yzed:	mg/L E 300.0 2010-11-04			00 Prep Met Analyzed	2.50 thod: N/A l By: PG
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 75	<b>21 - MW-4</b> ubbock O4 (IC) 5136	· · · · · · · · · · · · · · · · · · ·	7140 Analytical Date Analy Sample Pre	yzed:	mg/L E 300.0 2010-11-04			00 Prep Met	2.50 thod: N/A l By: PG
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6	21 - MW-4 ubbock O4 (IC) 5136 4442		7140 Analytical Date Analy Sample Pro RL	yzed:	mg/L E 300.0 2010-11-04 2010-11-04		50	00 Prep Met Analyzed Prepared	2.50 thod: N/A l By: PG l By: PG
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 75	<b>21 - MW-4</b> ubbock O4 (IC) 5136	· · · · · · · · · · · · · · · · · · ·	7140 Analytical Date Analy Sample Pre	yzed:	mg/L E 300.0 2010-11-04 2010-11-04 Units	· · · · · · · · · · · · · · · · · · ·		00 Prep Met Analyzed Prepared	2.50 thod: N/A l By: PG l By: PG RL
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter	21 - MW-4 ubbock O4 (IC) 5136 4442	· · · · · · · · · · · · · · · · · · ·	7140 Analytical Date Analy Sample Pro RL Result	yzed:	mg/L E 300.0 2010-11-04 2010-11-04	· · · · · · · · · · · · · · · · · · ·	50	00 Prep Med Analyzed Prepared on	2.50 thod: N/A l By: PG l By: PG
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter	21 - MW-4 ubbock O4 (IC) 5136 4442		7140 Analytical Date Analy Sample Pro RL Result	yzed:	mg/L E 300.0 2010-11-04 2010-11-04 Units		50	00 Prep Med Analyzed Prepared on	2.50 thod: N/A l By: PG l By: PG RL
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter	21 - MW-4 ubbock O4 (IC) 5136 4442 Flag		7140 Analytical Date Analy Sample Pro RL Result	yzed:	mg/L E 300.0 2010-11-04 2010-11-04 Units		50	00 Prep Med Analyzed Prepared on	2.50 thod: N/A l By: PG l By: PG RL
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter Sulfate Sample: 2475	21 - MW-4 ubbock O4 (IC) 5136 4442 Flag 21 - MW-4		7140 Analytical Date Analy Sample Pro RL Result	yzed:	mg/L E 300.0 2010-11-04 2010-11-04 Units		50	00 Prep Med Analyzed Prepared on	2.50 thod: N/A l By: PG l By: PG RL
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS	· · · · · · · · · · · · · · · · · · ·	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical	yzed: eparation:	mg/L E 300.0 2010-11-04 2010-11-04 Units		50	DO Prep Met Analyzed Prepared 5 Prep Met	2.50 thod: N/A l By: PG l By: PG RL 2.50 thod: N/A
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7: Prep Batch: 6 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T QC Batch: 7	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622		7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy	yzed: eparation:  Method: zed:	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21	· · · · · · · · · · · · · · · · · · ·	50	DO Prep Met Analyzed Prepared Dn 5 Prep Met Analyzed	2.50 thod: N/A l By: PG l By: PG RL 2.50 thod: N/A l By: AR
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7: Prep Batch: 6 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T QC Batch: 7	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS	· · · · · · · · · · · · · · · · · · ·	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical	yzed: eparation:  Method: zed:	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C	· · · · · · · · · · · · · · · · · · ·	50	DO Prep Met Analyzed Prepared 5 Prep Met	2.50 thod: N/A l By: PG l By: PG RL 2.50 thod: N/A l By: AR
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7 Prep Batch: 6 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T QC Batch: 7	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622		7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy	yzed: eparation: Method: zed: paration:	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21		50	DO Prep Met Analyzed Prepared Dn 5 Prep Met Analyzed	2.50 thod: N/A l By: PG l By: PG RL 2.50 thod: N/A l By: AR
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 7: Prep Batch: 6 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T QC Batch: 7	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	yzed: eparation:  Method: zed:	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21	· · · · · · · · · · · · · · · · · · ·	50	20 Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared	2.50 thod: N/A l By: PG l By: PG RL 2.50 thod: N/A l By: AR
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	yzed: eparation: Method: zed: paration: RL	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15		Dilutio	20 Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR
Chloride Sample: 2475 Laboratory: L Analysis: S QC Batch: 74 Prep Batch: 64 Parameter Sulfate Sample: 2475 Laboratory: M Analysis: T QC Batch: 74 Prep Batch: 65	<b>21 - MW-4</b> ubbock O4 (IC) 5136 4442 Flag <b>21 - MW-4</b> fidland 'DS 4622 3873	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL
Chloride         Sample: 2475         Laboratory:       L         Analysis:       S         QC Batch:       7         Prep Batch:       6         Parameter       Sulfate         Sample:       2475         Laboratory:       M         Analysis:       T         QC Batch:       7         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Prep Batch:       6         Prep Batch:       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6         Parameter       6	21 - MW-4 Jubbock O4 (IC) 5136 4442 Flag 21 - MW-4 fidland 'DS 4622 3873 Solids	Flag	7140 Analytical Date Analy Sample Pro RL Result 176 Analytical Date Analy Sample Pre	Method: zed: paration: RL esult	mg/L E 300.0 2010-11-04 2010-11-04 Units mg/L SM 2540C 2010-10-21 2010-10-15 Units		Dilutio	DO Prep Met Analyzed Prepared 5 Prep Met Analyzed Prepared tion	2.50 thod: N/A l By: PG By: PG RL 2.50 thod: N/A l By: AR By: AR RL

			•				
Report Date: Novembe 115-6403131A	r 10, 2010			:: 10101410 Queen #11			mber: 9 of 1 2 County, NM
Method Blank (1)	QC Batch: 74557						
QC Batch: 74557 Prep Batch: 63840	· ·	Date Analy QC Prepar		10-10-14 10-10-14			ed By: AG ed By: AG
	· .		MI	DL			
Parameter	Flag		Rest <0.0004	ult ·	Units		RL 0.00
Toluene Ethylbenzene Xylene		•	<0.0004 <0.0008 <0.0004 <0.0004	00 00	mg/L mg/L mg/L mg/L		0.00 0.00 0.00
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (	4-BFB)	0.0893 0.0784	mg/L mg/L	1	0.100	89 78	61.8 - 100 48.5 - 129
(							
Method Blank (1)	QC Batch: 74622					•	
QC Batch: 74622 Prep Batch: 63873		Date Analy QC Prepar		10-10-21 10-10-15		Analyz Prepare	ed By: AR ed By: AR
Parameter	Fla	aor	·	MDL Result	Un	its	RI
Total Dissolved Solids				11.0	mg		10
Method Blank (1)	QC Batch: 75072						
QC Batch: 75072 Prep Batch: 64403		Date Analy QC Prepar		10-11-03 10-11-03		Analyz Prepar	
Parameter	Flag		MDI Resul		Units		RI
Chloride			< 0.035		mg/L		2.5
Method Blank (1)	QC Batch: 75136						
QC Batch: 75136 Prep Batch: 64442		Date Analy QC Prepar		10-11-04 10-11-04	•	Analyz Prepare	ed By: PG ed By: PG
Parameter	Flag		MDL Result		Units		RI
Sulfate	······································		< 0.596		mg/L		2.5
					•		
	· .			•			·.
		• ,					•

Report Date: Novembe 115-6403131A	er 10, 2010	Work Order: 10101410 Celero/Rock Queen #11		Page Number: 10 of 15 Chavez County, NM
Method Blank (1)	QC Batch: 75231			
QC Batch: 75231 Prep Batch: 64531		Date Analyzed: 2010-11-09 QC Preparation: 2010-11-09		Analyzed By: PG Prepared By: PG
	·	MDL	·	
Parameter	Flag	Result	Units	RL
Sulfate	· · · · · · · · · · · · · · · · · · ·	<0.596	mg/L	2.5

Duplicates (2) Duplicated Sample: 247533

QC Batch: 74622 Prep Batch: 63873		•	10-10-21 10-10-15	· .•	Analyzed Prepared	•
· · · · · ·	Duplicate	Sample		·.		RPD
Param	Result	Result	Units '	Dilution	RPD	Limit
Total Dissolved Solids	46600	11700	mg/L	100	4	10
Total Dissolved Solids	46600	48400	mg/L	100	4	10

### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	•	Date Analyzed: QC Preparation:		Analyzed By: Prepared By:	

	LCS	•		Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.0939	mg/L	1	0.100	< 0.000400	94	80.7 - 117
Toluene	0.0947	mg/L	1	0.100	< 0.000800	95	80.5 - 117
Ethylbenzene	0.0947	mg/L	1	0.100	<0.000400	95	79.2 - 117
Xylene	0.277	mg/L	1	0.300	< 0.000400	92	74.1 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$
Benzene	0.0950	mg/L	1	0.100	< 0.000400	95	80.7 - 117	1	20
Toluene	0.0975	mg/L	1	0.100	< 0.000800	98	80.5 - 117	3	20
Ethylbenzene	0.0968	mg/L	. 1	0.100	< 0.000400	97	79.2 - 117	<b>2</b>	20
Xylene	0.286	mg/L	1	0.300	< 0.000400	95	74.1 - 120	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0875	0.0904	mg/L	1	0.100	88	90	72.5 - 126
4-Bromofluorobenzene (4-BFB)	0.0805	0.0847	mg/L	1	0.100	80	85	48.3 - 135

			·						
Report Date: November 10, 2010 115-6403131A				rder: 1010 ock Queen					er: 11 of 15 County, NM
Laboratory Control Spike (I	L <b>CS-2)</b>				•				
QC Batch: 74622 Prep Batch: 63873			nalyzed: eparation:	2010-10- 2010-10-					l By: AR l By: AR
Param	LC Res	sult	Units	Dil.	Spike Amount	Mat Resi	ult	Rec.	Rec. Limit
Total Dissolved Solids	102		mg/L	1	1000	<9.		102	90 - 110
Percent recovery is based on the		RPD is	based on	the spike ε	-	plicate re			
Param	$f LCSD \ Result$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	; RPI	RPD D Limit
Total Dissolved Solids	1010	mg/L		1000	<9.75	101	90 - 11		
Percent recovery is based on the	spike result.			the spike a	und spike du	plicate re	sult.		
Laboratory Control Spike (I	LCS-1)								
QC Batch: 75072 Prep Batch: 64403	. •		nalyzed: eparation:	2010-11- 2010-11-					l By: PG l By: PG
Param	LC		Units	Dil.	Spike Amount	Matı Resi		Rec.	Rec. Limit
Chloride	24.		mg/L	1	25.0	<0.03		98	90 - 110
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	und spike du	plicate re	esult.		
Param Chlorida	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec.	t RP	
Chloride Percent recovery is based on the	23.8 spike result	mg/L BPD is	1 based on t	25.0 the spike a	<0.0350	95 plicate re	90 - 11 esult	10 2	20
Laboratory Control Spike (I	-			-	- ·	pincate It			
QC Batch: 75136 Prep Batch: 64442			nalyzed: eparation:	2010-11-0 2010-11-0				Analyzed Prepared	l By: PG l By: PG
Param	LC Res	ult	Units	Dil.	Spike Amount	Mat Rese	ult	Rec.	Rec.
Sulfate	24		mg/L	1 the smilles o	25.0	<0.5		97	90 - 110
Percent recovery is based on the	·	кРD is	uased on	-		pucate re			
	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	; RPI	RPD D Limit
Param	a a amount of the second s	mg/L		25.0	<0.596	98	90 - 11		
Param Sulfate	24.6	~ 1	· · · · · · · · · · · · · · · · · · ·						
Sulfate	24.6		based on f	the spike a	ma opine au				
	24.6		based on t	the spike a	na opine au				
Sulfate	24.6		based on t	the spike a	ma opine uu		* .		· .
Sulfate	24.6		based on t	the spike a	ing opine du		• .		• .
Sulfate	24.6		based on	the spike a	ng spine du		• .		1 .

Report Date: November 10, 2010 115-6403131A				Order: 1010 Rock Queer					umber: vez Cour	
Laboratory Control Spike (LCS	-1)							•		
QC Batch: 75231	Γ	Date A	nalyzed:	2010-11-	-09			Analy	yzed By	: PG
Prep Batch: 64531			paration					-	ared By	
· · · · · ·	LCS	5			Spike		atrix			Rec.
Param	Resu		Units	Dil.	Amount		sult	Rec		Limit
Sulfate	24.0	)	mg/L	1	25.0	<0	.596	96	9	0 - 110
Percent recovery is based on the spil	ke result. R	RPD is	based on	the spike	and spike du	iplicate	result.			
	LCSD			Spike	Matrix		Re			RPD
Param	Result	Units	Dil.	Amount		Rec.	Lin		RPD	Limit
Sulfate	23.9	mg/L	1	25.0	< 0.596	96	90 -	110	0	20
- · · ·	Sample: 247			0010 10	- 4				1.77	
Matrix Spike (MS-1) Spiked S QC Batch: 74557 Prep Batch: 63840	I	Date Ai	nalyzed: paration	2010-10- : 2010-10-					yzed By ared By:	
QC Batch: 74557	I	Date Ai	-							
QC Batch: 74557 Prep Batch: 63840	MS	Date Ai QC Pre	paration	: 2010-10-	-14 Spike	Matr		Prepa	ared By:	AG Rec.
QC Batch: 74557 Prep Batch: 63840 Param	I C MS Result	Date Ar QC Pre U	paration Inits	: 2010-10 Dil.	-14 Spike Amount	Resu	lt	Prepa Rec.	ared By	: AG Rec. Limit
QC Batch: 74557 Prep Batch: 63840 Param Benzene	I MS <u>Result</u> 0.107	Date Ai QC Pre U	paration Inits ng/L	: 2010-10 Dil.	-14 Spike Amount 0.100 ·	Resu 0.004	lt 18	Prepa Rec. 102	ared By: I 60.	: AG Rec. Limit 9 - 132
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene	I (2 MS Result 0.107 0.0929	Date An QC Pre U m m	paration Units ng/L ng/L	: 2010-10 Dil. 1	-14 Spike Amount 0.100 · 0.100	Resu 0.004 <0.000	lt 18 1800	Prepa Rec. 102 93	ared By 1 60 65	AG Rec. Limit 9 - 132 7 - 129
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene	MS Result 0.107 0.0929 0.0881	Date Ar QC Pre U m m m	Inits Ig/L Ig/L Ig/L	: 2010-10 Dil. 1 1 1	-14 Spike Amount 0.100 0.100 0.100	Resu 0.004 <0.000 <0.000	lt 18 1800 1400	Prepa Rec. 102 93 88	ared By 1 60 65 51.	AG Rec. Limit 9 - 132 7 - 129 5 - 134
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene	MS Result 0.107 0.0929 0.0881 0.332	Date An QC Pre U m m m m m	Units ng/L ng/L ng/L ng/L ng/L	: 2010-10 Dil. 1 1 1 1	-14 Spike Amount 0.100 0.100 0.100 0.300	Resu 0.004 <0.000 <0.000 <0.000	1t 18 9800 9400 9400	Prepa Rec. 102 93	ared By 1 60 65 51.	: AG Rec. Limit 9 - 132
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene	MS Result 0.107 0.0929 0.0881 0.332 ke result. R	Date An QC Pre U m m m m m	Units ng/L ng/L ng/L ng/L ng/L	: 2010-10 Dil. 1 1 1 1 1 1	-14 Spike Amount 0.100 0.100 0.100 0.300 and spike du	Resu 0.004 <0.000 <0.000 <0.000	1t 18 9800 9400 9400	Prepa Rec. 102 93 88 111	ared By 1 60 65 51.	AG Rec. Limit 9 - 132 7 - 129 5 - 134
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD	Date An QC Pre U m m m m m	Units Ing/L Ig/L Ig/L Ig/L Ig/L based or	: 2010-10 Dil. 1 1 1 1	-14 Spike Amount 0.100 0.100 0.100 0.300	Resu 0.004 <0.000 <0.000 <0.000	lt 18 9800 9400 9400 result.	Prepa <u>Rec.</u> 102 93 88 111 c.	ared By 1 60 65 51.	Rec. Limit 9 - 132 7 - 129 5 - 134 6 - 124
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene <sup>1</sup>	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 n	Date An QC Pre U m m m RPD is	Units Ing/L Ig/L Ig/L Ig/L Ig/L based or	: 2010-10 Dil. 1 1 1 1 1 1 1 1 1 5 pike Amount 0.100	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048	Resu 0.004 <0.000 <0.000 <0.000 iplicate	lt 18 1800 1400 1400 result. Re Lin 60.9 -	Prepa Rec. 102 93 88 111 c. nit 132	I 60. 65. 51. 62. RPD 27	: AG Rec. <u>Limit</u> 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 n 0.0712 n	Date An QC Pre U m m RPD is Units ng/L ng/L	Units ng/L ng/L ng/L ng/L based or Dil. 1 1	: 2010-10 Dil. 1 1 1 1 1 1 1 5 pike Amount 0.100 0.100	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800	Result           0.004           <0.000	lt 18 1800 1400 1400 result. Re Lin 60.9 - 65.7 -	Prepa Rec. 102 93 88 111 c. nit 132 129	I 60. 65. 51. 62. RPD 27 26	: AG Rec. <u>Limit</u> 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 n 0.0712 n 0.0645 n	Date An QC Pre U m m RPD is Units ng/L ng/L ng/L	Units ng/L ng/L ng/L ng/L based or Dil. 1 1 1	: 2010-10 Dil. 1 1 1 1 1 1 5 pike Amount 0.100 0.100 0.100	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400	Result           0.004           <0.000	lt 18 1800 1400 result. Re Lin 60.9 - 65.7 - 51.5 -	Prepa Rec. 102 93 88 111 c. 112 132 129 134	I 60. 65. 51. 62. RPD 27 26 31	: AG Rec. Limit 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3 Xylene	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 m 0.0712 m 0.0645 m 0.283 m	Date An QC Pre U m m RPD is ng/L ng/L ng/L ng/L	Units ng/L ng/L ng/L ng/L based on Dil. 1 1 1 1 1	: 2010-10 Dil. 1 1 1 1 1 1 5pike Amount 0.100 0.100 0.100 0.300	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400 <0.000400	Result           0.004           <0.000	lt 18 18 1800 1400 1400 result. Re Lin 60.9 - 65.7 - 51.5 - 62.6 -	Prepa Rec. 102 93 88 111 c. 112 132 129 134	I 60. 65. 51. 62. RPD 27 26	: AG Rec. <u>Limit</u> 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 m 0.0712 m 0.0645 m 0.283 m	Date An QC Pre U m m RPD is ng/L ng/L ng/L ng/L	Units ng/L ng/L ng/L ng/L based on Dil. 1 1 1 1 1	: 2010-10 Dil. 1 1 1 1 1 1 5pike Amount 0.100 0.100 0.100 0.300	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400 <0.000400	Result           0.004           <0.000	lt 18 18 1800 1400 1400 result. Re Lin 60.9 - 65.7 - 51.5 - 62.6 -	Prepa Rec. 102 93 88 111 c. 112 132 129 134	I 60. 65. 51. 62. RPD 27 26 31	: AG Rec. Limit 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3 Xylene	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 m 0.0712 m 0.0645 m 0.283 m	Date An QC Pre U m m RPD is Ng/L ng/L ng/L ng/L Ng/L Ng/L Ng/L Ng/L SPD is	Units ng/L ng/L ng/L ng/L based on Dil. 1 1 1 1 1	: 2010-10 Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400 <0.000400 and spike du	Result           0.004           <0.000	lt 18 18 1800 1400 1400 result. Re Lin 60.9 - 65.7 - 51.5 - 62.6 -	Prepa Rec. 102 93 88 111 c. 112 132 129 134 124 MSE	I           60.           65.           51.           62.           RPD           27           26           31           16	: AG Rec. Limit 9 - 132 7 - 120 5 - 134 6 - 124 RPD Limit 20 20 20 20 20 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3 Xylene Percent recovery is based on the spil Surrogate	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 m 0.0712 m 0.0645 m 0.283 m ke result. R MS Result R	Date An QC Pre U U m m RPD is ng/L ng/L ng/L ng/L ng/L s lt I	Jnits Jnits Jg/L Jg/L Jg/L Jug/L based on Dil. 1 1 1 1 1 Sased on MSD Result	: 2010-10 Dil. 1 1 1 1 1 1 5pike Amount 0.100 0.100 0.100 0.300	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400 <0.000400 and spike du Sj Dil. Am	Resu           0.004           <0.000	lt 18 18 19800 1400 result. Re Lim 60.9 - 65.7 - 51.5 - 62.6 - result. MS Rec.	Prepa Rec. 102 93 88 111 c. 112 129 134 124 MSD Rec.	I           60.           65.           51.           62.           RPD           27           26           31           16	: AG Rec. <u>Limit</u> 9 - 132 7 - 129 5 - 134 6 - 124 RPD Limit 20 20 20 20 20 20 20 20
QC Batch: 74557 Prep Batch: 63840 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the spil Param Benzene 1 Toluene 2 Ethylbenzene 3 Xylene Percent recovery is based on the spil Surrogate	MS Result 0.107 0.0929 0.0881 0.332 ke result. R MSD Result U 0.0817 m 0.0712 m 0.0645 m 0.283 m ke result. R	Date An QC Pre U m m RPD is RPD is ng/L ng/L ng/L ng/L RPD is C llt I	Units ng/L ng/L ng/L based on Dil. 1 1 1 based on MSD	: 2010-10 Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-14 Spike Amount 0.100 0.100 0.300 and spike du Matrix Result 0.0048 <0.000800 <0.000400 <0.000400 and spike du Sj Dil. Am 1	Resu           0.004           <0.000	lt 18 1800 1400 1400 result. Re Lin 60.9 - 65.7 - 51.5 - 62.6 - result. MS	Prepa Rec. 102 93 88 111 c. 112 132 129 134 124 MSE	I           60.           65.           51.           62.           RPD           27           26           31           16           0           .           75.	: AG Rec. Limit 9 - 132 7 - 120 5 - 134 6 - 124 RPD Limit 20 20 20 20 20 20 20

 $^{1}$ MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.  $^{2}$ MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>3</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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<sup>4</sup>High surrogate recovery due to peak interference.

<sup>5</sup>High surrogate recovery due to peak interference.

115-6403131A	10, 2010			der: 10101 ock Queen				ge Number Chavez Co	
Matrix Spike (MS-1)	Spiked Samp	ole: 248210							•
QC Batch: 75072 Prep Batch: 64403			Analyzed: Preparation:	2010-11-0 2010-11-0				Analyzed I Prepared I	
		MS			Spike	Mat			Rec.
Param		Result	Units	Dil.	Amount	Res		Rec.	Limit
Chloride		1300	mg/L	50	1250	<1		104	90 - 110
Percent recovery is based	on the spike re	sult. RPD	is based on	the spike a	nd spike du	plicate r	esult.		
	M	SD		Spike	Matrix		Rec.		RPD
Param	Re	sult Uni	its Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	RPD	Limit
Chloride	13	600 mg	/L 50	1250	<1.75	104	90 - 11	0 0	20
- 、 ,									
-			Analyzed: Preparation:	2010-11-0 2010-11-0				Analyzed l Prepared I	
-		QCJ	•					Analyzed l Prepared I	By: PG
Prep Batch: 64442		QC I MS	Preparation:	2010-11-0	94 Spike	Mat	trix	Prepared I	By: PG Rec.
Prep Batch: 64442 Param	6	QC I MS Result	Preparation: Units	2010-11-0	94 Spike Amount	Res	trix	Prepared I Rec.	By: PG Rec. Limit
Prep Batch: 64442 Param Sulfate		QC I MS Result 1470	Preparation: Units mg/L	2010-11-0 Dil. 50	94 Spike Amount 1250	Res	trix ult 9.8	Prepared I	By: PG Rec. Limit
Prep Batch: 64442 Param Sulfate	on the spike re	QC I MS Result 1470 esult. RPD	Preparation: Units mg/L	2010-11-0 Dil. 50 the spike an	Spike Amount 1250 nd spike du	Res	trix ult 9.8 esult.	Prepared I Rec.	By: PG Rec. Limit 90 - 110
Prep Batch: 64442 Param Sulfate Percent recovery is based	on the spike re M	QC I MS Result 1470 esult. RPD SD	Preparation: Units mg/L is based on t	2010-11-0 Dil. 50 the spike an Spike	94 Spike Amount 1250 nd spike du Matrix	Res <29 plicate re	trix ult 9.8 esult. Rec.	Prepared H Rec. 118	By: PG Rec. Limit 90 - 110 RPD
Prep Batch: 64442 Param Sulfate Percent recovery is based Param	on the spike re M Re	QC I MS Result 1470 esult. RPD SD sult Uni	Preparation: Units mg/L is based on its Dil.	2010-11-0 Dil. 50 the spike an Spike Amount	Spike Amount 1250 nd spike du Matrix Result	Res <29 plicate re Rec.	trix ult 9.8 esult. Rec. Limit	Prepared I Rec. 118 RPD	By: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 64442 Param Sulfate Percent recovery is based Param Sulfate	on the spike re M . Re 7 14	QC I MS Result 1470 ssult. RPD SD sult Uni 470 mg,	Preparation: Units mg/L is based on its Dil. /L 50	2010-11-0 Dil. 50 the spike an Spike Amount 1250	Spike Amount 1250 nd spike du Matrix Result <29.8	Res <22 plicate re Rec. 118	trix ult 9.8 esult. Rec. Limit 90 - 11	Prepared I Rec. 118 RPD	By: PG Rec. Limit 90 - 110 RPD
Prep Batch: 64442 Param Sulfate Percent recovery is based Param Sulfate Percent recovery is based	on the spike re M . Re 7 14	QC I MS Result 1470 esult. RPD SD sult Uni 470 mg esult. RPD	Preparation: Units mg/L is based on its Dil. /L 50	2010-11-0 Dil. 50 the spike an Spike Amount 1250	Spike Amount 1250 nd spike du Matrix Result <29.8	Res <22 plicate re Rec. 118	trix ult 9.8 esult. Rec. Limit 90 - 11	Prepared I Rec. 118 RPD	By: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 64442 Param Sulfate Percent recovery is based Param Sulfate Percent recovery is based Matrix Spike (MS-1) QC Batch: 75231	on the spike re M Re 7 14 on the spike re	QC I MS Result 1470 ssult. RPD SD sult Uni 170 mg, esult. RPD ole: 249831 Date	Preparation: Units mg/L is based on its Dil. /L 50	2010-11-0 Dil. 50 the spike an Spike Amount 1250	Spike Amount 1250 nd spike du Matrix Result <29.8 nd spike du	Res <22 plicate re Rec. 118	trix 9.8 esult. Rec. Limit 90 - 11 esult.	Prepared I Rec. 118 RPD	By: PG Rec. Limit 90 - 110 RPD Limit 20 By: PG
Prep Batch: 64442 Param Sulfate Percent recovery is based Param Sulfate Percent recovery is based Matrix Spike (MS-1) QC Batch: 75231	on the spike re M Re 7 14 on the spike re	QC I MS Result 1470 ssult. RPD SD sult Uni 170 mg, esult. RPD ole: 249831 Date QC I	Preparation: Units mg/L is based on t its Dil. /L 50 is based on t Analyzed:	2010-11-0 Dil. 50 the spike an Spike Amount 1250 the spike an 2010-11-0	Spike Amount 1250 ad spike du Matrix Result <29.8 ad spike du 99	Res <29 plicate re Rec. 118 plicate re	trix ult 9.8 esult. Rec. Limit 90 - 11 esult.	Prepared H Rec. 118 RPD 0 0	By: PG Rec. Limit 90 - 110 RPD Limit 20 By: PG By: PG
Prep Batch: 64442 Param Sulfate Percent recovery is based Param Sulfate Percent recovery is based Matrix Spike (MS-1) QC Batch: 75231	on the spike re M Re 7 14 on the spike re	QC I MS Result 1470 ssult. RPD SD sult Uni 170 mg, esult. RPD ole: 249831 Date	Preparation: Units mg/L is based on t its Dil. /L 50 is based on t Analyzed:	2010-11-0 Dil. 50 the spike an Spike Amount 1250 the spike an 2010-11-0	Spike Amount 1250 nd spike du Matrix Result <29.8 nd spike du	Res <22 plicate re Rec. 118	trix ult 9.8 esult. Rec. Limit 90 - 11 esult.	Prepared H Rec. 118 RPD 0 0	By: PG Rec. Limit 90 - 110 RPD Limit 20 By: PG

<sup>6</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>7</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

115-6403131A	vember 10	, 2010		Work Order: 1010 elero/Rock Queer		•		Number: avez Cour	
_		MSD		Spike	Matrix		Rec.	,	RPD
Param		Result	Units	Dil. Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1290	mg/L	50 1250	<29.8	103	90 - 110	. 0	20
Percent recovery i	s based or	n the spike result	. RPD is ba	used on the spike	and spike duj	olicate 1	result.		•
Standard (CCV	-2)								
QC Batch: 7455	7	• . * . *	Date Ana	lyzed: 2010-10-1	4.		Ana	alyzed By	· AG
			CCVs	CCVs	CCVs		Percent		
			True	Found	Percent		Recovery		Date
Param	Flag	Units	Conc.	Conc.	Recovery		Limits		alyzed
Benzene		mg/L	0.100	0.0941	94		80 - 120		0-10-14
Toluene		mg/L	0.100	0.0958	96		80 - 120		0-10-14
Ethylbenzene		mg/L	0.100	0.0935	94		80 - 120		0-10-14
Xylene		mg/L	0.300	0.275	92		80 - 120	201	0-10-14
	-3)	· · · ·							
Standard (CCV QC Batch: 74557		· · · · · · · · · · · · · · · · · · ·	Date Ana	lyzed: 2010-10-1	4 _		Ana	alyzed By	: AG
Standard (CCV			CCVs ·	lyzed: 2010-10-1 CCVs	4 CCVs		Ana Percent	alyzed By	: AG
Standard (CCV	7			-	•				: AG Date
Standard (CCV		Units	CCVs ·	CCVs	CCVs		Percent	· .]	
<b>Standard (CCV</b> QC Batch: 74557 Param	7	Units mg/L	CCVs True Conc. 0.100	CCVs Found Conc. 0.0998	CCVs Percent		Percent Recovery Limits 80 - 120	 	Date alyzed 0-10-14
Standard (CCV QC Batch: 74557 Param Benzene Toluene	7	mg/L mg/L	CCVs True Conc. 0.100 0.100	CCVs Found Conc.	CCVs Percent Recovery		Percent Recovery Limits 80 - 120 80 - 120	An 201 201	Date alyzed 0-10-14 0-10-14
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene	7	mg/L	CCVs True Conc. 0.100 0.100 0.100	CCVs Found Conc. 0.0998 0.100 0.0964	CCVs Percent Recovery 100 100 96	· ·	Percent Recovery Limits 80 - 120 80 - 120 80 - 120	An 201 201 201	Date alyzed 0-10-14 0-10-14 0-10-14
<b>Standard (CCV</b> QC Batch: 74557	7	mg/L mg/L	CCVs True Conc. 0.100 0.100	CCVs Found Conc. 0.0998 0.100	CCVs Percent Recovery 100 100	•	Percent Recovery Limits 80 - 120 80 - 120	An 201 201 201	Date
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene Xylene	Flag	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100	CCVs Found Conc. 0.0998 0.100 0.0964	CCVs Percent Recovery 100 100 96	•	Percent Recovery Limits 80 - 120 80 - 120 80 - 120	An 201 201 201	Date alyzed 0-10-14 0-10-14 0-10-14
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV	7 Flag -1)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100	CCVs Found Conc. 0.0998 0.100 0.0964 0.288	CCVs Percent Recovery 100 100 96 96 96	•	Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120	An 201 201 201 201	Date alyzed 0-10-14 0-10-14 0-10-14 0-10-14
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV	7 Flag -1)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana CCVs	CCVs Found Conc. 0.0998 0.100 0.0964 0.288 lyzed: 2010-11-0 CCVs	CCVs Percent <u>Recovery</u> 100 100 96 96 96 3 CCVs	•	Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Ana Percent	An 201 201 201 201	Date alyzed 0-10-14 0-10-14 0-10-14 0-10-14 : PG
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 75072	7 Flag -1)	mg/L mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana CCVs True	CCVs Found Conc. 0.0998 0.100 0.0964 0.288 lyzed: 2010-11-0 CCVs Found	CCVs Percent Recovery 100 100 96 96 96 3 3 CCVs Percent	•	Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Ana Percent Recovery	An 201 201 201 201 alyzed By	Date <u>alyzed</u> 0-10-14 0-10-14 0-10-14 0-10-14 : PG Date
Standard (CCV QC Batch: 74557 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 75072	7 Flag -1)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana CCVs	CCVs Found Conc. 0.0998 0.100 0.0964 0.288 lyzed: 2010-11-0 CCVs	CCVs Percent <u>Recovery</u> 100 100 96 96 96 3 CCVs		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Ana Percent	An 201 201 201 201 alyzed By	Date 1alyzed 0-10-14 0-10-14 0-10-14 0-10-14

### Standard (CCV-2)

QC Batch: 75072

Date Analyzed: 2010-11-03

Analyzed By: PG

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Report Dat 115-640313		r 10, 2010		Work Order: 10			umber: 15 of 15
	IA	<u> </u>	· (	Celero/Rock Qu	leen #11	 	vez County, NM
Param Chloride	Flag	Units mg/L	CCVs True Conc. 25.0	CCVs Found Conc. 24.7	CCVs Percent Recovery 99	Percent Recovery Limits 90 - 110	Date Analyzed 2010-11-03
Standard (	(CCV-1)						·
QC Batch:	75136		Date An	alyzed: 2010-1	1-04	Ana	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits 90 - 110	Date Analyzed
Sulfate		mg/L	25.0	24.8	99	90 - 110	2010-11-04
Standard (	(CCV-2)	· .					
QC Batch:			Date An	alyzed: 2010-1	1-04	Ana	lyzed By: PG
•			CCVs	CCVs	CCVs	Percent	
5	<b>F</b> 1		True	Found	Percent	Recovery	Date
Param Sulfate	Flag	Units mg/L	Conc. 25.0	<u>Conc.</u> 24.3	Recovery 97	Limits 90 - 110	Analyzed 2010-11-04
				· · · · ·			
Standard (	CCV-1)					·	
QC Batch:	75231	· . ·	Date An	alyzed: 2010-1	1-09	Ana	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate	· · · · · · · · · · · · · · · · · · ·	mg/L	25.0	23.7	95	90 - 110	2010-11-09
~							
Standard (							
QC Batch:	75231		Date An	alyzed: 2010-1		Ana	lyzed By: PG
Param Sulfate	Flag	Units	CCVs True Conc. 25.0	CCVs Found Conc. 24.3	CCVs Percent Recovery 97	Percent Recovery Limits 90 - 110	Date Analyzed 2010-11-09
		mg/L		47.0			2010-11-09
		•			,		
	•					•	
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CLIENT NAM	ie: v					SITE MANAG		KERS.	•			RVAT	IVE			88			<b>50/624</b>	70/825				tions, pH, (DS			
PROJECT N			PR			NAME: 10 / Pork Que		CONTAINERS	2			Τ				89 A9 80 A9			40/82	Kot. 82 08			E				
LAB I.D. NUMBER	DATE	TIME	MATRUX	÷		Chaurt Cr.	NM LE IDENTIFICATION	NUMBER OF C	FILTERED (Y/N)	HCL		NONE		BTEX 80219	PAH 8270	RCRA Metals Ag As Ba Cd TCLP Metals Ag As Ba Cd	TCLP Volatilo	RCI	GC.MS Vol. 8:	QC.MS Semi. PCB's 8080/6	Pest: 808/608	Chloride Seac	Alpha Beta (Air)	HLIM (Assocstos) Maior Anions/Co	(S. 1 heres		
247518	10/13	1050			X	MW-1		4	N	3		x I		X								X		X	( x		·
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RELINQUISHED				<u>.</u>		Date:	RECEIVED BY: (Signature)			Dal Tin Da	<b>ie:</b>	10: 9:5	04	3	1	HAND D			(Circle BUS UPS			•	OTHE				
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MULLIUM TRACEANALYSIS, INC. MULLIUM ULLUM

6701 Aberdeen Avenue, Suite 9Li200 East Sunset Road, Suite EE5002 Basin Street, Suite A1M6015 Harris Parkway, Suite 110Ft.

Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79922 888•588•3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

800•378•1296 806•794•1296 888•588•3443 915•585•3443 432•689•6301 817•201•5260

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

**WBENC:** 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

**DBE:** VN 20657

Midland: T104704392-08-TX

### **NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002

# Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: February 7, 2011

Work Order: 11012132

Project Location:Chavez County, NMProject Name:Celero/Rock Queen #11Project Number:115-6403131A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
255912	MW-1	water	2011-01-20	17:35	2011-01-21
255913	MW-2	water	2011-01-20	17:40	2011-01-21
255914	MW-3	water	2011-01-20	17:20	2011-01-21
255915	MW-4	water	2011-01-20	17:00	2011-01-21
255916	MW-5	water	2011-01-20	17:50	2011-01-21
255917	MW-6	water	2011-01-20	17:28	2011-01-21
255918	MW-7	water	2011-01-20	17:10	2011-01-21

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 22 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Al

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

#### Standard Flags

 ${\bf B}$  - The sample contains less than ten times the concentration found in the method blank.

Samples for project Celero/Rock Queen #11 were received by TraceAnalysis, Inc. on 2011-01-21 and assigned to work order 11012132. Samples for work order 11012132 were received intact without headspace and at a temperature of 12.3 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	66157	2011-01-24 at 11:00	77124	2011-01-24 at 13:17
Chloride (IC)	E 300.0	66366	2011-02-01 at 11:03	77369	2011-02-01 at 17:36
Chloride (IC)	E 300.0	66367	2011-02-01 at 11:10	77370	2011-02-01 at 22:23
Chloride (IC)	E 300.0	66370	2011-02-02 at 13:00	77371	2011-02-02 at 17:19
SO4 (IC)	E 300.0	66370	2011-02-02 at $13:00$	77371	2011-02-02 at 17:19
SO4 (IC)	E 300.0	66413	2011-02-06 at 10:00	77426	2011-02-06 at 12:17
TDS	SM 2540C	66142	2011-01-24 at 11:30	77255	2011-01-31 at 10:09

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11012132 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: February 7, 2011 115-6403131A

### Work Order: 11012132 Celero/Rock Queen #11

Page Number: 4 of 22 Chavez County, NM

# **Analytical Report**

Sample: 255912 - MW-1

Laboratory:	Midland					
Analysis:	BTEX	Analytical Method:	S 8021B	· ,	Prep Method:	S 5030B
QC Batch:	77124	Date Analyzed:	2011-01-24		Analyzed By:	AG
Prep Batch:	66157	Sample Preparation:	2011-01-24		Prepared By:	AG
		RL				

Parameter	Flag	Result	t	Units	Dil	lution	$\mathbf{RL}$
Benzene		< 0.00100	)	mg/L		1 .	0.00100
Toluene		< 0.00100	)	mg/L		1	0.00100
Ethylbenzene		< 0.00100	)	mg/L	*	1	0.00100
Xylene		< 0.00100	)	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.111	mg/L	1	0.100	111	67.8 - 126
4-Bromofluorobenzene (4-BI	FB)	0.103	mg/L	1	0.100	103	51.1 - 128

#### Sample: 255912 - MW-1

Chloride		122000	mg/L	10000	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	66366	Sample Preparation:	2011-02-01	Prepared By:	$\mathbf{PG}$
QC Batch:	77369	Date Analyzed:	2011-02-01	Analyzed By:	
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
Laboratory:	Lubbock				

#### Sample: 255912 - MW-1

Sulfate	· · · ·	2270	mg/L	100	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 77371	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-02 2011-02-02	Prep Method: Analyzed By: Prepared By:	ΡĠ

Report Date: February 7, 2011 115-6403131A	•			11012132 Queen #11			nber: 5 of 22 County, NM
Sample: 255912 - MW-1							
Laboratory: Midland							
Analysis: TDS	,	Analytical M	Aethod:	SM 2540C		Prep Me	
QC Batch: 77255		Date Analyz		2011-01-31		Analyze	
Prep Batch: 66142		Sample Prep	paration:	2011-01-25		Prepareo	l By: AR
· · ·			RL	e.,			
Parameter	Flag	R	esult	Units		Dilution	RL
Total Dissolved Solids		21	0000	mg/L		100	10.0
	•						
Sample: 255913 - MW-2			-				
-			•				
Laboratory: Midland							
Analysis: BTEX		Analytical Me		8021B		Prep Metho	
QC Batch: 77124		Date Analyze		011-01-24		Analyzed B	
Prep Batch: 66157		Sample Prepa	ration: 2	011-01-24		Prepared By	7: AG
1		RL					
Parameter Flag		Result		Units	Di	lution	$\mathbf{RL}$
Benzene		< 0.00100		mg/L		1 .	0.00100
Toluene		< 0.00100		mg/L		1	0.00100
Ethylbenzene		< 0.00100		mg/L		1	0.00100
Xylene		< 0.00100		mg/L		1	0.00100
· · · · ·					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovéry	Limits
Trifluorotoluene (TFT)		0.113	mg/L	1	0.100	113	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.100	mg/L	1	0.100	100	51.1 - 128
	· ·	•	×.				
Sample: 255913 - MW-2		. •					
Laboratory: Lubbock							
Analysis: Chloride (IC)		Analytica	l Method:	E 300.0		Prep Me	thod: N/A
QC Batch: 77369		Date Ana		2011-02-01		Analyze	
			reparation		÷	Prepareo	
Prep Batch: 66366							-
Prep Batch: 66366			-				
Prep Batch: 66366 Parameter Flag		RL · Result	-	Units	,	Dilution	RL

		3							
							2 · *		
						·			
Report Date: 115-6403131A		7, 2011				r: 11012132 Queen #11			nber: 6 of 2 County, NM
Sample: 255	5913 - MV	V-2							
Analysis: QC Batch:	Lubbock SO4 (IC) 77371 66370			Analytical Date Analy Sample Pre	zed:	E 300.0 2011-02-02 2011-02-02		Prep Met Analyzed Prepared	
				RL					
Parameter Sulfate		Flag		Result		Units	1	Dilution	RL
Sunate				2060		mg/L		100	2.50
Sample: 255	(010 <b>*</b> #**	W 9						·	`.
-		V-2		,				(	
Analysis: QC Batch:	Midland TDS 77255 66142			Analytical M Date Analyz Sample Prej	zed:	SM 2540C 2011-01-31 2011-01-25		Prep Met Analyzed Prepared	By: AR
Denenseten				D	RL	 TT*t			DI
Parameter Total Dissolve	d Solids		Flag		tesult 0000	Units mg/L		Dilution 100	RL 10.0
Sample: 255	914 - MV	V-3				· · ·		· ·	
Laboratory: Analysis: QC Batch:		V-3	·	Analytical Me Date Analyzee Sample Prepa	d:	S 8021B 2011-01-24 2011-01-24		Prep Method Analyzed By Prepared By	l: S 5030B : AG
Laboratory: Analysis: QC Batch:	Midland BTEX 77124	V-3	•	Date Analyze	d:	2011-01-24		Prep Method Analyzed By	l: S 5030B : AG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland BTEX 77124	<b>V-3</b> Flag		Date Analyzed Sample Prepa RL Result	d:	2011-01-24 2011-01-24 Units		Prep Method Analyzed By Prepared By lution	l: S 5030B : AG : AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	Midland BTEX 77124			Date Analyze Sample Prepa RL	d:	2011-01-24 2011-01-24		Prep Method Analyzed By Prepared By:	I: S 5030B : AG : AG RL 0.00100 0.00100 0.00100
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	Midland BTEX 77124 66157		Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result	d: ration: Units	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L Dilution	Di Spike Amount	Prep Method Analyzed By Prepared By lution 1 1 1 1 1 Percent Recovery	I: S 5030B AG AG C.00100 0.00100 0.00100 0.00100 Recovery Limits
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100	d: ration: Units mg/L	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L mg/L	Di	Prep Method Analyzed By Prepared By lution 1 1 1 1 1 Percent	I: S 5030B : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result 0.109	d: ration: Units	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> Dilution 1	Di Spike Amount 0.100	Prep Method Analyzed By Prepared By lution 1 1 1 1 Percent Recovery 109	I: S 5030B : AG : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 126
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result 0.109	d: ration: Units mg/L	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> Dilution 1	Di Spike Amount 0.100	Prep Method Analyzed By Prepared By lution 1 1 1 1 Percent Recovery 109	I: S 5030B : AG : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 126
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result 0.109	d: ration: Units mg/L	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> Dilution 1	Di Spike Amount 0.100	Prep Method Analyzed By Prepared By lution 1 1 1 1 Percent Recovery 109	I: S 5030B : AG : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 126
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result 0.109	d: ration: Units mg/L	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> Dilution 1	Di Spike Amount 0.100	Prep Method Analyzed By Prepared By lution 1 1 1 1 Percent Recovery 109	I: S 5030B : AG : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 126
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	Midland BTEX 77124 66157	Flag	Flag	Date Analyzed Sample Prepa RL Result <0.00100 <0.00100 <0.00100 <0.00100 Result 0.109	d: ration: Units mg/L	2011-01-24 2011-01-24 <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> Dilution 1	Di Spike Amount 0.100	Prep Method Analyzed By Prepared By lution 1 1 1 1 Percent Recovery 109	I: S 5030B : AG : AG : AG 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 126

Report Date 115-6403131		', 2011			r: 11012132 k Queen #11	Page Number: Chavez Coun	
Sample: 25	5914 - MW	/-3					
Laboratory:	Lubbock						
Analysis:	Chloride (l	(C)		Analytical Metho	d: E 300.0	Prep Method:	N/A
QC Batch:	77369	,		Date Analyzed:	2011-02-01	Analyzed By:	
Prep Batch:	66366			Sample Preparati	on: 2011-02-01	Prepared By:	$\mathbf{PG}$
				RL			
Parameter		Flag		Result	Units	Dilution	$\mathbf{RL}$
Chloride		1 105		50100	mg/L	10000	2.50
Sample: 25	5914 - MV	/-3					
Laboratory:							
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	•
QC Batch:	77371			Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370			Sample Preparation	: 2011-02-02	Prepared By:	$\mathbf{PG}$
				$\mathbf{RL}$			
Parameter		Flag		Result	Units	Dilution	$\mathbf{RL}$
Sulfate				1170	mg/L	100	2.50
				\$	· · · · · · · · · · · · · · · · · · ·		
· .				•		· · ·	
Sample: 25	5914 - MW	/-3					
Laboratory:	Midland			1. State 1.			
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77255			Date Analyzed:	2011-01-31	Analyzed By:	
Prep Batch:	66142			Sample Preparation:		Prepared By:	
,				DI			
Parameter			Flag	RL Result	Units	Dilution	$\mathbf{RL}$
Total Dissolv	ed Solids		Tag	103000	mg/L	100	10.0
				100000		100	10.0
Sample: 25	5915 - MW	-4					
-							
Laboratory:	Midland				0.0001D		, 5090D
Analysis:	BTEX 77194	*		Analytical Method:	S 8021B	-	5030B
QC Batch:	77124 66157			Date Analyzed: Sample Preparation:	2011-01-24		.G C
Prep Batch:	66157			Sample rreparation:	2011-01-24	Prepared By: A	G
Dama (		T-31 -		RL	· <b>TT •</b>		DT
Parameter		Flag		Result <0.00100	Units	Dilution	RL ).00100
Benzene Toluene				<0.00100 <0.00100	mg/L mg/I		).00100
COMPANY				Z0100100	mg/L	I U	00100

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115-6403131	: February A	7, 2011			ork Order: ero/Rock	11012132 Queen `#11			mber: 8 of 2 z County, NM
sample 25592	15 continued								
				RL					
Parameter Ethylbenzene	<u>,</u>	Flag		Result <0.00100		Units mg/L	Di	lution 1	RI 0.0010
Xylene				<0.00100		mg/L		1	0.0010
Surrogate			Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu 1-Bromofluor		-BFB)		0.114	mg/L mg/L	1 1	0.100 0.100	114 102	67.8 - 12 51.1 - 12
				· · · · · · · · · · · · · · · · · · ·		-			
Sample: 25	5915 - MW	/-4							
Laboratory:	Lubbock								
Analysis:	Chloride (I	(C)		•	l Method:	E 300.0		Prep M	
QC Batch: Prep Batch:	77369 66366			Date Ana Sample P	lyzed: reparation	2011-02-01 : 2011-02-01		Analyze Prepare	
-				_	A 11. 1747 - 1747			. <b>F</b>	
Parameter		Flag		$\operatorname{RL}$ Result		Units	Ι	Dilution	RI
Chloride	· · ·	0		109000		mg/L	······	10000	2.5
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock SO4 (IC) 77371 66370	·	```	Analytical I Date Analy Sample Pre	zed:	E 300.0 2011-02-02 2011-02-02		Prep Me Analyze Prepare	d By: PG
Tep Daten.	00370	·		RL	paradon:	2011-02-02		терате	u by. 16
Parameter		Flag		Result		Units	Γ	Vilution	RI
Sulfate				1850		mg/L		100	2.50
	•		•						•
Sample: 25	5915 - MW	-4							
aboratory:	Midland			A	1-11 - 1	CAL OF 40C		D	that NT/A
Analysis: QC Batch:	TDS 77255			Analytical M Date Analyz		SM 2540C 2011-01-31		Prep Me Analyze	
Prep Batch:	66142			Sample Prep		2011-01-25		Prepare	
					$\mathbf{RL}$	•			
Parameter	. 1 (2 12 2		Flag		esult	Units		Dilution	RI
Fotal Dissolv	ea Solids	- Ja,		194	4000	mg/L		100	10.0

•								
Report Date: 115-6403131A	February 7, 2011			Vork Order: elero/Rock (		• _		umber: 9 of 2 z County, N
Sample: 255	916 - MW-5		•					
Laboratory:	Midland							
Analysis:	BTEX		Analytical M		8021B		Prep Meth	
	77124 66157		Date Analyz Sample Prep		011-01-24 011-01-24		Analyzed E Prepared E	
тер Базен.	00101		bample i rep		011-01-24			у. Аб
<b>.</b>			RI		<b>TT</b> 4.			
Parameter Benzene	Flag		Result <0.00100		Units mg/L	D1	lution 1	· R. 0.0010
Toluene			< 0.00100		mg/L mg/L		1	0.0010
Ethylbenzene			< 0.00100		mg/L		1	0.0010
Xylene			< 0.00100	)	mg/L		1	0.0010
a		<b>D</b> i	<b>n</b> •	<b>TT 1</b> .		Spike	Percent	Recovery
Surrogate Trifluorotoluer	ne (TFT)	Flag	Result 0.107	Units mg/L	Dilution 1	Amount 0.100	Recovery 107	Limits 67.8 - 12
	benzene (4-BFB)		0.0986	mg/L	1	0.100	99	51.1 - 12
Analysis: QC Batch:	Lubbock Chloride (IC) 77370		Date An		2011-02-01		Prep M Analyze	ed By: PG
Laboratory: Analysis: QC Batch:	Lubbock Chloride (IC) 77370 66367		Date An Sample RL		2011-02-01 : 2011-02-01			ed By: PG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370		Date An Sample RL Result	alyzed:	2011-02-01 : 2011-02-01 Units	I	Analyze Prepare Dilution	ed By: PG ed By: PG RJ
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367		Date An Sample RL	alyzed:	2011-02-01 : 2011-02-01		Analyze Prepare	ed By: PG ed By: PG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367		Date An Sample RL Result	alyzed:	2011-02-01 : 2011-02-01 Units		Analyze Prepare Dilution	ed By: PG ed By: PG RJ
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	Lubbock Chloride (IC) 77370 66367 Flag		Date An Sample RL Result	alyzed:	2011-02-01 : 2011-02-01 Units		Analyze Prepare Dilution	ed By: PG ed By: PG RJ
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory:	Lubbock Chloride (IC) 77370 66367 Flag 916 - MW-5 Lubbock		Date An Sample RL Result	alyzed: Preparation	2011-02-01 : 2011-02-01 Units		Analyze Prepare Dilution	ed By: PG ed By: PG RJ 2.5
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch:	Lubbock Chloride (IC) 77370 66367 Flag 916 - MW-5		Date An Sample RL Result 56300	alyzed: Preparation	2011-02-01 : 2011-02-01 Units mg/L		Analyze Prepare Dilution 10000	ed By: PG ed By: PG Ri 2.5 eethod: N/A ed By: PG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 77370 66367 <b>Flag</b> <b>916 - MW-5</b> Lubbock SO4 (IC) 77371 66370		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare	ed By: PG ed By: PG <u>R</u> 2.5 2.5 ethod: N/ <i>A</i> ed By: PG ed By: PG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367 Flag 916 - MW-5 Lubbock SO4 (IC) 77371		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL Result	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02 Units	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare Dilution	ed By: PG ed By: PG R1 2.5 2.5 ethod: N/A ed By: PG ed By: PG R1 R1
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367 <b>Flag</b> <b>916 - MW-5</b> Lubbock SO4 (IC) 77371 66370		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare	ed By: PG ed By: PG <u>R</u> 2.5 2.5 ethod: N/ <i>A</i> ed By: PG ed By: PG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367 <b>Flag</b> <b>916 - MW-5</b> Lubbock SO4 (IC) 77371 66370		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL Result	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02 Units	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare Dilution	ed By: PG ed By: PG R1 2.5 2.5 ethod: N/A ed By: PG ed By: PG R1 R1
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock Chloride (IC) 77370 66367 <b>Flag</b> <b>916 - MW-5</b> Lubbock SO4 (IC) 77371 66370		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL Result	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02 Units	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare Dilution	ed By: PG ed By: PG R1 2.5 2.5 ethod: N/A ed By: PG ed By: PG R1 R1
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch:	Lubbock Chloride (IC) 77370 66367 <b>Flag</b> <b>916 - MW-5</b> Lubbock SO4 (IC) 77371 66370		Date An Sample RL Result 56300 Analytical Date Anal Sample Pr RL Result	alyzed: Preparation	2011-02-01 2011-02-01 Units mg/L E 300.0 2011-02-02 2011-02-02 Units	·	Analyze Prepare Dilution 10000 Prep M Analyze Prepare Dilution	ed By: PG ed By: PG R1 2.5 2.5 ethod: N/A ed By: PG ed By: PG R1 R1

Report Date: February 7, 2011 115-6403131A			der: 11012132 ock Queen #11	•	Page Numbe Chavez C	er: 10 of 22 ounty, NM
Sample: 255916 - MW-5			·		·	
Laboratory: Midland		•				
Analysis: TDS		Analytical Method	l: SM 2540C		Prep Meth	nod: N/A
QC Batch: 77255		Date Analyzed:	2011-01-31		Analyzed	
Prep Batch: 66142		Sample Preparation	on: 2011-01-25	•	Prepared	By: AR
		RL			•	
Parameter	Flag	Result	Unit	8	Dilution	$\mathbf{RL}$
Total Dissolved Solids		109000	mg/l	ر	100	10.0
Laboratory: Midland			:	• .		
Analysis: BTEX QC Batch: 77124 Prep Batch: 66157		Analytical Method: Date Analyzed: Sample Preparation	S 8021B 2011-01-24 2011-01-24		Prep Method: Analyzed By: Prepared By:	AG
QC Batch: 77124 Prep Batch: 66157		Date Analyzed: Sample Preparation RL	2011-01-24 : 2011-01-24	Dil	Analyzed By: Prepared By:	AG AG
QC Batch: 77124	· .	Date Analyzed: Sample Preparation RL Result	2011-01-24 : 2011-01-24 Units	. Dil	Analyzed By:	AG AG RL
QC Batch: 77124 Prep Batch: 66157 Parameter Flag	- -	Date Analyzed: Sample Preparation RL Result <0.00100	2011-01-24 : 2011-01-24 <u>Units</u> mg/L	. Dil	Analyzed By: Prepared By:	AG AG
QC Batch: 77124 Prep Batch: 66157 Parameter Flag Benzene Toluene		Date Analyzed: Sample Preparation RL Result	2011-01-24 : 2011-01-24 <u>Units</u> mg/L mg/L	. Dil	Analyzed By: Prepared By:	AG AG RL 0.00100
QC Batch: 77124 Prep Batch: 66157 Parameter Flag Benzene		Date Analyzed: Sample Preparation RL Result <0.00100 <0.00100	2011-01-24 : 2011-01-24 <u>Units</u> mg/L	. Dil	Analyzed By: Prepared By: ution 1 1	AG AG RL 0.00100 0.00100
QC Batch: 77124 Prep Batch: 66157 Parameter Flag Benzene Toluene Ethylbenzene Xylene .	Flag	Date Analyzed: Sample Preparation RL Result <0.00100 <0.00100 <0.00100 <0.00100	2011-01-24 : 2011-01-24 <u>Units</u> mg/L mg/L mg/L mg/L	Spike	Analyzed By: Prepared By: ution 1 1 1 1 1 Percent	AG AG RL 0.00100 0.00100 0.00100
QC Batch: 77124 Prep Batch: 66157 Parameter Flag Benzene Toluene Ethylbenzene	Flag	Date Analyzed: Sample Preparation RL Result <0.00100 <0.00100 <0.00100 <0.00100	2011-01-24 : 2011-01-24 Units mg/L mg/L mg/L mg/L s Dilution		Analyzed By: Prepared By: <u>ution</u> 1 1 1 1 1	AG AG RL 0.00100 0.00100 0.00100 0.00100 Recovery

### Sample: 255917 - MW-6

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 77371 66370	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-02 2011-02-02	Prep Method: Analyzed By: Prepared By:	PĠ
,		RL			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		25800	mg/L	10000	2.50

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				,				
				·		•		
Report Date		7, 2011		Work Order				umber: 11 of 2
115-6403131.	A			Celero/Rock	Queen #11		Chav	vez County, N
- • ~								
Sample: 25	5917 - MV	V-6			1			
Laboratory:	Lubbock							
Analysis:	SO4 (IC)			Analytical Method:	E 300.0		Prep	Method: N/
QC Batch:	77426			Date Analyzed:	2011-02-06		Analy	zed By: PG
Prep Batch:	66413			Sample Preparation				red By: PG
	•							
Demonster		Diam		RL .	Units	· .	T):141	· ם
Parameter Sulfate		Flag		Result			Dilution	R
Sulfate	•			378	mg/L ·		50	2.5
							-	
- 1 0-								•
Sample: 25	5917 - MV	V-6						
Laboratory:	Midland							
Analysis:	TDS			Analytical Method:	SM 2540C	-	Prep	Method: N/2
QC Batch:	77255			Date Analyzed:	2011-01-31			zed By: AR
Prep Batch:	66142			Sample Preparation:				red By: AR
I top Duton.	00110		• *	bampio i reparation.	· 2011 01 20		* 1000	itu 19. ind
				$\mathbf{RL}$				
Parameter			' Flag	Result	Units		Dilution	R
					/7		100	10
Total Dissolve Sample: 255		V-7	•	. 56700	mg/L		100	. 10.
Sample: 255	5918 - MW	V-7	• • •	56700	mg/L		100	. 10.
Sample: 255 Laboratory:	<b>5918 - MW</b> Midland	V-7	• • •					
Sample: 255	<b>5918 - MW</b> Midland BTEX	V-7		Analytical Method:	S 8021B		Prep Met	hod: S 50301
Sample: 255 Laboratory: Analysis:	<b>5918 - MW</b> Midland	V-7	•	Analytical Method: Date Analyzed:			Prep Met Analyzed	hod: S 50301
Sample: 255 Laboratory: Analysis: QC Batch:	<b>5918 - MW</b> Midland BTEX 77124	V-7		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2011-01-24		Prep Met Analyzed	hod: S 50301 By: AG
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	<b>5918 - MW</b> Midland BTEX 77124	· .		Analytical Method: Date Analyzed: Sample Preparation: RL	S 8021B 2011-01-24 2011-01-24		Prep Met Analyzed Prepared	hod: S 50301 By: AG By: AG
Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	<b>5918 - MW</b> Midland BTEX 77124	V-7 Flag		Analytical Method: Date Analyzed: Sample Preparation: RL Result	S 8021B 2011-01-24 2011-01-24 Units	D	Prep Met Analyzed Prepared Pilution	hod: S 50301 By: AG By: AG RJ
Sample: 258 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene	<b>5918 - MW</b> Midland BTEX 77124	•		Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	S 8021B 2011-01-24 2011-01-24 Units mg/L	D	Prep Met Analyzed Prepared Pilution 1	hod: S 50301 By: AG By: AG RI 0.0010
Sample: 258 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene	5918 - MW Midland BTEX 77124 66157	•		Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L	D	Prep Met Analyzed Prepared Pilution 1 1	hod: S 50301 By: AG By: AG RI 0.0010 0.0010
Sample: 255 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene	5918 - MW Midland BTEX 77124 66157	•		Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L	D	Prep Met Analyzed Prepared Pilution 1 1 1	hod: S 50301 By: AG By: AG RI 0.0010 0.0010 0.0010
Sample: 258 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene	5918 - MW Midland BTEX 77124 66157	•		Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L		Prep Met Analyzed Prepared Vilution 1 1 1 1	hod: S 50301 By: AG By: AG RJ 0.0010 0.0010 0.0010 0.0010
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	5918 - MW Midland BTEX 77124 66157	•	<u></u>	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L	Spike -	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 1 Percent	hod: S 50301 By: AG By: AG RI 0.0010 0.0010 0.0010 0.0010 0.0010 Recovery
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	5918 - MW Midland BTEX 77124 66157	•	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L mg/L Dilution	Spike - Amount	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery	hod: S 50301 By: AG By: AG RI 0.0010 0.0010 0.0010 0.00100 Recovery Limits
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L mg/L Dilution	Spike - Amount	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery	hod: S 50301 By: AG By: AG RI 0.0010 0.0010 0.0010 0.00100 Recovery Limits
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotolue	5918 - MW Midland BTEX 77124 66157 ene (TFT)	Flag	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100 <0.00100 <0.00100 <0.00100 <0.00100 Result Units 0.114 mg/L	S 8021B 2011-01-24 2011-01-24 Units mg/L mg/L mg/L mg/L Dilution 1	Spike - Amount 0.100	Prep Met Analyzed Prepared Pilution 1 1 1 1 1 Percent Recovery 114	hod: S 50301 By: AG By: AG RJ 0.0010 0.00000000

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	-					
Report Date: 115-6403131		7, 2011	Work Order Celero/Rock		Page Numb Chavez (	er: 12 of 22 County, NM
Sample: 25	5918 - MV	V-7				
Laboratory:	Lubbock				•	
Analysis: QC Batch: Prep Batch:	Chloride (. 77370 66367	IC)	Analytical Metho Date Analyzed: Sample Preparation	2011-02-01	Prep Met Analyzed Prepared	By: PG
Parameter		Flag	$\operatorname{RL}$ Result	Units	Dilution	RL
Chloride		······	994	mg/L	100	2.50
Sample: 25	5918 - MV	V-7				·.
Laboratory:	Lubbock				·	
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Met	
QC Batch:	77371		Date Analyzed:	2011-02-02	Analyzed	
Prep Batch:	66370		Sample Preparation	: 2011-02-02	Prepared	By: PG
			RL	ŝ		
Parameter		Flag	Result	Units	Dilution	RL
Sulfate			77.0	mg/L	<u>†</u> 5	2.50
Laboratory: Analysis: QC Batch: Prep Batch:	TDS 77255		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-01-31 2011-01-25	Prep Met Analyzed Prepared	By: AR
Trop Datom.	00112			<b>NOTE OF BO</b>	1 ropulou	259. 1110
Parameter		Flag	RL Result	Units	Dilution	RL
Total Dissolve	ed Solids	1 146	2110	mg/L	5	10.0
		· · · · · · · · · · · · · · · · · · ·			· · ·	
Method Bla	unk (1)	QC Batch: 7712	24			
QC Batch: Prep Batch:	77124 66157			2011-01-24 2011-01-24		By: AG By: AG
Parameter		Flag		1DL sult	Units	RL
Benzene		<u> </u>	<0.000		mg/L	0.001
Toluene		•	< 0.000	<b>)600</b>	mg/L	0.001
Ethylbenzene			<0.000	0800	mg/L	0.001 ntinued
				· •	U	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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Report Date: February 115-6403131A	7, 2011		Order: 11 /Rock Qu			· Page Nur Chave	nber: 13 z Count	
				19611 # 11				y, 111.
method blank continued								
Parameter	Flag		MDL Result		Units	1. ·		RL
Xylene		<	<0.000767		mg/L			0.001
Surrogate	Flag		Jnits	Dilution	Spike Amount	Percent Recovery	Li	overy nits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4	4 DED)		ng/L og/L	1	0.100 0.100	115 111		- 118 - 116
4-Dromonuorobenzene (-	+Brbj	<u> </u>	ng/L	<u> </u>	0.100	111	*1.J	- 110
						)		
Method Blank (1)	QC Batch: 77255							
QC Batch: 77255		Date Analyzed		1-01-31			zed By:	
Prep Batch: 66142	•	QC Preparatio	on: 2011	l-01 <b>-</b> 24		Prepa	red By:	AR
				1DL	11	• <sup>-</sup>		ЪT.
Parameter Total Dissolved Solids	Fla	ig		sult 10.0		nits g/L		RL 10
Method Blank (1)	QC Batch: 77369					•		
QC Batch: 77369	QC Batch: 77369	Date Analyzed QC Preparation		l-02-01 l-02-01			zed By: red By:	
QC Batch: 77369	QC Batch: 77369	Date Analyzed QC Preparatio	on: 2011	l-02-01 l-02-01			zed By: red By:	PG PG
QC Batch: 77369	QC Batch: 77369 Flag				Units	Prepa		
QC Batch: 77369 Prep Batch: 66366	•	QC Preparatio	on: 2011 MDL		Units mg/I	Prepa		PG
QC Batch: 77369 Prep Batch: 66366 Parameter	•	QC Preparatio	on: 2011 MDL Result			Prepa		PG RL
QC Batch: 77369 Prep Batch: 66366 Parameter	•	QC Preparatio	on: 2011 MDL Result			Prepa		PG RL
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride	Flag	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011	I-02-01		Prepar		PG RL 2.5 PG
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride Method Blank (1) QC Batch: 77370	Flag	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011 on: 2011	I-02-01		Prepar	zed By:	PG RL 2.5 PG
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride Method Blank (1) QC Batch: 77370 Prep Batch: 66367 Parameter	Flag	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011 on: 2011 MDL Result	I-02-01	mg/I Units	Prepar Analyz Prepar	zed By:	PG RL 2.5 PG PG RL
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride Method Blank (1) QC Batch: 77370 Prep Batch: 66367	Flag QC Batch: 77370	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011 on: 2011 MDL	I-02-01	mg/I	Prepar Analyz Prepar	zed By:	PG RL 2.5 PG PG
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride Method Blank (1) QC Batch: 77370 Prep Batch: 66367 Parameter	Flag QC Batch: 77370	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011 on: 2011 MDL Result	I-02-01	mg/I Units	Prepar Analyz Prepar	zed By:	PG RL 2.5 PG PG RL
QC Batch: 77369 Prep Batch: 66366 Parameter Chloride Method Blank (1) QC Batch: 77370 Prep Batch: 66367 Parameter	Flag QC Batch: 77370	QC Preparatio	on: 2011 MDL Result <0.0142 d: 2011 on: 2011 MDL Result	I-02-01	mg/I Units	Prepar Analyz Prepar	zed By:	PG RL 2.5 PG PG RL

Report Date: February 7 115-6403131A	<b>7, 2011</b>		ler: 11012132 ck Queen #11		Page Number: 1 Chavez Count	
		Ν	ADL .			
Parameter Chlorida	Flag	Re	esult	Units	·	RL 2.5
Chloride	······································	<0.0	0142	mg/L		2.0
Method Blank (1)	QC Batch: 77371					
QC Batch: 77371 Prep Batch: 66370		Date Analyzed: QC Preparation:			Analyzed By: Prepared By:	
Parameter	Flag		IDL · · · · · · · · · · · · · · · · · · ·	Units		RL
Sulfate	••••••		.126	mg/L		2.5
Method Blank (1) QC Batch: 77426 Prep Batch: 66413	QC Batch: 77426	Date Analyzed: QC Preparation:	2011-02-06 2011-02-06		Analyzed By: Prepared By:	
1 Tep Daton: 00413					r repared by:	10
		M	ÍDL			
Parameter	Flag	Re	sult	Units		RL
Parameter Sulfate	Flag		sult	Units mg/L		RL 2.5
Sulfate	Flag icated Sample: 2559	<0.			Analyzed By: Prepared By:	2.5 AR
Sulfate Duplicates (1) Dupli QC Batch: 77255 Prep Batch: 66142	icated Sample: 2559 Dupli	<0. 21 Date Analyzed: QC Preparation: cate Sample	126 2011-01-31 2011-01-24 e	mg/L	Prepared By:	2.5 AR AR RPD
Sulfate Duplicates (1) Dupli QC Batch: 77255	icated Sample: 2559	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result	126 2011-01-31 2011-01-24 e Units			2.5 AR AR
Sulfate Duplicates (1) Dupli QC Batch: 77255 Prep Batch: 66142 Param	icated Sample: 2559 Dupli Res 147(	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result	126 2011-01-31 2011-01-24 e Units	mg/L Dilution	Prepared By:	2.5 AR AR RPD Limit
Sulfate Duplicates (1) Dupli QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids	icated Sample: 2559 Dupli Res 147(	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result	126 2011-01-31 2011-01-24 e Units	mg/L Dilution	Prepared By:	2.5 AR AR RPD Limit 10 AG
Sulfate Duplicates (1) Dupli QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Laboratory Control Sp QC Batch: 77124 Prep Batch: 66157 Param	icated Sample: 2559 Dupli Res 147( pike (LCS-1) LC Resu	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result 100 134000 Date Analyzed: QC Preparation: S ult Units	126 2011-01-31 2011-01-24 e Units 0 mg/L 2011-01-24 2011-01-24 2011-01-24 Spike Dil. Amount	mg/L Dilution 100 Matrix Result	Prepared By: <u>RPD</u> 9 Analyzed By: Prepared By: F Rec. L	2.5 AR AR Limit 10 AG AG AG
Sulfate         Duplicates (1)       Dupli         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Laboratory Control SJ       QC Batch:       77124         Prep Batch:       66157         Param       Benzene       Toluene         Ethylbenzene       Toluene       Ethylbenzene	icated Sample: 2559 Dupli Res: 147( pike (LCS-1) LC Res: 0.08 0.09 0.10	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result 200 134000 Date Analyzed: QC Preparation: S ult Units 85 mg/L 89 mg/L	126 2011-01-31 2011-01-24 e Units D mg/L 2011-01-24 2011-01-24 2011-01-24 Spike	mg/L Dilution 100 Matrix	Prepared By: RPD 9 Analyzed By: Prepared By: F Rec. Li 88 82.9 99 82.7	2.5 AR AR Limit 10 AG AG
Sulfate         Duplicates (1)       Dupli         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Laboratory Control SJ       QC Batch:         QC Batch:       77124         Prep Batch:       66157         Param       Enzene         Toluene       Toluene	icated Sample: 2559 Dupli Res: 147( pike (LCS-1) LC Res: 0.08 0.09 0.10	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result 200 134000 Date Analyzed: QC Preparation: S ult Units 85 mg/L 89 mg/L	126 2011-01-31 2011-01-24 e Units D mg/L 2011-01-24 2011-01-24 2011-01-24 Spike Dil. Amount 1 0.100 1 0.100	mg/L Dilution 100 Matrix Result <0.000600 <0.000600	Prepared By: RPD 9 Analyzed By: Prepared By: F Rec. Li 88 82.9 99 82.7	2.5 AR AR RPD Limit 10 AG AG AG AG tec. imit - 118 ' - 117
Sulfate         Duplicates (1)       Dupli         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Laboratory Control SJ       QC Batch:       77124         Prep Batch:       66157         Param       Benzene       Toluene         Ethylbenzene       Toluene       Ethylbenzene	icated Sample: 2559 Dupli Res: 147( pike (LCS-1) LC Res: 0.08 0.09 0.10	<0. 21 Date Analyzed: QC Preparation: cate Sample ult Result 200 134000 Date Analyzed: QC Preparation: S ult Units 85 mg/L 89 mg/L	126 2011-01-31 2011-01-24 e Units D mg/L 2011-01-24 2011-01-24 2011-01-24 Spike Dil. Amount 1 0.100 1 0.100	mg/L Dilution 100 Matrix Result <0.000600 <0.000600	Prepared By: RPD 9 Analyzed By: Prepared By: F Rec. Li 88 82.9 99 82.7	2.5 AR AR RPD Limit 10 AG AG AG AG tec. imit - 118 ' - 117

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Report Date: February 7, 2011 115-6403131A			Order: 110 Rock Que			• .	Page Nu Chav		15 of 22 nty, NM
control spikes continued									
Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount		atrix esult	Rec.		Rec. Limit
Xylene	0.308	mg/L	1	0.300		000767	103		.3 - 116
Percent recovery is based on the s	pike result. RF	PD is based of	on the spil	ke and spik	e duplica	te result.	,		
_	LCSD		Spike	Matri			lec.		RPD
Param		nits Dil.	Amount	Resul			mit	RPD	Limit
Benzene Toluene		g/L 1	0.100	<0.0006			- 118	2	20
Ethylbenzene		g/L 1 g/L 1	$\begin{array}{c} 0.100 \\ 0.100 \end{array}$	<0.0006 <0.0008			- 117 - 116	3 4	$\frac{20}{20}$
Xylene		g/L 1 g/L 1	0.100 0.300	< 0.0007			- 110 - 116	4 4	20 20
Percent recovery is based on the s								T	20
i creene recovery is based on the S			m one spit	te and spik					
а	LCS	LCSD			Spike	LCS	LCSD		Rec.
Surrogate	Result	Result	Units		Amount	Rec.	Rec.		Limit
Trifluorotoluene (TFT)	0.110	0.111				4 4 4 1			
4-Bromofluorobenzene (4-BFB)			mg/L	1	0.100	110	111 113		.3 - 113
QC Batch: 77255	0.110 C <b>S-1)</b> Da	0.113 0.113 ate Analyzed C Preparatio	mg/L : 2011-	1 01-31	0.100 0.100	110	113 Analy	68	.2 - 134 AR
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142	0.110 CS-1) Da QQ LCS	0.113 ate Analyzed C Preparatio	mg/L 1: 2011-1 n: 2011-0	1 01-31 01-24 Spil	0.100	110 Matrix	113 Analy Prepa	68 vzed By ared By	.2 - 134 -: AR : AR Rec.
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142	0.110 CS-1) Da Q(	0.113 ate Analyzed C Preparatio Units	mg/L	1 01-31 01-24	0.100	110	113 Analy	68 vzed By ared By	.2 - 134 : AR : AR
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param	0.110 CS-1) Da QC LCS Result 1020	0.113 ate Analyzed C Preparatio Units mg/L	mg/L : 2011 n: 2011 Dil. 1	1 01-31 01-24 Spil Amot 100	0.100 ke int0	110 Matrix Result <9.75	113 Analy Prepa Rec. 102	68 vzed By ared By	.2 - 134 : AR : AR Rec. Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids	0.110 CS-1) Da QC LCS Result 1020 pike result. RF	0.113 ate Analyzed C Preparatio Units mg/L	mg/L : 2011 n: 2011 Dil. 1 on the spik	1 01-31 01-24 Spil Amou 100 ce and spik	0.100 ce int 0 e duplica	110 Matrix Result <9.75 te result.	113 Analy Prepa Rec. 102	68 vzed By ared By	.2 - 134 : AR : AR Rec. Limit 00 - 110
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids	0.110 CS-1) Da QC LCS Result 1020 pike result. RF LCSD	0.113 ate Analyzed C Preparatio Units mg/L	mg/L : 2011 n: 2011 Dil. 1 on the spike Spike	1 01-31 01-24 Spil Amot 100 ce and spik e Matu	0.100 e duplica	110 Matrix Result <9.75 te result. R	113 Analy Prepa Rec. 102	68 vzed By ared By	.2 - 134 : AR : AR Rec. Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp	0.110 CS-1) LCS Result 1020 pike result. RF LCSD Result	0.113 ate Analyzed C Preparatio Units mg/L PD is based o	mg/L 1: 2011-1 n: 2011-0 Dil. 1 on the spik Spike	1 01-31 01-24 Spil Amot 100 ce and spik e Matu nt Resu	0.100 ce int 0 e duplica tix ilt Rec	Matrix Result <9.75 te result. R c. Li	113 Analy Prepa Rec. 102	68 vzed By ared By	.2 - 134 r: AR : AR Rec. Limit 00 - 110 RPD
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids	0.110 CS-1) Da QC LCS Result 1020 pike result. RF LCSD Result U 1020 n	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1	mg/L : 2011-( : 2011-( Dil. 1 on the spik Amou 1000	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.	0.100 ke int 0 e duplica ix ilt Rec 75 10	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By g RPD	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 n pike result. RF	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1	mg/L : 2011-( : 2011-( Dil. 1 on the spik Amou 1000	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.	0.100 ke int 0 e duplica ix ilt Rec 75 10	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By g RPD	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids Percent recovery is based on the sp Laboratory Control Spike (LC	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1)	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of	mg/L 2011-( n: 2011-( Dil. 1 on the spik Amou 1000 on the spik	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.5 ce and spik	0.100 ke int 0 e duplica ix ilt Rec 75 10	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By <u>g</u> RPD 0	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit 10
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1	mg/L : 2011-( n: 2011-( Dil. 1 on the spik Amou 1000 on the spik : 2011-(	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.7 ce and spik	0.100 ke int 0 e duplica ix ilt Rec 75 10	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By g RPD	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit 10 
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed	mg/L : 2011-( n: 2011-( Dil. 1 on the spik Amou 1000 on the spik : 2011-(	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.7 ce and spik	0.100 ke int 0 e duplica ix ilt Rec 75 10	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By <u>g</u> RPD 0 vzed By	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit 10 
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed	mg/L : 2011-( n: 2011-( Dil. 1 on the spik Amou 1000 on the spik : 2011-(	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu ) <9.7 ce and spik	0.100 e duplica ix ilt Rea 75 10 e duplica	$     \begin{array}{r}         110 \\         Matrix \\         Result \\         < 9.75 \\         te result. \\         Result \\         2 90 \\         2 90     \end{array} $	113 Analy Prepa Rec. 102 ec. mit 110	68 vzed By ared By <u>g</u> RPD 0 vzed By	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit 10 
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Percent recovery is based on the spice       Param         Total Dissolved Solids       Percent recovery is based on the spice         Param       Total Dissolved Solids         Percent recovery is based on the spice       Param         Total Dissolved Solids       Percent recovery is based on the spike (LC         QC Batch:       77369         Prep Batch:       66366         Param       Param	0.110 CS-1) Da Q( LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Q( LCS Result	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed	mg/L : 2011-( n: 2011-( Dil. 1 on the spik Amou 1000 on the spik : 2011-(	$\frac{1}{01-31}$ $01-31$ $01-24$ Spill Amou 100 ce and spik e Mata nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 Spike Amou	0.100 e unt 0 e duplica ix ilt Rec 75 10 e duplica	110 Matrix Result <9.75 te result. 2 90 - te result. Matrix Result	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec.	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	.2 - 134 -: AR : AR Rec. Limit 10 RPD Limit 10 -: PG : PG : PG Rec. Limit
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Percent recovery is based on the spice       Param         Total Dissolved Solids       Percent recovery is based on the spice         Param       Total Dissolved Solids         Percent recovery is based on the spice       Param         Total Dissolved Solids       Percent recovery is based on the spice         Param       Total Dissolved Solids         Percent recovery is based on the spice       Percent recovery is based on the spice         Laboratory Control Spike (LC       QC Batch:         QC Batch:       77369         Prep Batch:       66366	0.110 CS-1) Da QC LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da QC LCS	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Inits Dil. ng/L 1 PD is based of the Analyzed C Preparatio	mg/L : 2011-4 n: 2011-4 Dil. 1 on the spik Spike Amou 1000 on the spik : 2011-4 n: 2011-4	1 01-31 01-24 Spil Amot 100 ce and spik e Matr nt Resu 0 <9.7 ce and spik ce and spik 0 2-01 02-01 02-01 Spik	0.100 e unt 0 e duplica ix ilt Rec 75 10 e duplica	110 Matrix Result <9.75 te result. 2 90 - te result. Matrix	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	.2 - 134 -: AR : AR Rec. Limit 00 - 110 RPD Limit 10 -: PG : PG Rec.
Laboratory Control Spike (LC         QC Batch:       77255         Prep Batch:       66142         Param       Total Dissolved Solids         Percent recovery is based on the spectrum       Total Dissolved Solids         Param       Total Dissolved Solids         Param       Total Dissolved Solids         Param       Total Dissolved Solids         Percent recovery is based on the spectrum       Solids         Param       Solids         Param       Solids         Prep Batch:       Solids         Param       Solids         Param       Solids         Param       Solids         Param       Solids	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Qd LCS Result Qd LCS Result Qd	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed C Preparatio Units mg/L	mg/L : 2011-( n: 2011-( Dil. 1 on the spike Amou 1000 on the spike : 2011-( n: 2011-( n: 2011-( Dil. 1 Dil.	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 02-01 Spik Amou 25.0	0.100 ke int 0 e duplica ix ilt Rea 75 10 e duplica e duplica	110 Matrix Result <9.75 te result. 2 90 te result. Matrix Result (0.0142	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec. 97	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	.2 - 134 -: AR : AR Rec. Limit 10 RPD Limit 10 -: PG : PG : PG Rec. Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 77369 Prep Batch: 66366 Param Chloride	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Qd LCS Result Qd LCS Result Qd	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed C Preparatio Units mg/L	mg/L : 2011-( n: 2011-( Dil. 1 on the spike Amou 1000 on the spike : 2011-( n: 2011-( n: 2011-( Dil. 1 Dil.	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 02-01 02-01 Spik Amou 25.0	0.100 ke int 0 e duplica ix ilt Rea 75 10 e duplica e duplica	110 Matrix Result <9.75 te result. 2 90 te result. Matrix Result (0.0142	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec. 97	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	.2 - 134 -: AR : AR Rec. Limit 10 RPD Limit 10 -: PG : PG : PG Rec. Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 77369 Prep Batch: 66366 Param Chloride	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Qd LCS Result Qd LCS Result Qd	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed C Preparatio Units mg/L	mg/L : 2011-( n: 2011-( Dil. 1 on the spike Amou 1000 on the spike : 2011-( n: 2011-( n: 2011-( Dil. 1 Dil.	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 02-01 02-01 Spik Amou 25.0	0.100 ke int 0 e duplica ix ilt Rea 75 10 e duplica e duplica	110 Matrix Result <9.75 te result. 2 90 te result. Matrix Result (0.0142	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec. 97	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	.2 - 134 -: AR : AR Rec. Limit 10 RPD Limit 10 -: PG : PG : PG Rec. Limit
Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 77369 Prep Batch: 66366 Param Chloride	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Qd LCS Result Qd LCS Result Qd	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed C Preparatio Units mg/L	mg/L : 2011-( n: 2011-( Dil. 1 on the spike Amou 1000 on the spike : 2011-( n: 2011-( n: 2011-( Dil. 1 Dil.	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 02-01 02-01 Spik Amou 25.0	0.100 ke int 0 e duplica ix ilt Rea 75 10 e duplica e duplica	110 Matrix Result <9.75 te result. 2 90 te result. Matrix Result (0.0142	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec. 97	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	2 - 134 
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Laboratory Control Spike (LC QC Batch: 77255 Prep Batch: 66142 Param Total Dissolved Solids Percent recovery is based on the sp Param Total Dissolved Solids Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 77369 Prep Batch: 66366 Param Chloride	0.110 CS-1) Da Qd LCS Result 1020 pike result. RF LCSD Result U 1020 m pike result. RF CS-1) Da Qd LCS Result Qd LCS Result Qd	0.113 ate Analyzed C Preparatio Units mg/L PD is based of Units Dil. ng/L 1 PD is based of the Analyzed C Preparatio Units mg/L	mg/L : 2011-( n: 2011-( Dil. 1 on the spike Amou 1000 on the spike : 2011-( n: 2011-( n: 2011-( Dil. 1 Dil.	1 01-31 01-24 Spil Amou 100 ce and spik e Matu nt Resu 0 <9.7 ce and spik ce and spik 02-01 02-01 02-01 02-01 Spik Amou 25.0	0.100 ke int 0 e duplica ix ilt Rea 75 10 e duplica e duplica	110 Matrix Result <9.75 te result. 2 90 te result. Matrix Result (0.0142	113 Analy Prepa Rec. 102 ec. mit 110 Analy Prepa Rec. 97	68 vzed By red By <u>g</u> RPD 0 vzed By vzed By vzed By	2 - 134 : AR Rec. Limit 00 - 110 RPD Limit 10 : PG : PG : PG Rec. Limit

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Report Date 115-6403131	e: February 7, 2011 A				der: 11012 ock Queen				e Number: Chavez Co	
· .	_ ·	LCSD			Spike	Matrix		Rec.		RPD
Param Chloride		Result 24.1	Units mg/L		Amount 25.0	Result <0.0142	Rec. 96	Limit 90 - 110	$\frac{\text{RPD}}{1}$	Limit 20
	very is based on the s								<u> </u>	
	•				1	<b>.</b>	•			
Laboratory	Control Spike (LO	CS-1)								
QC Batch: Prep Batch:	77370 66367		Date An QC Prej	nalyzed: paration:	2011-02- 2011-02-				Analyzed B Prepared B	
. ,		LC	25			Spike	Mat	riv		Rec.
Param	•	Res	sult	Units	Dil.	Amount	Rest	ılt	Rec.	Limit
Chloride Porcont rocco	in hand on the	23 miko rogult		mg/L	1 the spike s	25.0	<0.0		94	90 - 110
r er cent recov	very is based on the s		лг U 18 t	uased on			plicate re			
	•	LCSD			Spike	Matrix		Rec.		RPD
Param	· · ·		Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Laboratory QC Batch:	very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result.	Date An	nalyzed:	2011-02-	02	Rec. 94 plicate re	·	nalyzed B	
Chloride Percent recov Laboratory	Control Spike (LC	Result 23.6 pike result.	mg/L RPD is b Date An	1 based on	25.0 the spike a 2011-02-	<0.0142 and spike du	94	90 - 110 esult. A	) 0	20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch:	Control Spike (LC 77371	Result 23.6 pike result. CS-1) L(	mg/L RPD is b Date An QC Prep CS	1 based on halyzed: paration:	25.0 the spike a 2011-02- 2011-02-	<0.0142 and spike du 02 02 Spike	94 plicate re Mata	90 - 110 sult. A P rix	) 0 nalyzed B repared B	20 y: PG y: PG Rec.
Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371	Result 23.6 pike result. CS-1)	mg/L RPD is b Date An QC Prep CS sult	1 based on nalyzed:	25.0 the spike a 2011-02-	<0.0142 and spike du 02 02	94 plicate re Mata Resu	90 - 110 sult. A P rix	) 0 Analyzed B Prepared B Rec.	20 y: PG y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride	Control Spike (LC 77371	Result 23.6 pike result. CS-1) L( Res 24	mg/L RPD is b Date An QC Prep CS sult	1 based on halyzed: paration: Units mg/L	25.0 the spike a 2011-02- 2011-02- Dil. 1	<0.0142 and spike du 02 02 Spike Amount 25.0	94 plicate re Matz Resu <0.0	90 - 110 sult. A P rix 11t 142	) 0 Analyzed B Prepared B Rec.	20 y: PG y: PG Rec. Limit
Chloride Percent recov Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Percent recov	Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD	mg/L RPD is b Date An QC Prep CS sult .1 RPD is b	1 based on halyzed: paration: Units mg/L based on	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix	94 plicate re Matr Resu <0.0 plicate re	90 - 110 esult. A P rix 11t 142 esult. Rec.	) 0 Inalyzed B Prepared B Rec. 96	20 y: PG y: PG Rec. Limit 90 - 110 RPD
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param	Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Units	1 based on halyzed: paration: Units mg/L based on Dil.	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result	94 plicate re Mata Resu <0.0 plicate re Rec.	90 - 110 sult. A P tix 11t 142 sult. Rec. Limit	) 0 Analyzed B Prepared B Rec. 96 RPD	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride	Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1	mg/L RPD is b Date An QC Prep CS sult .1 RPD is b Units mg/L	1 based on halyzed: paration: Units mg/L based on Dil. 1	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 1lt 142 sult. Rec. Limit 90 - 110	) 0 Analyzed B Prepared B Rec. 96 RPD	20 y: PG y: PG Rec. Limit 90 - 110 RPD
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov	Control Spike (LC 77371 66370 //	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 RPD is b Units mg/L	1 based on halyzed: paration: Units mg/L based on Dil. 1	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 1lt 142 sult. Rec. Limit 90 - 110	) 0 Analyzed B Prepared B Rec. 96 RPD	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Date An	1         based on         based on         based on         Units         mg/L         based on         Dil.         1         based on	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 Analyzed B Prepared B Rec. 96 RPD	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Chloride Percent recov Laboratory QC Batch: Prep Batch: Param Chloride Percent recov Param Chloride Percent recov Laboratory QC Batch:	Control Spike (LC 77371 66370 very is based on the s very is based on the s Control Spike (LC 77371 66370	Result 23.6 pike result. CS-1) LC Res 24 pike result. LCSD Result 24.1 pike result.	mg/L RPD is b Date An QC Prep CS sult .1 1 RPD is b Mg/L RPD is b Mg/L RPD is b	1 based on halyzed: paration: Units mg/L based on Dil. 1 pased on halyzed:	25.0 the spike a 2011-02- 2011-02- Dil. 1 the spike a Spike Amount 25.0 the spike a 2011-02-	<0.0142 and spike du 02 02 Spike Amount 25.0 and spike du Matrix Result <0.0142 and spike du	94 plicate re Matz Resu <0.0 plicate re Rec. 96	90 - 110 sult. A P rix 11t 142 esult. Rec. Limit 90 - 110 esult.	) 0 analyzed B Prepared B Rec. 96 RPD ) 0	20 y: PG y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG

Report Date: February 7, 2011 115-6403131A			Order: 110 Rock Quee				Number: avez Cou	
control spikes continued								
control spines continued	$\mathbf{LC}$	<b>z</b>		Spike	Matı	iv		Rec.
Param	Resu		Dil.	Amount				Limit
	10.50		D	Amount				Lillin
	. LC	S		Spike	Matı	rix ·		Rec.
Param	Resu		Dil.	Amount			ec.	Limit
Sulfate	24.	5 mg/L	1	25.0	< 0.1			90 - 110
Percent recovery is based on the	spike result.	RPD is based	on the spike	e and spike d	uplicate re	sult.		
	LCSD		Spike	Matrix		Rec.		RPD
Param	Result	Units Dil	-		Rec.	Limit	RPD	Limit
Sulfate	24.7	mg/L 1	25.0	<0.126	. 99	90 - 110	1	20
Percent recovery is based on the								
-		•	-	•	•			
Laboratory Control Spike (I	105-1)							
QC Batch: 77426	•	Date Analyzed	i: 2011-0	2-06		Ana	lyzed B	y: PG
Prep Batch: 66413		QC Preparatio					pared By	
• 		• •						
	$\mathbf{LC}$	z .		Snilia	Mati			Rec.
Param	Resu		Dil.	Spike Amount			NC .	Limit
Sulfate	24.		1	25.0	<0.1			$\frac{11110}{90 - 110}$
Percent recovery is based on the								50 - 110
·			-	_	•			חחת
Damana	LCSD	Units Dil	Spike		Dec	Rec.	חחח	RPD
Param	<u>Result</u> 24.7				Rec.	Limit	RPD	$\frac{\text{Limit}}{20}$
Sulfate		0/	25.0	< 0.126	99	90 - 110	0	20
Percent recovery is based on the	spike result. I	RPD is based	on the spike	e and spike d	uplicate re	sult.		
Matrix Spike (MS-1) Spik	ed Sample: 25	5921				•		
QC Batch: 77124		Date Analyzed	l: 2011-0	1_94		۸na	lyzed By	v. ∆C
Prep Batch: 66157		QC Preparatio					pared By	
TOP Datan 00101		go i roparado	2011 0			1101	jaroa 2j	
-				Spike	Matrix			Rec.
	MS			-				Limit
aram	MS Result	t Units	Dil.	Amount	Result	Rec	•	LIIIII
	Result 1 0.0669		Dil.	Amount 0.100		55		
Param Benzene Foluene	Result 1 0.0669 2 0.0633	) mg/L 3 mg/L				55	77	7.9 - 114 3.3 - 11
Benzene .	Result 1 0.0669	9 mg/L 8 mg/L 8 mg/L	1	0.100	0.0121	55 57 00 57	77 78	.9 - 11

<sup>1</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>2</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>3</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>4</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: February 7, 3	2011				rder: 1101			•		0		18 of 22
115-6403131A				Celero/R	lock Quee	n <b>#1</b> :	1			Chav	ez Cou	nty, NM
		MSD			Spike		latrix		$\mathbf{R}$	ec.		RPD
Param		Result	Units	Dil.	Amount		lesult	Rec.		mit	RPD	Limit
Benzene	5	0.0811	mg/L	1	0.100		.0121	69		- 114	19	20
Toluene	6	0.0774	mg/L	1	0.100		.0066	71		- 111	20	20
Ethylbenzene	7	0.0693	mg/L	1	0.100		.00800	69		- 110	19	20
Xylene	8	0.180	mg/L	1	0.300	<0	.000767	60	75.7	- 109	22	20
Percent recovery is based of	n the sp	oike result.	RPD is	s based or	n the spike	and	spike du	plicate	result.			
	•	Ν	1S	MSD			Spi	ke	MS	MSD		Rec.
Surrogate	. *	Re	sult	Result	Units	Dil.	-		Rec.	Rec.		Limit
Trifluorotoluene (TFT)				0.0437	mg/L	1	0.		70	44		.3 - 107
4-Bromofluorobenzene (4-B	FB)			0.0449	mg/L	1	0.		74	45		.1 - 135
	/											
	1				•	12						
Matrix Spike (MS-1)	Spiked	Sample: 2	55915					· .				
QC Batch: 77369			Date A	Analyzed:	2011-0	2-01		•		Analy	zed By	: PG
Prep Batch: 66366		•		eparation							red By	
			4011	opulation								
•							, .					
		Μ					Spike	Μ	latrix			Rec.
Param		Res		Units	Dil.		Amount	-	esult	Rec		Limit
Chloride		369	000	mg/L	10000		250000	1(	)9000	104	ç	90 - 110
Percent recovery is based or	n the sp	ike result.	RPD is	s based or	the spike	and	spike du	olicate	result.			
		MSD			Spike	a	Matrix		· R	ec.		RPD
Param		Result	Units	Dil.	Amou		Result	Rec.			RPD	Limit
Chloride		370000	mg/L				109000	104		- 110	0	20
	. 1										<u> </u>	
Percent recovery is based or	n the sp	ike result.	RPD 18	s based or	i the spike	and	spike duj	plicate	result.			
Matrix Spike (MS-1)	Spiked	Sample: 2	55918								•	
QC Batch: 77370			Date 4	Analyzed:	2011-0	2-01				Analy	zed By	: PG
Prep Batch: 66367				eparation			,				ared By	
00001			~ç∵ 1 I	opur doion		_ 01				- 1040		
							•					
		M	IS				Spike		atrix			Rec.
Param		Rea	sult	Units	Dil.	A	Amount	Re	esult	Rec		Limit

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

3610

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<sup>5</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>6</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>7</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>9</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>9</sup>Surrogate out due to peak interference.

mg/L

100

2500

105

994

90 - 110

<sup>10</sup>Surrogate out due to peak interference.

Chloride

			a.								
Report Date 115-6403131	:: February 7, 20 A	11			ler: 1101213 ck Queen #			P		lumber: vez Cou	
· · ·	···										
Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Ree Lim		RPD	RPD Limit
Chloride		3620	mg/L	100	2500	994	105	90	110	0	20
Percent recov	very is based on t	he spike result.	RPD is I	based on	the spike and	d spike duj	plicate r	esult.			
Matrix Spil	ke (MS-1) S	oiked Sample: 2	55921								
QC Batch:	77371	· · · · · ·	Date Ar	alvzed	2011-02-02				۸na	lyzed By	PC
Prep Batch:	66370			paration:						pared By	
		- •.									
Param		M		Units	Dil.	Spike		atrix	п		Rec.
Chloride		Res 341		mg/L	10000	Amount 250000		sult 200	Re 10		Limit 90 - 110
	very is based on t	•								<u> </u>	
		MSD			Spike	Matrix		Re	c.		RPD
Param		$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Lin	nit	RPD	Limit
Matrix Spil	· · · ·	341000 he spike result. biked Sample: 2	55921		-		104 plicate r	90 - esult.	110	0	20
Percent recov	-	he spike result.	RPD is 1 55921 Date An	based on		d spike duj			110 Ana	0 lyzed By pared By	20 /: PG
Percent recov Matrix Spik QC Batch:	ke (MS-1) Sp 77371	he spike result.	RPD is l 55921 Date An QC Prej	based on nalyzed:	the spike and 2011-02-02	d spike duj	plicate r		110 Ana	lyzed By	20 /: PG
Percent recov Matrix Spik QC Batch: Prep Batch: Param	ke (MS-1) Sp 77371	he spike result. biked Sample: 2	RPD is I 55921 Date An QC Prep S ault	based on nalyzed: paration: Units	the spike and 2011-02-02 2011-02-02 Dil.	d spike duj Spike Amount	plicate r Ma Re	esult. trix sult	110 Ana Prep Re	lyzed By bared By c.	20 7: PG 7: PG Rec. Limit
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate	ke (MS-1) Sp 77371 66370	he spike result. biked Sample: 2 M Res 246	RPD is 1 55921 Date An QC Prep S sult 1 000 1	based on nalyzed: paration: Units mg/L	the spike and 2011-02-02 2011-02-02 Dil. 10000	d spike duj Spike Amount 250000	plicate r Ma Re <1	esult. trix sult 260	110 Ana Prep	lyzed By bared By c.	20 7: PG 7: PG Rec. Limit
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate	ke (MS-1) Sp 77371	he spike result. biked Sample: 2 M Res 246 he spike result.	RPD is 1 55921 Date An QC Prep S sult 1 000 1	based on nalyzed: paration: Units mg/L	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and	d spike duj Spike Amount 250000 d spike duj	plicate r Ma Re <1	esult. sult 260 esult.	110 Ana Prep Re	lyzed By bared By c.	20 7: PG 7: PG Rec. Limit 20 - 110
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate Percent recov	ke (MS-1) Sp 77371 66370	he spike result. biked Sample: 2 M Res 2460 he spike result. MSD	RPD is 1 55921 Date An QC Prep S ult 000 1 RPD is 1	based on nalyzed: paration: Units mg/L based on	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and Spike	d spike duj Spike Amount 250000 d spike duj Matrix	Ma Re <1 plicate re	esult. sult 260 esult. Re	Ana Prep Re 98	lyzed By bared By c. 8 §	20 7: PG 7: PG Rec. Limit 20 - 110 RPD
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate	ke (MS-1) Sp 77371 66370	he spike result. biked Sample: 2 M Res 246 he spike result.	RPD is 1 55921 Date An QC Prep S sult 1 000 1	based on nalyzed: paration: Units mg/L	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and	d spike duj Spike Amount 250000 d spike duj	plicate r Ma Re <1	esult. sult 260 esult.	Ana Prep Re 98 c.	lyzed By bared By c.	20 7: PG 7: PG Rec. Limit 20 - 110
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov	ke (MS-1) Sp 77371 66370 very is based on t	he spike result. biked Sample: 2 M Res 246 he spike result. MSD Result 244000 he spike result.	RPD is 1 55921 Date An QC Prep S ult RPD is 1 RPD is 1 Mg/L RPD is 1	based on nalyzed: paration: Units mg/L based on Dil. 10000	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and Spike Amount 250000	d spike duj Spike Amount 250000 d spike duj Matrix Result <1260	Ma Re <1 plicate re Rec. 98	esult. sult 260 esult. Re Lim 90 -	Ana Prep Re 98 c.	lyzed By bared By cc. 8 9 RPD	20 7: PG 7: PG Rec. Limit 90 - 110 RPD Limit
Percent recov Matrix Spik QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate	ke (MS-1) Sp 77371 66370 very is based on t	he spike result. biked Sample: 2 M Res 2460 he spike result. MSD Result 244000	RPD is 1 55921 Date An QC Prep S ult RPD is 1 RPD is 1 RPD is 1 S 55931 Date An	based on nalyzed: paration: Units mg/L based on Dil. 10000 based on	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and Spike Amount 250000	d spike duj Spike Amount 250000 d spike duj Matrix Result <1260 d spike duj	Ma Re <1 plicate re Rec. 98	esult. sult 260 esult. Re Lim 90 -	Ana Prep Re 98 c. nit 110	lyzed By bared By cc. 8 9 RPD	20 7: PG 7: PG Rec. Limit 90 - 110 RPD Limit 20 7: PG
Percent recov Matrix Spik QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Matrix Spik QC Batch:	ke (MS-1) Sp 77371 66370 very is based on t very is based on t ce (MS-1) Sp 77426	he spike result. biked Sample: 2 M Res 246 he spike result. MSD Result 244000 he spike result.	RPD is 1 55921 Date An QC Prep S ult RPD is 1 RPD is 1 RPD is 1 S 55931 Date An	based on nalyzed: paration: Units mg/L based on Dil. 10000 based on halyzed:	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-06	d spike duj Spike Amount 250000 d spike duj Matrix Result <1260 d spike duj	Ma Re <1 plicate re Rec. 98	esult. sult 260 esult. Re Lim 90 -	Ana Prep Re 98 c. nit 110	lyzed By pared By c. <u>8 9</u> <u>RPD</u> <u>1</u> lyzed By	20 7: PG 7: PG Rec. Limit 90 - 110 RPD Limit 20 7: PG
Percent recov Matrix Spil QC Batch: Prep Batch: Param Sulfate Percent recov Param Sulfate Percent recov Matrix Spik QC Batch:	ke (MS-1) Sp 77371 66370 very is based on t very is based on t ce (MS-1) Sp 77426 66413	he spike result. biked Sample: 2 M Res 246 he spike result. MSD Result 244000 he spike result.	RPD is 1 55921 Date An QC Prep S ult RPD is 1 RPD is 1 RPD is 1 S 55931 Date An	based on nalyzed: paration: Units mg/L based on Dil. 10000 based on halyzed:	the spike and 2011-02-02 2011-02-02 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-06	d spike duj Spike Amount 250000 d spike duj Matrix Result <1260 d spike duj	Ma Re <1 plicate re Rec. 98	esult. sult 260 esult. Re Lim 90 -	Ana Prep Re 98 c. nit 110	lyzed By pared By c. <u>8 9</u> <u>RPD</u> <u>1</u> lyzed By	20 7: PG 7: PG Rec. Limit 90 - 110 RPD Limit 20 7: PG
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		•							
Report Date: Febru 115-6403131A	ary 7, 2011	•			rder: 11012 Rock Queen		Р		ber: 20 of 2 County, NI
matrix spikes contin	nued				,				
		. N	ſS			Spike	Matrix		Rec.
Param		Re	sult	Units	Dil.	Amount	Result	Rec.	Limit
		, M	1S			Spike	Matrix		Rec.
Param			sult	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate				mg/L	50	1250	478	104	90 - 11
Percent recovery is	based on the	spike result.	RPD is	based or	n the spike a	nd spike dur	olicate result.		
_		MSD			Spike	Matrix	Rec		RPI
Param		Result	Units	Dil.	Amount	Result	Rec. Lim		PD Limi
Sulfate		1790	mg/L	50	1250	478	105 90 - 1	110	1 20
Percent recovery is	based on the	spike result.	RPD is I	based or	n the spike a	nd spike dup	blicate result.		
Standard (CCV-2	۰ ۲								
Standard (CCV-2	•)								
QC Batch: 77124			Date An	alyzed:	2011-01-24	Ł		Analyze	ed By: AG
			CCVs		CCVs	CCVs	Percer	at	
			True		Found	Percent	Recove		Date
Param	Flag	Units	Conc.		Conc.	Recovery	Limit	s	Analyzed
Benzene		mg/L	0.100		0.0858	86	80 - 12		2011-01-2
Toluene		mg/L	0.100		0.0989	99	80 - 12		.2011-01-2
Ethylbenzene		mg/L	0.100		0.103	103	80 - 12		2011-01-2
Xylene		mg/L	0.300		0.308	103	80 - 12	20	2011-01-2
Standard (CCV-3	5)								
QC Batch: 77124			Date An	alyzed:	2011-01-24	Ł		Analyze	ed By: AG
			CCVs		CCVs	CCVs	Percer	nt.	
			True		Found	Percent	Recove		Date
Param	Flag	Units	Conc.		Conc.	Recovery	Limit	*	Analyzed
Benzene		mg/L	0.100		0.0820	82	80 - 12		2011-01-2
Toluene		mg/L	0.100		0.0952	95	80 - 12		2011-01-2
Ethylbenzene		mg/L .	0.100		0.0976	98	80 - 12		2011-01-2
Xylene		mg/L	0.300		0.294	98	80 - 12	. 0	2011-01-2
Standard (CCV-1	)								
QC Batch: 77369			Date An	alyzed:	2011-02-01			Analyze	ed By: PG
					· .				
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						<i>.</i>			

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Donort Dat	e: February 7,	9011	v	Work Order: 110	110100	Daga Ni	01 of 0
115-6403131		2011		vork Order: 110 elero/Rock Quee			umber: 21 of 22 vez County, NM
						······································	
			0000	aav	COV.	Percent	
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	<u>, 109</u>	mg/L	25.0	23.6	94	<u>90 - 110</u>	2011-02-01
							<u> </u>
Standard (	CCV-2)						
QC Batch:	77369		Date Ana	alyzed: 2011-02	2-01	Anal	yzed By: PG
				0.001	0.001		
			CCVs	CCVs	CCVs	Percent	
Param	Flag	Units	True Conc.	Found Conc.	Percent	Recovery Limits	Date
Chloride	1 Iag	mg/L	25.0	23.5	Recovery 94	<u>90 - 110</u>	Analyzed 2011-02-01
						30 - 110	
~ 1 1/							
Standard (	CCV-1)						
QC Batch:	77370	•	Date Ana	alyzed: 2011-02	2-01 ·	Anal	yzed By: PG
~			5				
			$\mathbf{CCVs}$	$\mathbf{CCVs}$	CCVs	Percent	
_			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.5	94	90 - 110	2011-02-01
						•	
Standard (	CCV-2)						
QC Batch:	77370		Data Ana	alyzed: 2011-02	<u>.</u> ว∩1	۵nal	yzed By: PG
QU Daten.	11510		Date Ana	.lyzeu: 2011-02	2-01	Allar	yzed by: 1G
	e.		$\mathrm{CCVs}$	CCVs	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	•	mg/L	25.0	23.6	94	90 - 110	2011-02-01
				•			
Standard (	CCV-1)						
Standard (0	,		Data Ana	lugade 2011_00	<u>ک</u> ۵۵	۵nal	wood Byr PC
	,	•	Date Ana	alyzed: 2011-02	2-02	Analy	yzed By: PG
Standard (0	,	• •	Date Ana CCVs	alyzed: 2011-02 CCVs	2-02 CCVs	Analy	yzed By: PG
<b>Standard ((</b> QC Batch:	77371		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
<b>Standard ((</b> QC Batch: Param	,	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
<b>Standard ((</b> QC Batch:	77371	Units mg/L	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date Analyzed
<b>Standard ((</b> QC Batch: Param	77371		CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
<b>Standard ((</b> QC Batch: Param	77371 Flag		CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date
Standard (( QC Batch: Param Chloride Standard ((	77371 Flag CCV-1)		CCVs True Conc. 25.0	CCVs Found Conc. 24.5	CCVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed 2011-02-02
<b>Standard ((</b> QC Batch: Param Chloride	77371 Flag CCV-1)		CCVs True Conc. 25.0	CCVs Found Conc.	CCVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed
Standard (( QC Batch: Param Chloride Standard ((	77371 Flag CCV-1)		CCVs True Conc. 25.0	CCVs Found Conc. 24.5	CCVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed 2011-02-02
Standard (( QC Batch: Param Chloride Standard ((	77371 Flag CCV-1)		CCVs True Conc. 25.0	CCVs Found Conc. 24.5	CCVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed 2011-02-02
Standard (( QC Batch: Param Chloride Standard ((	77371 Flag CCV-1)		CCVs True Conc. 25.0	CCVs Found Conc. 24.5	CCVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed 2011-02-02

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Report Date 115-6403131		7, 2011		Vork Order: 11( elero/Rock Que			umber: 22 of 22 vez County, NM
			<i>a a z</i>			• _	
•			CCVs	CCVs	CCVs	Percent	
Param	Floor	Units	True Conc.	Found Conc.	Percent	Recovery - Limits	Date
Sulfate	Flag	mg/L	25.0	25.0	Recovery 100	<u>90 - 110</u>	Analyzed 2011-02-02
		<u></u>		20.0	100		2011-02-02
Standard (	CCV-2)	• ,					
QC Batch:	77371		Date An	alyzed: 2011-0	2-02	Anal	yzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.0	96	90 - 110	2011-02-02
Standard (	CCV-2)						
QC Batch:	77371	· · ·	Date An	alyzed: 2011-0	2-02	Anal	yzed By: PG
		:	CCVs	CCVs	CCVs	Percent	
	•	•	True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate	·	mg/L	25.0	24.5	98	90 - 110	2011-02-02
							·
Standard ((	CCV-1)						
	· ·		Date An	alyzed: 2011-0	2-06	Anal	yzed By: PG
	· ·						yzed By: PG
	· ·		CCVs	CCVs	CCVs	Percent	 -
QC Batch:	77426	Units	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
QC Batch: Param	· ·	Units mg/L	CCVs	CCVs	CCVs	Percent	Date Analyzed
Standard (( QC Batch: Param Sulfate Standard ((	77426 Flag		CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date
QC Batch: Param Sulfate	77426 Flag CCV-2)		CCVs True Conc. 25.0	CCVs Found Conc.	CCVs Percent Recovery 101	Percent Recovery Limits 90 - 110	Date Analyzed
QC Batch: Param Sulfate Standard ((	77426 Flag CCV-2)		CCVs True Conc. 25.0 Date Ana	CCVs Found Conc. 25.2 alyzed: 2011-0	CCVs Percent Recovery 101 2-06	Percent Recovery Limits 90 - 110 Anal	Date Analyzed 2011-02-06
QC Batch: Param Sulfate Standard ((	77426 Flag CCV-2)		CCVs True Conc. 25.0 Date Ana CCVs	CCVs Found Conc. 25.2 alyzed: 2011-0 CCVs	CCVs Percent Recovery 101 2-06 CCVs	Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2011-02-06 yzed By: PG
QC Batch: Param Sulfate Standard ((	77426 Flag CCV-2)		CCVs True Conc. 25.0 Date Ana	CCVs Found Conc. 25.2 alyzed: 2011-0	CCVs Percent Recovery 101 2-06	Percent Recovery Limits 90 - 110 Anal	Date Analyzed 2011-02-06

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LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	Cheve	12 U	し、NM IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	<b>F</b>	DONH	ICE	NONE	PTEV PAPE	TPH BOIS N	PAH 8270	RCHA Metats Ag As Ba Cd C	TCLP Volati	TCLP Som	RGI GC MS Vol. 8240/8280/834	GC.MS Serr	PCB's 6080/808	Pest B08/6( Chimten D	Gamma Spe	Alpha Beta (Air)	PLM. (Asbostos) Maint Anions/C	3		
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6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800 • 378 • 1296 806 • 794 • 1296 FAX 806 • 794 • 1298

200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 El Paso, Texas 79922 808-508-3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

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WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

## **NELAP** Certifications

Lubbock: T104704219-08-TX

El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

LELAP-02003 Kansas E-10317

# Analytical and Quality Control Report

Report Date: March 15, 2011

Work Order: 11022538

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Project Location:Chavez Co., NMProject Name:Celero/Rock Queen Unit Tract #11Project Number:115-6403131

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
258863	MW-1	water	2011-02-25	10:47	2011-02-25
258864	MW-2	water	2011-02-25	10:36	2011-02-25
258865	MW-3	water	2011-02-25	10:12	2011-02-25
258866	MW-4	water	2011-02-25	10:42	2011-02-25
258867	MW-5	water	2011-02-25	10:30	2011-02-25
258868	MW-6	water	2011-02-25	10:21	2011-02-25
258869	MW-7	water	2011-02-25.	10:00	2011-02-25
258870	RW-1	water	2011-02-25	10:59	2011-02-25

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch

basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael al

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

#### Standard Flags

 ${\bf B}\,$  - The sample contains less than ten times the concentration found in the method blank.

# Case Narrative

Samples for project Celero/Rock Queen Unit Tract #11 were received by TraceAnalysis, Inc. on 2011-02-25 and assigned to work order 11022538. Samples for work order 11022538 were received intact at a temperature of 3.9 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	66902	2011-02-28 at 12:00	77994	2011-02-28 at 15:00
Chloride (IC)	E 300.0	66903	2011-02-28 at 12:00	77995	2011-02-28 at 10:30
SO4 (IC)	E 300.0	67326	2011-03-07 at 12:40	79353	2011-03-07 at 16:10
SO4 (IC)	E 300.0	67327	2011-03-07 at 12:49	79356	2011-03-07 at 20:39
TDS	SM 2540C	67216	2011-02-28 at 11:23	79232	2011-03-11 at 11:24

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11022538 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date 115-6403131		2011		Work Order: Celero/Rock Queen		Page Number: Chavez C	
				Analytical <b>F</b>	Report	· .	
Sample: 25	8863 - MW	7-1				•	
Laboratory:	Lubbock	~			<b>D</b> 000 0		
Analysis:	Chloride (I	C)		Analytical Method:		Prep Method:	N/A
QC Batch: Prep Batch:	77994 66902			Date Analyzed: Sample Preparation	2011-02-28 a: 2011-02-28	Analyzed By: Prepared By:	PG PG
r rep baccii:	00902			Sample r reparation	1. 2011-02-20	r repared by.	гG
				$\mathbf{RL}$			
Parameter		Flag		Result	Units	Dilution	$\mathbf{RI}$
Chloride				109000	mg/L	10000	2.50
Sample: 25	8863 - MW	/-1					
Laboratory:	Lubbock						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353			Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326			Sample Preparation:	2011-03-07	Prepared By:	PG
<b>-</b>				RL	<b>TT</b> 1.		
Parameter		Flag		Result	Units	Dilution	RI
Sulfate				2150	mg/L	100	2.50
Sample: 25	8863 - MW	/-1		•			
Laboratory:	Midland	· •				•	
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	•		Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216			Sample Preparation:	2011-02-28	Prepared By:	AR
rop Datom				Sample I reparation.		110,000 200 200	
Parameter			Flag	RL Result	Units	Dilution	RL
Total Dissolv	red Solids			193000	mg/L	50	10.0
				· · ·	0/		
Sample: 25	8864 - MW	-2					
_	•	—					
Laboratory:	Lubbock Chlorida (I	<b>(1)</b>		Analystical Mathematic	E 200 0	Drop Mathed.	NT / A
	Chloride (I	0)		Analytical Method: Date Analyzed:	E 300.0 2011-02-28	Prep Method: Analyzed By:	N/A
Analysis:				LIBLE ADBIVZED	2011-02-28	Anaivzed BV:	$\mathbf{PG}$
Analysis: QC Batch: Prep Batch:	77994 66902			Sample Preparation		Prepared By:	$\mathbf{PG}$

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115-6403131	e: March 15, 2011		Work Order: Celero/Rock Queen				z Co., NM
=		4.04.2.40					
sample 2588	64 continued						
			RL				·
Parameter	Flag		Result	Units		Dilution	RL
· _	·		RL			· ·	
Parameter Chloride	Flag		Result 67600	Units mg/L		Dilution 10000	RL 2.50
			01000	mg/L	·	10000	
	-						
Sample: 25	8864 - MW-2						
Laboratory:				-			
Analysis: QC Batch:	SO4 (IC) 79353		Analytical Method: Date Analyzed:	E 300.0 2011-03-07		Prep Methode Analyzed E	
Prep Batch:	67326		Sample Preparation:	2011-03-07 2011-03-07		Prepared E	
- TOP LOOM	······································			00 01		- reporter L	
Parameter	Flag		RL Result	Units		Dilution	RL
Sulfate	F lag		1500	mg/L		100	2.50
· .	8864 - MW-2					,	
Laboratory:							
Analysis: QC Batch:	TDS 79232		Analytical Method:	SM 2540C		Prep Metho Analyzed E	
Prep Batch:	67216		Date Analyzed: Sample Preparation:	2011-03-11 2011-02-28		Prepared E	
*				· . 			•
Parameter		Flag	RL Result	Units		Dilution	$\mathbf{RL}$
Total Dissolv	ved Solids		146000	mg/L		100	10.0
Sample: 25	8865 - MW-3		. '			•	
Laboratory:	Lubbock	۰.			•		
wanni arni à	Chloride (IC)		Analytical Method:	E 300.0		Prep Meth	od: N/A
Analysis:			Date Analyzed:	2011-02-28		Analyzed E	
Analysis: QC Batch:	77994		Sample Preparation	n: 2011-02-28		Prepared E	Bỳ: PG
	66902						
QC Batch: Prep Batch:	66902	•	RL				****
QC Batch: Prep Batch: Parameter			Result	Units		Dilution	RL
QC Batch: Prep Batch:	66902			Units mg/L		Dilution 500	RL 2.50
QC Batch: Prep Batch: Parameter	66902		Result				RL 2.50
QC Batch: Prep Batch: Parameter	66902		Result		· · ·		RL 2.50
QC Batch: Prep Batch: Parameter	66902		Result	mg/L			RL 2.50
QC Batch: Prep Batch: Parameter	66902		Result		<i>.</i>		RL 2.50
QC Batch: Prep Batch: Parameter	66902		Result	mg/L			RL 2.50

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						:		
				• •				
Report Date 115-6403131	e: March 15, 2	2011		Work Order: Celero/Rock Queen			Page Number: Chavez C	
Sample: 25	8865 - MW	-3			· ·			
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock SO4 (IC) 79353 67326	·		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-03-07 2011-03-07		Prep Method: Analyzed By: Prepared By:	$\mathbf{PG}$
				$\operatorname{RL}$				
Parameter Sulfate		Flag		Result 115	Units mg/L	Dilutio	n 5	R] 2.5
				110	шқ/ Г		U.	2.0
	,							
Sample: 25	8865 - MW	-3						
Laboratory: Analysis:	Midland TDS		,	Analytical Method:	SM 2540C		Prep Method:	
QC Batch: Prep Batch:				Date Analyzed: Sample Preparation:	2011-03-11 2011-02-28		Analyzed By: Prepared By:	AR AR
Parameter			Flag	RL Result	Units	Dilu	ion	RI
Total Dissolv	red Solids	····	1 lag	10100	mg/L	Ditti	20	10.0
				, , ,		······································		
					·			
Sample: 25		-4						
Laboratory: Analysis:	Lubbock Chloride (IC	-11		Analytical Method:	E 300.0		Prep Method:	
	. 77994	<i>.</i> )		Date Analyzed:	2011-02-28		Analyzed By:	PG
Prep Batch:	66902			Sample Preparation		-	Prepared By:	$\mathbf{PG}$
				$\mathbf{RL}$				
Parameter		Flag		Result	Units	Dilutio		RI
Chloride				7210	mg/L	100	0 .	2.50
				• .				
Sample: 25	8866 - MW	-4						
Laboratory:	Lubbock	•	. к			•		•
Analysis:	SO4 (IC)			Analytical Method:	E 300.0		Prep Method:	
QC Batch:	79353 67396			Date Analyzed:	2011-03-07		Analyzed By: Droporod By:	PG
Prep Batch:	67326	ž		Sample Preparation:	2011-03-07		Prepared By:	$\mathbf{PG}$
Dent			•	RL	TT'			<b></b>
Parameter Sulfate		Flag		Result 182	Units mg/L	Dilutio		RL 2.50
						<b>-</b>		
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	Report Date 115-6403131	: March 15, 2	2011		Work Order: Celero/Rock Queen		Page Number: Chavez C	
	Sample: 25	8866 - MW	-4		•			
	Laboratory:	Midland						
	Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
	QC Batch:	79232			Date Analyzed:	2011-03-11	Analyzed By:	AR
	Prep Batch:	67216			Sample Preparation:	2011-02-28	Prepared By:	AR.
	<b>D</b>				RL			<b>.</b>
	Parameter Total Dissolv	ed Solids		Flag	Result 14100	Units mg/L	Dilution20	$\frac{\text{RL}}{10.0}$
				4				
	Sample: 25	9967 MAN	 ۳					
	-		-0					
	Laboratory: Analysis:	Lubbock Chloride (IG	וי		Analytical Method	: E 300.0	Prep Method:	N/A
	QC Batch:	77994	<b>)</b> .		Date Analyzed:	2011-02-28	Analyzed By:	PG
	Prep Batch:	66902			Sample Preparatio		Prepared By:	$\mathbf{PG}$
					RL		۰.	
	Parameter		Flag		Result	Units	Dilution	$\mathbf{RL}$
	Chloride	·····	•		49900	mg/L	10000	2.50
	•							
	Sample: 258	8867 - MW	-5				, , , , ,	
	Laboratory:	Lubbock						
	Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	
	QC Batch:	79353			Date Analyzed:	2011-03-07	Analyzed By:	PG
	Prep Batch:	67326			Sample Preparation:	2011-03-07	Prepared By:	PG
	_				RL ,			
	Parameter Sulfate	,	Flag		Result 764	Units mg/L	Dilution 100	$\frac{\text{RL}}{2.50}$
			. <u></u>	· · · · · ·	·····			
	a 1		-					
	Sample: 258		-5					
	Laboratory:	Midland			Analytical M-that	SM 9F40C	Durn Mach - J.	NT / A
	Analysis: QC Batch:	TDS 79232			Analytical Method: Date Analyzed:	SM 2540C 2011-03-11	Prep Method: Analyzed By:	AR
	Prep Batch:	67216			Sample Preparation:	2011-02-28	Prepared By:	AR
			•		•		•	
	Parameter .		r	Flag	$\operatorname{RL}$ Result	Units	Dilution	$\mathbf{RL}$
	Total Dissolve	ed Solids	· · · · · · · · ·	1 mg	93000	mg/L	100	10.0
							· ·	
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Report Dat	e: March 15, 2011		Work Orde	er: 11022538	Page Number:	8 of 1
115-6403131				en Unit Tract #11	Chavez C	
Sample: 25	58868 - MW-6					
Laboratory:						
Analysis:	Chloride (IC)		Analytical Meth	od: E 300.0	Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903		Sample Preparat	tion: 2011-02-28	Prepared By:	PG
Parameter	<b>D</b> 1		RL	TI-:+-	Dilution	ומ
Chloride	Flag		Result 26600	Units mg/L	5000	$\frac{R}{2.5}$
			20000			
Samples 2	58868 - MW-6					
			<i>•</i>		· · ·	
Laboratory: Analysis:	Lubbock SO4 (IC)		Analytical Method	: E 300.0	Prep Method:	N/I
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326		Sample Preparation	n: 2011-03-07	Prepared By:	PG
<b>5</b>	·		RL			
Parameter Sulfate	Flag		Result 422	Units mg/L	Dilution 50	RI 2.50
	· · · · · · · · · · · · · · · · · · ·					
Sample: 25	58868 - MW-6					
Laboratory:						
Analysis:	$\mathrm{TDS}$		Analytical Method:		Prep Method:	
QC Batch:	79232		Date Analyzed:	2011-03-11	Analyzed By:	
Prep Batch:	67216		Sample Preparation	n: 2011-02-28	Prepared By:	AR
<b>D</b> (			RL			זת
Parameter Total Dissolv	ved Solids	Flag	Result 56700	Units mg/L	Dilution 100	RI
				· · ·	•	
Sample: 25	58869 - MW-7					
Laboratory:		•				
Analysis:	Chloride (IC)		Analytical Metho	od: E 300.0	Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	$\mathbf{PG}$
Prep Batch:	66903		Sample Preparat	ion: 2011-02-28	Prepared By:	PG
_			RL			
Parameter Chloride	Flag		Result 1230	Units mg/L	Dilution 100	RI 2.50
	- 		1200			
				ta ang ang ang ang ang ang ang ang ang an		•

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Poport Data	: March 15, 2011		Work Order:	11000538	Page Number:	۹ of .
115-6403131	: March 15, 2011		Celero/Rock Queen		Chavez C	
Sample: 25	8869 - MW-7	•			· · ·	1
					-	
Laboratory: Analysis:	Lubbock SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/.
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	
Prep Batch:	67326		Sample Preparation:	2011-03-07	Prepared By:	
			$\operatorname{RL}$			
Parameter	Flag		Result	Units	Dilution	R
Sulfate	· · · · · · · · · · · · · · · · · · ·		79.4	mg/L	•5	2.5
		· .				
Sempler 25	8869 - MW-7					
					•	
Laboratory:	Midland			01 A- 10 A		<b>NT</b> /
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	
QC Batch: Prep Batch:	79232 67216		Date Analyzed: Sample Preparation:	2011-03-11 2011-02-28	Analyzed By: Prepared By:	AR AR
Lich Down	07210		Dample richaragion.	2011-02-20	r repared by.	711
<b>D</b>			RL	ŤŤ	<b>T</b> .11	, D
Parameter Total Dissolve	ad Calida	Flag	Result 2580	Units mg/L	Dilution 5	$\frac{R}{10}$
10601 015001			4000	шыл	U	10.
Sample: 25	8870 - RW-1					
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	$\mathbf{PG}$
Prep Batch:	66903	•	· Sample Preparation	n: 2011-02-28	Prepared By:	$\mathbf{PG}$
		,	RL			
Parameter	Flag		Result	Units	Dilution	R
Chloride			94000	mg/L	10000	2.5

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Report Date: Ma 115-6403131	arch 15, 2011		r: 11022538 en Unit Tract #11	Pa	ge Number: 10 Chavez Co	
Sample: 258870	0 - RW-1					
Laboratory: Mic Analysis: TD QC Batch: 792 Prep Batch: 672	232	Analytical Method Date Analyzed: Sample Preparation	2011-03-11		Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter	Flag	RL Result	Units	Diluti	on	· RĮ
Total Dissolved Se	olids	174000	mg/L	1	00	10.0
Method Blank QC Batch: 779	94	Date Analyzed:	2011-02-28		Analyzed By:	
Prep Batch: 669	· _	QC Preparation:	2011-02-28		Prepared By:	PG
Parameter	Flag		IDL sult	Units		RI
Chloride	<u>_</u>	<0.0		mg/L		2.5
Method Blank ( QC Batch: 779	95	Date Analyzed:	2011-02-28		Analyzed By:	
Prep Batch: 669		QC Preparation:	2011-02-28 IDL		Prepared By:	PG
Parameter	Flag	Re	sult	Units		RI
Chloride	· · ·	. <0.0	142	mg/L		2.5
Method Blank (	(1) QC Batch: 79232			•		
QC Batch: 7923 Prep Batch: 6723		Date Analyzed: QC Preparation:	2011-03-11 2011-02-28		Analyzed By: Prepared By:	
Demonstati			MDL	<b>T</b> T <b>*</b> .		T> 7
Parameter Total Dissolved So	Fla	ıg	Result <9.75	Units . mg/L		$\frac{\text{RL}}{10}$
			20.10	· 111E/12		10

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Report Date: 115-6403131	: March 15	5, 2011	Work Ord Celero/Rock Qu	ler: 11022538 een Unit Tract	t #11		Page Number: Chavez (	
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Method Bla	unk (1)	QC Batch: 79353	•					
QC Batch: Prep Batch:	79353 67326		Date Analyzed: QC Preparation:	2011-03-07 2011-03-07			Analyzed By Prepared By	
			N	MDL				
Parameter		Flag	Re	esult		Units	·	RI
Sulfate		<u> </u>	. <0	).126		mg/L		2.5
Method Bla	unk (1)	QC Batch: 79356						
QC Batch:	79356		Date Analyzed:	2011-03-07	•		Analyzed By	r: PG
Prep Batch:	67327		QC Preparation:	2011-03-07			Prepared By	
Parameter		Flag		MDL esult		Units		RI
Sulfate				).126			*****	
Duplicates (		licated Sample: 2588	70			mg/L		2.5
Duplicates (	79232	blicated Sample: 2588		2011-03-11		mg/L	Analyzed By Prepared By	·: AR
Duplicates ( QC Batch:	79232	÷	70 Date Analyzed: QC Preparation:	2011-03-11 2011-02-28		mg/L		: AR : AR
Duplicates ( QC Batch:	79232	blicated Sample: 2588 Dupli Res	70 Date Analyzed: QC Preparation: cate Sampl	2011-03-11 2011-02-28 le	s Dil			r: AR : AR RPD
<b>Duplicates (</b> QC Batch: Prep Batch:	79232 67216	Dupli	70 Date Analyzed: QC Preparation: cate Sampl ult Resul	2011-03-11 2011-02-28 le lt Unit		ution ·	Prepared By	r: AR : AR RPD
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve	79232 67216 ed Solids	Dupli Res 1820	70 Date Analyzed: QC Preparation: cate Sampl ult Resul	2011-03-11 2011-02-28 le lt Unit		ution ·	Prepared By RPD	: AR : AR RPD Limit
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory	79232 67216 ed Solids Control S	Dupli Res	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400	2011-03-11 2011-02-28 le lt Unit 0 mg/		ution ·	Prepared By RPD 5	: AR : AR RPD Limit 10
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch:	79232 67216 ed Solids	Dupli Res 1820	70 Date Analyzed: QC Preparation: cate Sampl ult Resul	2011-03-11 2011-02-28 le lt Unit 0 mg/ 2011-02-28		ution ·	Prepared By RPD	: AR : AR RPD Limit 10 : PG
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch:	79232 67216 ed Solids Control S 77994	Dupli Res 1820	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation:	2011-03-11 2011-02-28 le it Unit 0 mg/ 2011-02-28 2011-02-28	L I	ution ·	Prepared By RPD 5 Analyzed By	: AR : AR RPD Limit 10 : PG
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch:	79232 67216 ed Solids Control S 77994	Dupli Res 1820 Spike (LCS-1) L( Res	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation: CS sult Units	2011-03-11 2011-02-28 le it Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28	L 1 Spike mount	ution 00 Matrix Result	Prepared By <u>RPD</u> 5 Analyzed By Prepared By Rec.	: AR : AR RPD Limit 10 : PG : PG Rec. Limit
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride	79232 67216 ed Solids Control S 77994 66902	Dupli Ress 1820 Spike (LCS-1) LO Res 23	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 000 17400 Date Analyzed: QC Preparation: CS sult Units .3 mg/L	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 2011-02-28	L 1 Spike mount 25.0	ution 00 Matrix Result <0.0142	Prepared By RPD 5 Analyzed By Prepared By Rec. 93 \$	: AR AR RPD Limit 10 : PG : PG Rec.
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride	79232 67216 ed Solids Control S 77994 66902	Dupli Res 1820 Spike (LCS-1) LC Res 23 d on the spike result.	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 000 17400 Date Analyzed: QC Preparation: CS sult Units .3 mg/L	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and	L 1 Spike mount 25.0 spike duplica	ution 00 Matrix Result <0.0142 ite result	Prepared By RPD 5 Analyzed By Prepared By Rec. 93 \$	: AR : AR Limit 10 : PG : PG Rec. Limit 00 - 110
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Percent recove	79232 67216 ed Solids Control S 77994 66902	Dupli Ress 1820 Spike (LCS-1) LC Res 23 d on the spike result. LCSD	70 Date Analyzed: QC Preparation: cate Sampl ult Result 00 17400 Date Analyzed: QC Preparation: CS sult Units 1.3 mg/L RPD is based on	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I	L 1 Spike mount 25.0 spike duplica Matrix	ution .00 Matrix Result <0.0142 ate result F	Prepared By          RPD         5         Analyzed By         Prepared By         Rec.         93         Rec.	: AR : AR RPL Limi 10 : PG : PG : PG Rec. Limit 0 - 110 RPD
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride	79232 67216 ed Solids Control S 77994 66902	Dupli Res 1820 Spike (LCS-1) LC Res 23 d on the spike result.	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 000 17400 Date Analyzed: QC Preparation: CS sult Units .3 mg/L	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I Amount	L 1 Spike mount 25.0 spike duplica Matrix Result R	ution 00 Matrix Result <0.0142 ate result Fec. L	Prepared By RPD 5 Analyzed By Prepared By Rec. 93 \$	: AR : AR RPD Limit 10 : PG : PG Rec. Limit
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Param Chloride	79232 67216 ed Solids Control S 77994 66902 ery is based	Dupli Ress 1820 Spike (LCS-1) LCSD Result LCSD Result	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation: CS sult Units 1.3 mg/L RPD is based on Units Dil. mg/L 1	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I Amount 1 25.0 <	L I Spike mount 25.0 spike duplica Matrix Result R (0.0142 9	Matrix Matrix Result <0.0142 ate result Eec. L 4 90	Prepared By           RPD           5           Analyzed By           Prepared By           Rec.           93           Rec.           imit         RPD           - 110         0	: AR : AR RPD Limit 10 : PG : PG : PG : PG Rec. Limit W - 110 RPD Limit
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Param Chloride	79232 67216 ed Solids Control S 77994 66902 ery is based	Dupli Ress 1820 Spike (LCS-1) LC Res 23 d on the spike result. LCSD Result 23.4	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation: CS sult Units 1.3 mg/L RPD is based on Units Dil. mg/L 1	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I Amount 1 25.0 <	L I Spike mount 25.0 spike duplica Matrix Result R (0.0142 9	Matrix Matrix Result <0.0142 ate result Eec. L 4 90	Prepared By           RPD           5           Analyzed By           Prepared By           Rec.           93           Rec.           imit         RPD           - 110         0	: AR : AR RPL Limi 10 : PG : PG : PG : PG Rec. Limit W - 110 RPL Limi
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Param Chloride	79232 67216 ed Solids Control S 77994 66902 ery is based	Dupli Ress 1820 Spike (LCS-1) LC Res 23 d on the spike result. LCSD Result 23.4	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation: CS sult Units 1.3 mg/L RPD is based on Units Dil. mg/L 1	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I Amount 1 25.0 <	L I Spike mount 25.0 spike duplica Matrix Result R (0.0142 9	Matrix Matrix Result <0.0142 ate result Eec. L 4 90	Prepared By           RPD           5           Analyzed By           Prepared By           Rec.           93           Rec.           imit         RPD           - 110         0	: AR : AR RPI Limi 10 : PG : PG : PG : PG : Limit W - 110 RPI Limi
Duplicates ( QC Batch: Prep Batch: Param Total Dissolve Laboratory QC Batch: Prep Batch: Prep Batch: Param Chloride Param Chloride	79232 67216 ed Solids Control S 77994 66902 ery is based	Dupli Ress 1820 Spike (LCS-1) LC Res 23 d on the spike result. LCSD Result 23.4	70 Date Analyzed: QC Preparation: cate Sampl ult Resul 100 17400 Date Analyzed: QC Preparation: CS sult Units 1.3 mg/L RPD is based on Units Dil. mg/L 1	2011-03-11 2011-02-28 le t Unit 0 mg/ 2011-02-28 2011-02-28 2011-02-28 Dil. A 1 the spike and Spike I Amount 1 25.0 <	L I Spike mount 25.0 spike duplica Matrix Result R (0.0142 9	Matrix Matrix Result <0.0142 ate result Eec. L 4 90	Prepared By           RPD           5           Analyzed By           Prepared By           Rec.           93           Rec.           imit         RPD           - 110         0	: AR : AR RPI Limi 10 : PG : PG : PG : PG : Limit W - 110 RPI Limi

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Report Date 115-6403131	e: March 15, 20	11				er: 110225 een Unit T			Page	Number: Chavez	12 of 1 Co., NI
Laboratory	Control Spik	œ (LCS	-1)				· .	:			-
QC Batch: Prep Batch:	77995 66903	-			nalyzed: eparation:	2011-02-2 2011-02-2				nalyzed E repared B	
Param			L( Res	sult	Units	Dil.	Spike Amount	Matriz Result		Rec.	Rec. Limit
Chloride			23		mg/L	1	25.0	< 0.014		94	90 - 11
Percent recov	very is based or	1 the spi		RPD is	based on		-	plicate res			·
Param		•	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPI Limi
Chloride	very is based on	+h "	23.2	mg/L	1	25.0	<0.0142		90 - 110	1	20
Prep Batch:	67216	•	Ŧ	-	paration:	2011-02-2		<b>.</b>		epared B	-
Param Total Dissolv	red Solids		Re	CS sult 51	Units mg/L	Dil.	Spike Amount 1000	Matri Resul <9.75	t F	Rec. 96	Rec. Limit 90 - 11
	very is based on	the spil									
		•	LCSD			Spike	Matrix		Rec.		RPI
Param Total Dissolv	ad Solida		Result 977	Units	Dil.	Amount 1000	Result <9.75	Rec. 98 9	Limit 0 - 110	RPD 2	Limi 10
	very is based on	the spil		mg/L BPD is						<u>∠</u>	10
						1					
Laboratory	Control Spik	e (LCS	-1)		·,						
QC Batch: Prep Batch:	79353 67326				nalyzed: paration:	2011-03-0 2011-03-0				alyzed B epared B	
Param		. •		CS <sup>°</sup> sult	Units	Dil.	Spike Amount	Matriz Result		lec.	R.ec. Limit
Sulfate				.3	mg/L	1	25.0	<0.12			$\frac{11111}{90 - 110}$
Percent recov	very is based on	the spil	ke result.	RPD is	based on	the spike a	nd spike du	plicate resu	ılt.		
Param			LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			24.6	mg/L	1	25.0	< 0.126	98 9	0 - 110	1	20
Sulfate	verv is based or	the spil	ke result.	RPD is	based on	the spike a	nd spike du	plicate resu	ılt.		
Percent recov											
	, ,					•					

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	· .								
Report Date: March 15, 2011 115-6403131	• .			er: 11022538 een Unit Tra			Page	Number: Chavez	
<u> </u>			· · · · · · · · · · · · · · · · · · ·						
Laboratory Control Spike (L	(CS-1)			•			· .		
QC Batch: 79356 Prep Batch: 67327			nalyzed: eparation:	2011-03-07 2011-03-07				alyzed B epared B	
	· L	$\mathbf{CS}$			Spike	Matri	x		Rec.
Param	· Re	sult	Units	Dil.	Amount	Resul	t R	.ec.	Limit
Sulfate		4.2	mg/L	1 .	25.0	< 0.12		97	90 - 110
Percent recovery is based on the	spike result.	. RPD is	based on	the spike an	d spike duj	plicate res	ult.		
D	LCSD	TT •4		Spike	Matrix	Ð	Rec.		RPD
Param Sulfate	Result 24.3	Units mg/L		Amount 25.0	Result <0.126	Rec. 97	Limit . 90 - 110	RPD_0	Limit 20
Percent recovery is based on the									
QC Batch: 77994 Prep Batch: 66902			nalyzed: eparation:	2011-02-28 2011-02-28				alyzed B epared B	
•		Date A QC Pre				Motr	Pre		y: PG
Prep Batch: 66902 Param	M Res	Date A QC Pre				Matr Resu	Pre		
Prep Batch: 66902 Param Chloride	M Res 292	Date A QC Pre Sult	eparation: Units mg/L	2011-02-28 Dil. 10000	Spike Amount 250000	Resu 4990	Pre ix lt R 0 (	epared B	y: PG Rec. Limit
Prep Batch: 66902 Param	M Res 292 spike result.	Date A QC Pre Sult	eparation: Units mg/L	2011-02-28 Dil. 10000	Spike Amount 250000	Resu 4990	Pre ix lt R 0 (	epared B	y: PG Rec. Limit 90 - 110
Prep Batch: 66902 Param Chloride Percent recovery is based on the	M Res 292 spike result. MSD	Date A QC Pre Sult 000 RPD is	Units mg/L based on	2011-02-28 Dil. 10000 the spike and Spike	Spike Amount 250000 d spike dup Matrix	Resu 4990 plicate resu	Pre ix lt R 0 S ult. Rec.	epared B	y: PG Rec. Limit 90 - 11( RPD
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the second se	M Res 292 spike result.	Date A QC Pre sult 000 RPD is Units	eparation: Units mg/L	2011-02-28 Dil. 10000 the spike and Spike Amount	Spike Amount 250000 d spike dur Matrix Result	Resu 4990 plicate resu Rec.	Pre ix lt R 0 3	epared B	y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 66902 Param Chloride Percent recovery is based on the	M Res 292 spike result. MSD Result 293000	Date A QC Pre Sult 000 RPD is Units mg/L	Units mg/L based on Dil. 10000	2011-02-28 Dil. 10000 the spike and Spike Amount 250000	Spike Amount 250000 d spike dup Matrix Result 49900	Resu 4990 plicate resu Rec. 97	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110	epared B dec. 97 RPD	y: PG Rec.
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the second chloride           Param           Chloride           Percent recovery is based on the second chloride	M Res 292 spike result. MSD Result 293000	Date A QC Pressult 000 RPD is Units mg/L RPD is	Units mg/L based on Dil. 10000	2011-02-28 Dil. 10000 the spike and Spike Amount 250000	Spike Amount 250000 d spike dup Matrix Result 49900	Resu 4990 plicate resu Rec. 97	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110	epared B dec. 97 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the second chloride           Param           Chloride           Percent recovery is based on the second chloride	M Reg 292 spike result. MSD Result 293000 spike result.	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A	Units mg/L based on Dil. 10000	2011-02-28 Dil. 10000 the spike and Spike Amount 250000	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup	Resu 4990 plicate resu Rec. 97	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult.	epared B dec. 97 RPD	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the second se	M Reg 292 spike result. MSD Result 293000 spike result. ed Sample: 2	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A	Units mg/L based on Dil. 10000 based on nalyzed:	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup	Resu 4990 plicate resu Rec. 97	Pre ix lt R 0 S ult. Rec. Limit 90 - 110 ult. An Pre	alyzed B	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG
Prep Batch: 66902          Param         Chloride         Percent recovery is based on the standard	M Res 292 spike result. MSD Result 293000 spike result. d Sample: 2 M Res	Date A QC Presson Sult 000 RPD is <u>Units</u> mg/L RPD is 58874 Date A QC Presson Sult	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil.	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup	Resu 4990 plicate rest 97 plicate rest Matri Resul	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. An Pre x t R	ec.	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG y: PG y: PG Rec. Limit
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the state           Param           Chloride           Percent recovery is based on the state           Matrix Spike (MS-1)           Spike           QC Batch:         77995           Prep Batch:         66903           Param           Chloride	M Res 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Res 1	Date A QC Pre Sult 000 RPD is <u>Units</u> mg/L RPD is 58874 Date Ai QC Pre 1S sult 23	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup Spike Amount 125	Resu 4990 plicate resu 97 plicate resu flicate resu Resul 6.26	Pre ix lt R o S ult. <u>Limit</u> 90 - 110 ult. Pre x t R S	ec.	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG y: PG y: PG Rec. Limit
Prep Batch: 66902          Param         Chloride         Percent recovery is based on the standard	M Res 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Res 12 spike result.	Date A QC Pre Sult 000 RPD is <u>Units</u> mg/L RPD is 58874 Date Ai QC Pre 1S sult 23	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup 5 Amount 125 d spike dup	Resu 4990 plicate resu 97 plicate resu flicate resu Resul 6.26	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. Pre x t R t R 1 t.	ec.	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 110
Prep Batch:       66902         Param       Chloride         Percent recovery is based on the standard standa	M Res 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Res 12 spike result. MSD	Date A QC Pressor Soult 000 RPD is <u>Units</u> mg/L RPD is 58874 Date An QC Pressor Ssult 23 RPD is	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L based on	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and Spike	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup 125 d spike dup Matrix	Resu 4990 plicate resu 97 plicate resu Colicate resu 6.26 plicate resu	Pre ix lt R 0 0 0 0 0 110 nlt. Pre x t R 1 1 t. Rec.	epared B dec. 97 RPD 0 alyzed B spared B ec. 93	y: PG Rec. Limit 90 - 11( RPD Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 11( RPD
Prep Batch: 66902           Param           Chloride           Percent recovery is based on the state           Param           Chloride           Percent recovery is based on the state           Matrix Spike (MS-1)           Spike           QC Batch:         77995           Prep Batch:         66903           Param           Chloride	M Res 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Res 12 spike result.	Date A QC Pre Sult 000 RPD is <u>Units</u> mg/L RPD is 58874 Date Ai QC Pre 1S sult 23	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup 5 Amount 125 d spike dup	Resu 4990 plicate resu 97 plicate resu folicate resu Resul 6.26 plicate resu Rec.	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. Pre x t R t R 1 t.	ec.	y: PG Rec. Limit 90 - 110 RPE Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 110 RPD
Prep Batch:       66902         Param       Chloride         Percent recovery is based on the standard standa	M Ree 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Ree 12 spike result. MSD Result 123	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A QC Pressult 23 RPD is sult 23 RPD is units mg/L	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L based on Dil. 5	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and Spike Amount 125	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup 125 d spike dup Matrix Result 6.26	Resu 4990 plicate resu 97 plicate resu folicate resu 6.26 plicate resu 6.26 plicate resu	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. An Pre x t R 1 t. Rec. Limit 00 - 110	epared B RPD 0 alyzed B pared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPE Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch:       66902         Param       Chloride         Percent recovery is based on the standard chloride       Percent recovery is based on the standard chloride         Percent recovery is based on the standard chloride       Matrix Spike (MS-1)         Spike       QC Batch:       77995         Prep Batch:       66903       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride	M Ree 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Ree 12 spike result. MSD Result 123	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A QC Pressult 23 RPD is sult 23 RPD is units mg/L	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L based on Dil. 5	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and Spike Amount 125	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup 125 d spike dup Matrix Result 6.26	Resu 4990 plicate resu 97 plicate resu folicate resu 6.26 plicate resu 6.26 plicate resu	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. An Pre x t R 1 t. Rec. Limit 00 - 110	epared B RPD 0 alyzed B pared B ec. 03 RPD	y: PG Rec. Limit 90 - 11( RPD Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 11( RPD Limit
Prep Batch:       66902         Param       Chloride         Percent recovery is based on the standard chloride       Percent recovery is based on the standard chloride         Percent recovery is based on the standard chloride       Matrix Spike (MS-1)         Spike       QC Batch:       77995         Prep Batch:       66903       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride	M Ree 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Ree 12 spike result. MSD Result 123	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A QC Pressult 23 RPD is sult 23 RPD is units mg/L	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L based on Dil. 5	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and Spike Amount 125	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup Matrix Result 6.26 d spike dup	Resu 4990 plicate resu 97 plicate resu folicate resu 6.26 plicate resu 6.26 plicate resu	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. An Pre x t R 1 t. Rec. Limit 00 - 110	epared B RPD 0 alyzed B pared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPE Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch:       66902         Param       Chloride         Percent recovery is based on the standard chloride       Percent recovery is based on the standard chloride         Percent recovery is based on the standard chloride       Matrix Spike (MS-1)         Spike       QC Batch:       77995         Prep Batch:       66903       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride         Param       Chloride       Percent recovery is based on the standard chloride	M Ree 292 spike result. MSD Result 293000 spike result. ed Sample: 2 M Ree 12 spike result. MSD Result 123	Date A QC Pressult 000 RPD is Units mg/L RPD is 58874 Date A QC Pressult 23 RPD is sult 23 RPD is units mg/L	Units mg/L based on Dil. 10000 based on nalyzed: paration: Units mg/L based on Dil. 5	2011-02-28 Dil. 10000 the spike and Spike Amount 250000 the spike and 2011-02-28 2011-02-28 2011-02-28 Dil. 5 the spike and Spike Amount 125	Spike Amount 250000 d spike dup Matrix Result 49900 d spike dup d spike dup Matrix Result 6.26 d spike dup	Resu 4990 plicate resu 97 plicate resu folicate resu 6.26 plicate resu 6.26 plicate resu	Pre ix lt R 0 3 ult. Rec. Limit 90 - 110 ult. An Pre x t R 1 t. Rec. Limit 00 - 110	epared B RPD 0 alyzed B pared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPE Limit 20 y: PG y: PG y: PG Rec. Limit 90 - 110 RPD Limit

Report Date: March 15, 2 115-6403131	.011	Celer	Work Ord o/Rock Que	ler: 110225 een Unit Ti			Page	e Number: Chavez	Co., NM
Matrix Spike (MS-1)	Spiked Sampl	le: 258869				-			
QC Batch: 79353 Prep Batch: 67326			Analyzed: reparation:	2011-03-0 2011-03-0				nalyzed B repared B	
	·				0.1	· . 	•••		D
Param		MS Bogult	Units	Dil.	Spike Amount		ıtrix sult 1	Rec.	Rec. Limit
Sulfate		Result 210	$\frac{0 \text{ ms}}{\text{mg/L}}$	<u> </u>	125			104 -	90 - 110
								104	30 - 110
Percent recovery is based of	on the spike res	suit. RPD I	s based on	the spike a	uia spike au	plicate	tesun.	•.	
	MS	D		Spike	Matrix		Rec.		RPD
Param	Rest			Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	20	9 mg/1	L 5	125	79.4	104	90 - 110	0	20
Percent recovery is based of	on the spike res	suit. RPD i	s based on	the spike a	and spike du	plicate i	result.	·· .	
	Spiked Sampl		Analwadi	2011 02 (	07		٨	nalwood D	
QC Batch: 79356	Spiked Sampl	Date . QC P	Analyzed: reparation:	2011-03-( 2011-03-(	07		. P.	nalyzed B repared B	y: PG
QC Batch: 79356 Prep Batch: 67327	Spiked Sampl	Date . QC P MS	reparation:	2011-03-(	07 Spike		. P: .trix	repared B	y: PG Rec.
QC Batch: 79356 Prep Batch: 67327 Param	Spiked Sampl	Date QC P MS Result	reparation: Units	2011-03-0 Dil.	07 Spike Amount	Re	. P: trix sult	repared B	y: PG Rec. Limit
QC Batch: 79356 Prep Batch: 67327 Param Sulfate		Date QC P MS Result 217	reparation: Units mg/L	2011-03-0 Dil. 5	07 Spike Amount 125	Re 88	P sult 1 3.3	repared B	y: PG Rec. Limit
QC Batch: 79356 Prep Batch: 67327 Param Sulfate	on the spike res	Date QC P MS Result 217 sult. RPD i	reparation: Units mg/L	2011-03-6 Dil. 5 the spike a	07 Spike Amount 125 and spike du	Re 88	Patrix sult 1 3.3 result.	repared B	y: PG Rec. Limit 90 - 110
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based o	on the spike res MS	Date QC P MS Result 217 sult. RPD i D	Units mg/L s based on	2011-03-6 Dil. 5 the spike a Spike	07 Spike Amount 125 and spike du Matrix	Re 88 plicate 1	P. sult 1 3.3 result. Rec.	Rec.	y: PG Rec. Limit 90 - 110 RPD
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param	on the spike res MS Res	Date QC P MS Result 217 sult. RPD i D	Units mg/L s based on s Dil.	2011-03-0 Dil. 5 the spike a Spike Amount	07 Spike Amount 125 and spike du Matrix Result	Re 81 plicate 1 Rec.	P. sult 1 3.3 result. Rec. Limit	Rec. Rec. 103 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i D ult Unit 8 mg/J	Units mg/L s based on s Dil. L 5	2011-03-0 Dil. 5 the spike a Spike Amount 125	07 Spike Amount 125 and spike du Matrix Result 88.3	Re 88 plicate 1 Rec. 104	P. sult 1 3.3 result. Rec. Limit 90 - 110	Rec.	y: PG Rec. Limit 90 - 110 RPD
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i D ult Unit 8 mg/J	Units mg/L s based on s Dil. L 5	2011-03-0 Dil. 5 the spike a Spike Amount 125	07 Spike Amount 125 and spike du Matrix Result 88.3	Re 88 plicate 1 Rec. 104	P. sult 1 3.3 result. Rec. Limit 90 - 110	Rec. Rec. 103 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate Percent recovery is based of	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i D ult Unit 8 mg/J	Units mg/L s based on s Dil. L 5	2011-03-0 Dil. 5 the spike a Spike Amount 125	07 Spike Amount 125 and spike du Matrix Result 88.3	Re 88 plicate 1 Rec. 104	P. sult 1 3.3 result. Rec. Limit 90 - 110	Rec. Rec. 103 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate Percent recovery is based of Standard (CCV-1)	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i D ult_Unit 8_mg/J sult. RPD i	Units mg/L s based on s Dil. L 5 s based on	2011-03-0 Dil. 5 the spike a Spike Amount 125	Spike Amount 125 and spike du Matrix Result 88.3 and spike du	Re 88 plicate 1 Rec. 104	P. sult 1 3.3 result. Rec. Limit 90 - 110 result.	Rec. Rec. 103 RPD	y: PG Rec. Limit 90 - 110 RPD Limit 20
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate Percent recovery is based of Standard (CCV-1)	on the spike res MS Res 21	Date . QC P MS Result 217 sult. RPD i D ult_Unit 8_mg/J sult. RPD i Date .	Units mg/L s based on s Dil. L 5 s based on Analyzed:	2011-03-0 Dil. 5 the spike a Spike Amount 125 the spike a 2011-02-28	Spike Amount 125 and spike du Matrix Result 88.3 and spike du	Re 88 plicate 1 Rec. 104	P. trix sult 1 3.3 result. Rec. Limit 90 - 110 result. A	Rec. 103 RPD 0	y: PG Rec. Limit 90 - 110 RPD Limit 20
QC Batch: 79356 Prep Batch: 67327 Param Sulfate Percent recovery is based of Param Sulfate Percent recovery is based of Standard (CCV-1)	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i D ult_Unit 8_mg/J sult. RPD i	Units mg/L s based on s Dil. L 5 s based on	2011-03-0 Dil. 5 the spike a Spike Amount 125 the spike a 2011-02-28	Spike Amount 125 and spike du Matrix Result 88.3 and spike du	Rec. Plicate = Rec. 104 plicate =	P. sult 1 3.3 result. Rec. Limit 90 - 110 result.	Rec. 103 RPD 0	y: PG Rec. Limit 90 - 110 RPD Limit 20
-	on the spike res MS Res 21	Date QC P MS Result 217 sult. RPD i alt Unit 8 mg/J sult. RPD i Date A CCVs	Units mg/L s based on s Dil. L 5 s based on Analyzed: CC	2011-03-0 Dil. 5 the spike a Spike Amount 125 the spike a 2011-02-28 CVs md	Spike Amount 125 and spike du Matrix Result 88.3 and spike du	Rec. Plicate = Rec. 104 plicate =	P. trix sult 1 3.3 result. Rec. Limit 90 - 110 result. A Percent	Rec. 103 RPD 0 nalyzed B	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: PG

QC Batch: 77994

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Date Analyzed: 2011-02-28

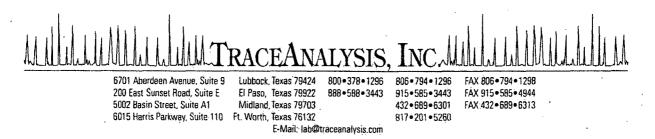
Analyzed By: PG

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Report Dat 115-6403131	e: March 15, 1	2011		Vork Order: 110 Rock Queen Uni			umber: 15 of 1 Chavez Co., Ni
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.4	94	90 - 110	2011-02-2
Standard (	(CCV-1)						
QC Batch:	77995	. <i>.</i>	Date An	alyzed: 2011-0	2-28 .	Anal	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzeo
Chloride		mg/L	25.0	23.4	94	90 - 110	2011-02-2
Standard (	(CCV-2)						
QC Batch:	77995		· Date An	alyzed: 2011-0	2-28	Anal	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.3	93	90 - 110	2011-02-2
Standard (	CCV-1)						
QC Batch:			Date An	alyzed: 2011-0	3-07	Anal	yzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.6	98	90 - 110	2011-03-0
Standard (	CCV-2)				· .		
QC Batch:	79353		CCVs	alyzed: 2011-0 CCVs	CCVs	Percent	yzed By: PG
Param Sulfate	Flag	Units mg/L	True Conc. 25.0	Found Conc. 24.4	Percent Recovery . 98	Recovery Limits 90 - 110	Date Analyzed 2011-03-0'
			20.0				2011 00 0
Standard (						, · ·	
QC Batch:	79356		Date An	alyzed: 2011-03	3-07	Anal	yzed By: PG
	-		. 4				`

Report Da 115-64031	ate: March 15, 31	2011		Vork Order: 110 Rock Queen Un			umber: 16'o Chavez Co.,
	· · · · · · · · · · · · · · · · · · ·		CCVs .	CCVs	CCVs	Percent	
			True.	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyz
Sulfate Standard		mg/L	25.0	24.4	.98	90 - 110	2011-03
Standard	(CCV-2)				· · · · · · · · · · · · · · · · · · ·		
	(CCV-2)		Date An	alyzed: 2011-0	13-07	Ana	2011-03
Standard	(CCV-2)		Date An CCVs	alyzed: 2011-0 CCVs	13-07 CCVs	Ana Percent	lyzed By: F
Standard	(CCV-2)		Date An	alyzed: 2011-0	13-07	Ana	

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An An	alys	sis F	Red	au	est of Chain of Custo	odv F	Re	)C	:0	rd									PA	GE:	1			OF:	1		
			C		~											(0					EQUE Met/		Vo.)				
			Ľ	ſ	<b>TETRA TECH</b> 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946								15 (Ext. to C35)	Cd Cr Pb Hg Se	R		T							oH (TOS.)			
					SITE MANAGER:	ERS		P		ERVA			TX1005	Ba				)/624	0/625					H			
PROJECT N	10.:		1		NAME: Queen Unit Tract # 11	NIAINOC	Ê	-						2	3	5		240/8260	Vol. 827	8			Ē	os) (Catione	l L		
LAB I.D. NUMBER	DATE	TIME		GRAB	Chaver Co Nim	NUMBER OF CONTAINERS	FILTERED (Y/N)	ΗGL	HNO3	ICE	NONE	<b>1</b> - 1	TPH 8015 MOD. PAH 8270	RCRA Metals	TCLP Metals Ag /	TCLP Volatiles	I CLP Semi volgules RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi	PCB's 8080/6	Pest. 808/508	Gamma Spec	Alpha Beta (Air)	PLM (Asbestos) Maior Anions/Cations	5,15		
258863	2/25	1047	W	X	Mw-1	l	ŀ		Ţ	X							T		Π		X			)	TK	Π	T
864		1036			MW-2																					$\prod$	
865		1012			MW-3	[]										·					$\prod$						
810io		1042			mw-il																						
867	-	1030			MW-5					$\prod$																	
868		1021			mw-la					$\prod$															$\left  \right $		
369		1000			Mw-7																						
870		1059		_	RW-1	l				$\mathbb{V}$					ŀ						J			J	1		
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RELINGUISCED	BY (Signatu	1 / f			Date: 2-25-1/ RECEIVED BY (Signature)				ate:						ŀ												ŀ
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REUNQUISHED	BY: (Signatur	re)			Time:			771	me: _					FED	X D DE	IVER		BU	S S	·			OTHE				<sup>1</sup>
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CITY: M. L.L. CONTACT:		STATE:	_73	PHON	E: DATE: Z-26-11		VIE: _	1	(1)						heff	· 1	h.,	76	24					RUSH Autho Ye			Vo
3.9°C	inta		copie	s - I	Laboratory retains Yellow copy - Return Orginal copy	y to Tetra Te		X	<u>L</u>	L.		h	uns F		N	Uil	j	U	$\mathcal{Y}_{1}$		tu	1	at	<u>U</u>			(a) X

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### Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: April 27, 2011

Work Order: 11041524

Project Location:Chavez Co., NMProject Name:Celero/Rock Queen Unit Tract #11Project Number:115-6403131

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	· Time	Date
Sample	Description	Matrix	Taken	Taken	Received
263884	MW-1	water	2011-04-14	13:40	2011-04-15
263885	MW-2	water	2011-04-14	13:25	2011-04-15
263886	MW-3	· water	2011-04-14	12:30	2011-04-15
263887	MW-4	water	2011-04-14	13:55	2011-04-15
263888	MW-5	water	2011-04-14	13:10	2011-04-15
263889	MW-6	water	2011-04-14	12:50	2011-04-15
263890	MW-7	water	2011-04-14	12:15	2011-04-15

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 27 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abert

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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Sample 263884 (MW-1)	6
Sample 263885 (MW-2)	
Sample 263886 (MW-3)	
Sample 263887 (MW-4)	
Sample 263888 (MW-5)	
Sample 263889 (MW-6)	
Sample 263869 (MW-0)	
Sample 200090 (MW-7)	
Method Blanks	16
QC Batch 80419 - Method Blank (1)	
QC Batch 80546 - Method Blank (1)	
QC Batch 80546 - Method Blank (1)	
QC Batch 80572 - Method Blank (1)	
QC Batch $80572$ - Method Blank (1)	
QC Batch 80661 - Method Blank (1)	
QC Batch 80715 - Method Blank (1)	
QC Batch 80661 - Duplicate (1)	
QC Batch 80715 - Duplicate (1)	
Laboratory Control Spikes	19
QC Batch 80419 - LCS (1)	
QC Batch 80546 - LCS (1)	
QC Batch 80546 - LCS (1)	
QC Batch 80572 - LCS (1)	
QC Batch 80572 - LCS (1)	
QC Batch 80661 - LCS (1)	
QC Batch 80715 - LCS (1)	
QC Batch 80546 - MS (1)	
QC Batch 80546 - MS (1)	
QC Batch 80572 - MS (1)	
QC Batch 80572 - MS (1)	
Calibration Standards	24
QC Batch 80419 - CCV (1)	
QC Batch 80419 - CCV (2)	
QC Batch 80419 - CCV (3)	
QC Batch 80546 - ICV (1)	
QC Batch $80546 - ICV (1)$ .	
QC Batch 80546 - CCV (1)	
QC Batch 80546 - CCV (1)	
QC Batch $80540 - CCV (1) \dots \dots$	
QC Batch 80572 - ICV (1)	
QC Batch 80572 - CCV (1)	

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 QC Batch 80572 - CCV (1)
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 Laboratory Certifications
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 Standard Flags
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# Case Narrative

Samples for project Celero/Rock Queen Unit Tract #11 were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041524. Samples for work order 11041524 were received intact without headspace and at a temperature of 0.6 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	Batch	Date
BTEX	S 8021B	68257	2011-04-18 at 08:51	80419	2011-04-18 at 08:51
Chloride (IC)	E 300.0	68355	2011-04-19 at 15:06	80546	2011-04-21 at 15:10
Chloride (IC)	E 300.0	68378	2011-04-21 at 11:03	80572	2011-04-22 at 11:04
SO4 (IC)	E 300.0	68355	2011-04-19 at 15:06	80546	2011-04-21 at 15:10
SO4 (IC)	E 300.0	68378	2011-04-21 at 11:03	80572	2011-04-22 at 11:04
TDS	SM 2540C	68386	2011-04-19 at 11:50	80661	2011-04-25 at 15:08
TDS -	SM 2540C	68387	2011-04-20 at 11:51	80715	2011-04-26 at 13:47

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11041524 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: April 27, 2011 115-6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 6 of 27 Chavez Co., NM

# **Analytical Report**

#### Sample: 263884 - MW-1

Laboratory: Midland	÷							
Analysis: BTEX		v	cal Method:	S 8021			Prep Method:	
QC Batch: 80419			nalyzed:	2011-04	4-18		Analyzed By:	ME
Prep Batch: 68257		Sample	Preparation	: 2011-04	4-18		Prepared By:	ME
				$\mathbf{RL}$				
Parameter	Flag	Ce	rt	Result	Unit	s	Dilution	RL
Benzene		1	<	(0.00100	mg/l	ե	1	0.00100
Toluene		1	<	<0.00100	mg/l		1	0.00100
Ethylbenzene		1	<	(0.00100	mg/l		1	0.00100
Xylene		1	<	<0.00100	mg/i		1	0.00100
						Spike	Percent	Recovery
Surrogate	F	ag Ce	rt Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0804	mg/L	1	0.100	80	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0881	mg/L	1	0.100	88	51.1 - 128
Sample: 263884 - MW-1								

Analysis: QC Batch: Prep Batch:	5			Method: vzed: paration:	Prep Method: Analyzed By: Prepared By:	AR		
i iop Dateii.	00000		ompie i re	.parasion. R	2011-04-19 L		Trepared by.	AIL
Parameter		Flag	Cert	Resu	-	nits	Dilution	$\mathbf{RL}$
Chloride			. 1	5740	0 n	ıg/L	5000	2.50

#### Sample: 263884 - MW-1

Laboratory: Midland

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 80546 68355		Analytical M Date Analyze Sample Prepa		21	Prep Method: Analyzed By: Prepared By:	ÁR
				$\operatorname{RL}$			
Parameter		Flag	$\operatorname{Cert}$	Result	Units	Dilution	$\operatorname{RL}$
Sulfate			1	1620	mg/L	50	2.50

Report Date: April 27, 2011 115-6403131				Work Orde /Rock Quee					er: 7 of 27 ez Co., NM
Sample: 263884 - MW-1									
Laboratory: Midland			4 1,1		014.0			<b>D</b> . M (1	1 <b>1</b> / A
Analysis: TDS QC Batch: 80661			Analytic Date An	al Method:	: SM 2 2011-0			Prep Meth Analyzed 1	
Prep Batch: 68386				Preparation				Prepared I	
1			•	- •				•	- 0
Parameter		Flag		Cert	I Resi	RL	Units	Dilution	$\operatorname{RL}$
Total Dissolved Solids	·····	r iag			968		mg/L	100	10.0
							1116/12		
									t
Sample: 263885 - MW-2									
Laboratory: Midland									
Analysis: BTEX		An	olytical	Method:	S 8021E	<b>ર</b> .		Prep Method:	S 5030B
QC Batch: 80419			ite Anal		2011-04			Analyzed By:	
Prep Batch: 68257				eparation:				Prepared By:	
			-		$\mathbf{RL}$				
Parameter	Flag		Cert		Result	Uni		Dilution	RL
Benzene			i		0.00100	mg/		1	0.00100
Toluene			1		0.00100	mg/		1	0.00100 0.00100
Ethylbenzene Xylene			1		0.00100 0.00100	mg/ mg/		1 .	0.00100
V) IGIIC			1			6/			
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	<u> </u>	riag	<u> </u>	0.0809	mg/L	1	0.100	U	67.8 - 129
4-Bromofluorobenzene (4-BFB)			1	0.0914	mg/L	1	0.100	91	51.1 - 128
· · · · · · · · · · · · · · · · · · ·									
Sample: 263885 - MW-2									
Laboratory: Midland									
Analysis: Chloride (IC)			Analy	tical Metho	od: E :	800.0		Prep Meth	od: N/A
QC Batch: 80546				Analyzed:		1-04-21	÷	Analyzed I	
Prep Batch: 68355				le Preparat		1-04-19		Prepared I	
					$\operatorname{RL}$				
Parameter	Flag		Cert		Result	Un	nits	Dilution	$\mathbf{RL}$
Chloride			1		53300	mg	g/L	5000	2.50

. 115-6403131					Rock Que						havez C	
Sample: 26	3885 - MW-2											
Laboratory:	Midland											
Analysis:	SO4 (IC)	I.			al Method		300.0			Prep M		
QC Batch:	80546				nalyzed:		1-04-21			· Analyz		
Prep Batch:	68355		· Sa	ample	Preparatio	n: 201	1-04-19			Prepar	red By:	AF
Demonstern		Flag		Cont		RL		T T *4	_	Dibatian		п
Parameter Sulfate		Flag		Cert		Result		Unit		Dilution		$\frac{R}{2.5}$
Sunate				1		1170		mg/l		50		2.0
Sample: 26	3885 - MW-2											
Laboratory:	Midland											
Analysis:	TDS		A	nalytic	al Method	: SM	2540C			Prep M	Aethod	: N/
QC Batch:	80661				alyzed:		1-04-25				zed By:	
Prep Batch:	68386		Sa	mple l	Preparation	n: 201	1-04-19			Prepar	red By:	AR
Parameter			Die -		Current .	л	RL	т	T *4 -	Dibuti		ъ
Total Dissolv	ad Colido		Flag		Cert		esult		Jnits	Dilution 100		R 10.
10tai Dissolv			<u></u>	·	• 1 .	04	1500		ıg/L	100	J	
Sample: 26	3886 - MW-3											
Laboratory:	Midland	-										
Analysis:	BTEX		۸ne	lutical	Method:	S 802	1B			Prep Meth	nd S	5030
QC Batch:	80419			e Anal		2011-				Analyzed		лЕ ЛЕ
Prep Batch:	68257				eparation:					Prepared I		ΛĒ
1				1	•					1		
Parameter		Flag		$\operatorname{Cert}$		RL Result		Units		Dilution		R
Benzene		<u> </u>		1	<	).00100		mg/L		1		0.0010
Toluene				1		).00100		mg/L		1		0.0010
Ethylbenzene				1		).00100		mg/L		1		0.0010
Xylene			1.000	1	<	0.00100		mg/L		1	(	0.0010
				_					Spike	Percent		ecover
		]	Flag	Cert	Result	Units		ition	Amount			imits
Surrogate				ł	0.0907	nıg/L	,	1	0.100	91	67.	.8 - 12
Trifluorotolue	ene (TFT) obenzene (4-BFB)			1	0.0963	mg/L		1	0.100	96		.1 - 12

•

115-6403131	April 27, 2011		Work Ord Celero/Rock Qu	er: 11041524 een Unit Tract #	<u>4</u> 11	Page Number: Chavez C	
Sample: 263	886 - MW-3						
Laboratory:	Midland						
Analysis:	Chloride (IC)		Analytical Met	hod: E 300.0		Prep Method:	N/A
	80546		Date Analyzed:		1	Analyzed By:	ÁŔ
Prep Batch:	68355		Sample Prepara	ation: 2011-04-1	.9	Prepared By:	AR
	Υ.			RL			
Parameter		Flag	Cert	Result	Units	Dilution	RI
Chloride			1	2880	$\rm mg/L$	100,	2.5(
Sample: 263	886 - MW-3						
	Midland						
	SO4 (IC)		Analytical Metho			Prep Method:	
•	80546		Date Analyzed:	2011-04-21		Analyzed By:	$\mathbf{AR}$
Prep Batch: (	68355		Sample Preparati	on: 2011-04-19		Prepared By:	AR.
-				$\mathbf{RL}$			
				<b>T</b> 1.			<b></b>
Parameter	- · · · · · · · · · · · · · · · · · · ·	Flag	Cert	Result	Units	Dilution	
Parameter Sulfate		Flag		Result 73.2	Units mg/L	Dilution 5	
Sulfate Sample: 2638 Laboratory: 1 Analysis: 7 QC Batch: 8	886 - MW-3 Midland TDS 80715 68387			73.2 1: SM 2540C 2011-04-26			RI 2.50 N/A AR AR
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6 Parameter	Midland TDS 80715 68387		Analytical Method Date Analyzed:	73.2 1: SM 2540C 2011-04-26 on: 2011-04-20		5 Prep Method: Analyzed By:	2.50 N/A AR
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6	Midland TDS 80715 68387		Analytical Method Date Analyzed: Sample Preparatic	73.2 I: SM 2540C 2011-04-26 on: 2011-04-20 RL	mg/L	5 Prep Method: Analyzed By: Prepared By:	2.50 N/A AR AR RI
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6 Parameter Total Dissolved Sample: 2638	Midland TDS 80715 58387 1 Solids 887 - MW-4		Analytical Method Date Analyzed: Sample Preparatic Flag Cert	73.2 I: SM 2540C 2011-04-26 on: 2011-04-20 RL Result	mg/L Units	5 Prep Method: Analyzed By: Prepared By: Dilution	2.50 N/A AR AR
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6 Parameter Total Dissolved Sample: 2638 Laboratory: N	Midland TDS 80715 68387 1 Solids 887 - MW-4 Midland		Analytical Method Date Analyzed: Sample Preparatic Flag Cert	73.2 1: SM 2540C 2011-04-26 on: 2011-04-20 RL Result 4440	mg/L Units	5 Prep Method: Analyzed By: Prepared By: Dilution 5	2.50 N/A AR AR RI 10.0
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6 Parameter Total Dissolved Sample: 2638 Laboratory: I Analysis: I	Midland TDS 80715 68387 1 Solids 887 - MW-4 Midland BTEX		Analytical Method Date Analyzed: Sample Preparatic Flag Cert	73.2 1: SM 2540C 2011-04-26 2011-04-20 RL Result 4440 S. 8021B	mg/L Units	5 Prep Method: Analyzed By: Prepared By: Dilution 5 Prep Method: S	2.50 N/A AR AR RI 10.0
Sulfate Sample: 2638 Laboratory: I Analysis: 7 QC Batch: 8 Prep Batch: 6 Parameter Total Dissolved Sample: 2638 Laboratory: I Analysis: I QC Batch: 8	Midland TDS 80715 68387 1 Solids 887 - MW-4 Midland		Analytical Method Date Analyzed: Sample Preparatic Flag Cert	73.2 1: SM 2540C 2011-04-26 2011-04-20 RL Result 4440 S. 8021B 2011-04-18	mg/L Units	5 Prep Method: Analyzed By: Prepared By: Dilution 5	2.50 N/A AR AR 10.0 5030B E

Report Date: April 27, 2011 115-6403131		Celerc		Page Number: 10 of 27 Chavez Co., NM				
sample 263887 continued								
Parameter	Flag	Cert		RL Result	Units		Dilution	RL
r ai ameter	riag	Cert		nesun	Units		Dilution	
				$\mathbf{RL}$				
Parameter	Flag	Cert		Result	Units	3	Dilution	$\mathbf{RL}$
Benzene		1	<	0.00100	mg/I	,	1	0.00100
Toluene		1	<	0.00100	mg/L		1	0.00100
Ethylbenzene		1	<	(0.00100)	mg/I		1	0.00100
Xylene		1	<	0.00100	mg/I		1	0.00100
						Spike	Percent	Recovery
Surrogate	Fla	ag Cert	Result	Units	Dilution	Amount		Limits
Trifluorotoluene (TFT)	, ,,	1	0.0868	mg/L	1	0.100	87	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0990	mg/L	1	0.100	99	51.1 - 128

### Sample: 263887 - MW-4

Laboratory:	Midland							
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0		Prep Method:	N/A
QC Batch:	80572		Date Analy	vzed:	2011-04-22	2	Analyzed By:	AR
Prep Batch:	68378		Sample Pre	eparation:	2011-04-21	L	Prepared By:	AR
				R	L			
Parameter		Flag	Cert	Resu	lt	Units	Dilution	$\mathbf{RL}$
Chloride	-		1	1220	0	mg/L	1000	2.50

### Sample: 263887 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 80572 68378		Analytical M Date Analyze Sample Prepa		4-22	Prep Method: Analyzed By: Prepared By:	AR
Parameter	RL Flag Cert Result Units				Units	Dilution	$\mathbf{RL}$
Sulfate		· · · · · · · · · · · · · · · · · · ·	2	347	mg/L	100	2.50

Report Date: April 27, 20 115-6403131	)11		Vork Order: Rock Queen					er: 11 of 27 ez Co., NM
Sample: 263887 - MW	-4						ć	
Laboratory: Midland								
Analysis: TDS			al Method:	SM 25			Prep Metl	
QC Batch: 80715 Prep Batch: 68387		Date Ana		2011-0 : 2011-0			Analyzed	
Prep Datch: 00007		Sample r	Preparation:	2011-0	4-20		Prepared	By: AR
				R				
Parameter		Flag	Cert	Resu		Units	Dilution	RL
Total Dissolved Solids			j	2640	<u>0 n</u>	ng/L	100	10.0
	· .							
Sample: 263888 - MW-	-5							
Laboratory: Midland								
Analysis: BTEX		Analytical		S 8021B			Prep Method:	S 5030B
QC Batch: 80419		Date Analy		2011-04-			Analyzed By:	
Prep Batch: 68257		Sample Pre	eparation:	2011-04-	18		Prepared By:	ME
		~	_	RL				
Parameter	Flag	Cert		Result	Units		Dilution	RL
Benzene Toluene		1		)0650 )0680	mg/L mg/L		· 1 1	$0.00100 \\ 0.00100$
Ethylbenzene		1		.00100	mg/L mg/L		1	0.00100
Xylene		1		.00100	mg/L		1	0.00100
<u> </u>								
Surrogate	Fl	ag Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1		mg/L	1	0.100	73	67.8 - 129
4-Bromofluorobenzene (4-I	3FB)	1		mg/L	1	0.100	83	51.1 - 128
······································				•			······	
Sample: 263888 - MW-	-5							
_	0							
Laboratory: Midland Analysis: Chloride (IC	<i>A1</i>	Anolw	tical Method	1. 10.90	<u>م مر</u>		Doop Math	.J. N/A
Analysis: Chloride (IC QC Batch: 80572	i)		Analyzed:		.10.0 1-04-22		Prep Meth Analyzed 1	
Prep Batch: 68378	•		e Preparatio		1-04-22		Prepared I	
•		-	.*				÷ .	- 0
Parameter	Flag	Cert	R	RL lesult	Units	0	Dilution	$\operatorname{RL}$
Chloride	1 1005	i		7500	mg/I		5000	2.50
				C			,	

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Report Date: April 27, 2011 115-6403131				: 11041524 n Unit Tract	#11	Page Numbe Chave	er: 12 of 27 ez Co., NM
Sample: 263888 - MW-5					•		
Laboratory:MidlandAnalysis:SO4 (IC)QC Batch:80572Prep Batch:68378		Date An	al Method: alyzed: Preparation	2011-04-2		Prep Meth Analyzed J Prepared I	By: AR
		~		RL		<b>—</b> · · · ·	
Parameter Sulfate	Flag	Cert		Result	Units	Dilution	RL
Sunate		1		1100	mg/L	50	2.50
Sample: 263888 - MW-5							
Laboratory: Midland Analysis: TDS QC Batch: 80715 Prep Batch: 68387		Date Ana	d Method: dyzed: reparation	2011-04-20	3	Prep Meth Analyzed I Prepared I	By: AR
Parameter		Flag	Cert	$\operatorname{RL}$ Result	Units	Dilution	RL
Total Dissolved Solids							
			1	109000	mg/L	100	
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419		Analytical Date Analy Sample Pre	Method: rzed:				10.0
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257	Flag	Date Analy Sample Pre	Method: rzed: paration:	109000 S 8021B 2011-04-18 2011-04-18 RL	mg/L	100 Prep Method: Analyzed By: Prepared By:	10.0 S 5030B ME ME
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419	Flag	Date Analy	Method: 'zed: paration:	109000 S 8021B 2011-04-18 2011-04-18		100 Prep Method: Analyzed By:	10.0 S 5030B ME ME RL
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene	Flag	Date Analy Sample Pre	Method: vzed: paration: <0	109000 S 8021B 2011-04-18 2011-04-18 RL Result	mg/L Units	100 Prep Method: Analyzed By: Prepared By: Dilution	10.0 S 5030B ME ME RL 0.00100 0.00100
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene	Flag	Date Analy Sample Pre	Method: vzed: paration: <0 <0 <0 <0	109000 S 8021B 2011-04-18 2011-04-18 RL Result .00100 .00100 .00100	mg/L Units mg/L mg/L mg/L	100 Prep Method: Analyzed By: Prepared By: Dilution 1	10.0 S 5030B ME ME RL 0.00100 0.00100 0.00100
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene	Flag	Date Analy Sample Pre	Method: vzed: paration: <0 <0 <0 <0	109000 S 8021B 2011-04-18 2011-04-18 RL Result .00100 .00100	mg/L Units mg/L mg/L	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1	10.0 S 5030B ME ME RL 0.00100
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene Ethylbenzene Xylene		Date Analy Sample Pre	Method: vzed: sparation: <0 <0 <0 <0 <0 <0	109000 S 8021B 2011-04-18 2011-04-18 RL Result .00100 .00100 .00100 .00100	mg/L Units mg/L mg/L mg/L mg/L Spike	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 1	10.0 S 5030B ME ME RL 0.00100 0.00100 0.00100 0.00100 Recovery
Sample: 263889 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene Ethylbenzene		Date Analy Sample Pre	Method: vzed: paration: <0 <0 <0 <0	109000 S 8021B 2011-04-18 2011-04-18 RL Result .00100 .00100 .00100 .00100	mg/L Units mg/L mg/L mg/L mg/L	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10.0 S 5030B ME ME RL 0.00100 0.00100 0.00100 0.00100

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115-6403131	e: April 27, 2011			Vork Order: Rock Queen	Unit Tract #	11	Page Number: 1 Chavez C	
Sample: 26	3889 - MW-6							
Laboratory:	Midland							
Analysis:	Chloride (IC)			tical Method	: E 300.0		Prep Method:	N/A
QC Batch:	80572			Analyzed:	2011-04-2		Analyzed By:	AR
Prep Batch:	68378		Sampl	e Preparatio	n: 2011-04-2	1	Prepared By:	$\mathbf{AR}$
<b>D</b>		-	<b>a</b> .		RL	<b>TT</b> 1.		
Parameter		Flag	Cert		esult	Units	Dilution	RI
Chloride			1	[	800	mg/L	100	2.50
Sample: 26	3889 - MW-6		• •					
Laboratory:								
Analysis:	SO4 (IC)		Analytic	al Method:	E 300.0		Prep Method:	N/A
QC Batch:	80572		Date An		2011-04-22		Analyzed By:	AR
Prep Batch:	68378		Sample 1	Preparation:	2011-04-21		Prepared By:	AR
					RL			
Parameter		Flag	Cert		esult	Units	Dilution	RI
Sulfate			1		77.6	mg/L	5	2.50
Laboratory:	3889 - MW-6 Midland TDS 80715		Date Ana	d Method: dyzed: reparation:	SM 2540C 2011-04-26 2011-04-20		Prep Method: Analyzed By: Prepared By:	N/A AR AR
Analysis: QC Batch: Prep Batch:	68387		oampie i					
QC Batch:					$\mathbf{RL}$			
QC Batch: Prep Batch: Parameter	68387		Flag	Cert	Result	Units	Dilution	RL
QC Batch: Prep Batch:	68387			Cert		Units mg/L	Dilution 5	
QC Batch: Prep Batch: Parameter Total Dissolv	68387 ed Solids				Result			
QC Batch: Prep Batch: Parameter Total Dissolv Sample: 263	68387 ed Solids 3890 - MW-7				Result			
QC Batch: Prep Batch: Parameter Total Dissolv Sample: 263 Laboratory:	68387 ed Solids 3890 - MW-7 Midland		Flag	1	Result 3320		5	10.0
QC Batch: Prep Batch: Parameter Total Dissolv Sample: 263 Laboratory: Analysis:	68387 ed Solids 3890 - MW-7 Midland BTEX		Flag	ı Method: S	Result 3320		5 Prep Method: S	10.0
QC Batch: Prep Batch: Parameter Total Dissolv Sample: 263 Laboratory:	68387 ed Solids 3890 - MW-7 Midland		Flag	Method: S	Result 3320		5	10.0 5030B E

Report Date: April 27, 2011 115-6403131		Work Order: 11041524 Celero/Rock Queen Unit Tract #11						Page Number: 14 of 27 Chavez Co., NM		
sample 263890 continued								· ·		
Parameter	Flag		Cert		RL Result	Units	3	Dilution	RL	
					$\mathbf{RL}$					
Parameter	Flag		$\operatorname{Cert}$		Result	Units	\$	Dilution	$\operatorname{RL}$	
Benzene			1	<	0.00100	mg/I	i	1	0.00100	
Toluene			1	<	0.00100	mg/L		1	0.00100	
Ethylbenzene			1	<	0.00100	mg/L	<i>i</i> .	1	0.00100	
Xylene			1	<	0.00100	· mg/L		1	0.00100	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)		<u>-</u>	1	0.0971	mg/L	1	0.100	97	67.8 - 129	
4-Bromofluorobenzene (4-BFB)			1	0.0974	mg/L	1	0.100	97	51.1 - 128	

### Sample: 263890 - MW-7

Laboratory:	Midland						
Analysis:	Chloride (IC)		Analytical	Method: E 300	).0	Prep Method:	N/A
QC Batch:	80572		Date Analy	zed: 2011-	04-22	Analyzed By:	AR
Prep Batch:	68378		Sample Pre	eparation: 2011-	04-21	Prepared By:	AR
				RL			
Parameter		Flag	Cert	Result	$\mathbf{Units}$	Dilution	RL
Chloride		-	1	1350	mg/L	100	2.50

### Sample: 263890 - MW-7

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 80572 68378		Analytical Me Date Analyzee Sample Prepa			Prep Method: Analyzed By: Prepared By:	AR
-		_	~	RL			
Parameter		Flag	$\operatorname{Cert}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Sulfate			1	92.2	mg/L	5	2.50

		Work Order: ero/Rock Queen		1	Page Number: 1 Chavez Co		
Sample: 263890 -	MW-7						
Laboratory: Midlar	nd						
Analysis: TDS		Ana	lytical Method:	SM 2540C		Prep Method:	N/A
QC Batch: 80715		Dat	e Analyzed:	2011-04-26		Analyzed By:	ÁR
Prep Batch: 68387		Sam	ple Preparation:	2011-04-20		Prepared By:	AR
				$\mathbf{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Total Dissolved Solic	s		1	2700	mg/L	5	10.0

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Method Blanks Method Blank (1) QC Batch: 80419 QC Batch: 80419 Analyzed By: ME Date Analyzed: 2011-04-18 Prep Batch: 68257 Prepared By: ME QC Preparation: 2011-04-18 MDL Parameter RLFlag Cert Result Units Benzene mg/L 0.001 < 0.0004001 Toluene 0.001< 0.000300 mg/L 1 Ethylbenzene < 0.000300 mg/L 0.0011 Xylene < 0.000333 mg/L 0.0011 Percent Spike Recovery Result Surrogate Flag Cert Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 70.2 - 118 0.0911 mg/L 0.100 91 1 1 4-Bromofluorobenzene (4-BFB) 104 0.1040.10047.3 - 116mg/L 1 1 Method Blank (1) QC Batch: 80546 QC Batch: Analyzed By: AR 80546 Date Analyzed: 2011-04-21 Prep Batch: 68355 QC Preparation: 2011-04-19 Prepared By: AR MDL Parameter Units  $\mathbf{RL}$ Flag Cert Result Chloride 0.593 mg/L 2.5ı

Work Order: 11041524

Celero/Rock Queen Unit Tract #11

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### Method Blank (1) QC Batch: 80546

Report Date: April 27, 2011

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QC Batch:	80546		Date Analyzed:	2011-04-21	Analyzed By:	AR
Prep Batch:	68355		QC Preparation:	2011-04-19	Prepared By:	AR
				MDL		
Parameter		Flag	Cert	Result	Units	$\mathbf{RL}$
Sulfate			1	< 0.177	mg/L	2.5

Report Date: April 27, 115-6403131	2011	Work Orde Celero/Rock Que	er: 11041524 en Unit Tract	#11	Page Number: 1 Chavez Co	
Method Blank (1)	QC Batch: 80572	,				
QC Batch: 80572 Prep Batch: 68378		Date Analyzed: QC Preparation:	2011-04-22 2011-04-21		Analyzed By: Prepared By:	
Parameter Chloride	Flag	Cert		MDL Result 0.555	Units mg/L	RI 2.5
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	······································			
Method Blank (1)	QC Batch: 80572					
QC Batch: 80572 Prep Batch: 68378		Date Analyzed: QC Preparation:	2011-04-22 2011-04-21		Analyzed By: Prepared By:	AR AR
ParameterSulfate	Flag	Cert		MDL Result <0.177	Units mg/L	RL 2.5
			•	· · · · · · · · · · · · · · · · · · ·		
Method Blank (1)	QC Batch: 80661					
QC Bàtch: 80661 Prep Batch: 68386		Date Analyzed: QC Preparation:	2011-04-25 2011-04-19		Analyzed By: Prepared By:	
Parameter		Flag	Cert	${f MDL} {f Result}$	Units	RL
Total Dissolved Solids	1 '1		1	<9.75	mg/L	10
		• •				
Method Blank (1)	QC Batch: 80715					
QC Batch: 80715 Prep Batch: 68387		Date Analyzed: QC Preparation:	2011-04-26 2011-04-20		Analyzed By: Prepared By:	
Parameter Total Dissolved Solids		Flag	Cert	MDL Result <9.75	Units mg/L	RL 10
<u></u>						

Report Date: April 27, 2011 115-6403131		Work Order: 11041524 Celero/Rock Queen Unit Tract #11			Page Number: 18 of Chavez Co., N				
Duplicates (1) Duplicated Samp	ole: 2638	85							
QC Batch: 80661		Date Analyzed:	2011-04-25			Analyzed By	•		
Prep Batch: 68386		QC Preparation:	2011-04-19			Prepared By	r: AR		
		Duplicate	Sample				RPD		
Param		Result	Result	Units	Dilution	RPD	$\operatorname{Limit}$		
Total Dissolved Solids	1	90500	84500	mg/L	100	7	10		
Duplicates (1) Duplicated Samp	ole: 2638	95							
QC Batch: 80715		Date Analyzed:	2011-04-26			Analyzed By			
Prep Batch: 68387		QC Preparation:	2011 - 04 - 20			Prepared By	7: AR		

					r		
		Duplicate	Sample				RPD
Param		Result	Result	Units	Dilution	RPD	$\mathbf{Limit}$
Total Dissolved Solids	1	3480	3330	mg/L	5	4	10

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Report Date: April 27, 2011 115-6403131 Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 19 of 27 Chavez Co., NM

### Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch:	80419	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68257	QC Preparation:	2011-04-18	Prepared By:	$\mathbf{ME}$

			LCS			Spike	Matrix		Rec.
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Benzene		ı	0.0882	mg/L	1	0.100	< 0.000400	88	76.8 - 110
Toluene	·	1	0.0944	mg/L	1	0.100	< 0.000300	94	81 - 108
Ethylbenzene		1	0.0965	mg/L	1	0.100	< 0.000300	96	78.8 - 118
Xylene		1	0.291	mg/L	1	0.300	< 0.000333	97	80.3 - 119

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		ı	0.0948	mg/L	1	0.100	< 0.000400	95	76.8 - 110	7	20
Toluene		1	0.102	$\mathrm{mg/L}$	1	0.100	< 0.000300	102	81 - 108	8	20
Ethylbenzene		ı	0.104	mg/L	1	0.100	< 0.000300	104	78.8 - 118	8	20
Xylene		1	0.314	mg/L	1	0.300	< 0.000333	105_	80.3 - 119	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	$\operatorname{Amount}$	Rec.	Rec.	$\mathbf{Limit}$
Triffuorotoluene (TFT)	1	0.0994	0.0964	mg/L	1	0.100	99	96	66.6 - 114
4-Bromofluorobenzene (4-BFB)	1	0.119	0.116	mg/L	1	0.100	119	116	68.2 - 124

#### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	80546 68355		Date Analyzed:2011-04-21QC Preparation:2011-04-19						Analyzed By: AR Prepared By: AR			
				LCS			Spike	Matrix		Rec.		
Param		$\mathbf{F}$	С	Result	Units	Dil.	$\operatorname{Amount}$	Result	Rec.	$\operatorname{Limit}$		
Chloride			1	25.6	mg/L	1	25.0	< 0.265	102	90 - 110		
Porcont reco	very is based on th	ho eniko roeu	It RP	D is based	on the eni	ko and s	nike dunlicet	a regult				

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

								•			
Report Date: April 27, 2011 115-6403131			Celer	Work O o/Rock_C		.041524 nit Tract ≠	¥11	,	Page I	Number: Chavez (	
control spikes continued											
Param	F	С	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	$\operatorname{RPD}$ Limit
			LCSD			Spike	Matrix		Rec.		RPD
Param	<b>F</b> .	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride Percent recovery is based on the		1	25.7	mg/L	1	25.0	< 0.265	103	90 - 110	0	20
QC Batch: 80546 Prep Batch: 68355				Analyzed reparatio		1-04-21 1-04-19				alyzed By epared By	
Param		F	C :	LCS Result	Units	D:1	Spike	M	atrix		Rec.
-		-				170	Amount	Re	esult	Rec.	Limit
Sulfate			t	24.3		Dil1	$\frac{\text{Amount}}{25.0}$		esult 1 1.177	Rec. 97 97	Limit 90 - 110
· · · · · · · · · · · · · · · · · · ·	spike	resul	1	24.3	mg/L	1	25.0	<(	).177		
· · · · · · · · · · · · · · · · · · ·	e spike	resul	1	24.3	mg/L	1	25.0	<(	).177		
Sulfate Percent recovery is based on the Param	e spike F	resul C	t. RPD LCSD Result	24.3 is based o Units	mg/L	1 pike and sj Spike Amount	25.0 pike duplic Matrix Result	<( cate res Rec.	0.177 ult. Rec. Limit	97 9 RPD	90 - 110 RPD Limit
Percent recovery is based on the Param Sulfate	F	C	t. RPD LCSD Result 24.4	24.3 is based o Units mg/L	mg/L on the s Dil. 1	1 pike and sj Spike Amount 25.0	25.0 pike duplic Matrix Result <0.177	<0 cate res Rec. 98	0.177 ult. Rec. Limit 90 - 110	97 9 RPD	90 - 110 R.PD
Percent recovery is based on the Param	F spike	C ı resul	t. RPD LCSD Result 24.4 t. RPD	24.3 is based o Units mg/L	mg/L on the s Dil. 1 on the s	1 pike and sj Spike Amount 25.0	25.0 pike duplic Matrix Result <0.177	<0 cate res Rec. 98	).177 ult. Rec. Limit 90 - 110 ult. Ana	97 9 RPD	90 - 110 RPD Limit 20
Percent recovery is based on the Param Sulfate Percent recovery is based on the Laboratory Control Spike (I QC Batch: 80572 Prep Batch: 68378	F spike	C ı resul	t. RPD LCSD Result 24.4 t. RPD Date QC P	24.3 is based of mg/L is based of Analyzed Preparation	mg/L on the s Dil. 1 on the s : 201 n: 201	1 pike and sp Amount 25.0 pike and sp 1-04-22 1-04-21	25.0 pike duplic Matrix Result <0.177 pike duplic	<( eate res Rec. 98 eate res	0.177 ult. Rec. Limit 90 - 110 ult. Ana Pre	RPD 0 0	RPD         Limit           20         20           r:         AR           r:         AR.           Rec.         Rec.
Percent recovery is based on the Param	F spike	C ı resul	t. RPD LCSD Result 24.4 t. RPD Date QC P	24.3 is based of mg/L is based of Analyzed Preparation LCS Result	mg/L on the s Dil. 1 on the s : 201 n: 201 Units	1 pike and sy Amount 25.0 pike and sy 1-04-22 1-04-21 Dil.	25.0 pike duplic Matrix Result <0.177 pike duplic , Spike Amount	<0 Rec. 98 ate res	0.177 ult. Rec. Limit 90 - 110 ult. Ana Pre	RPD 0 0 alyzed By pared By Rec.	PO - 110 RPD Limit 20 7: AR 7: AR 7: AR 8: AR 8: C. Limit
Percent recovery is based on the Param Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80572 Prep Batch: 68378 Param Chloride	F spike	C resul	LCSD Result 24.4 t. RPD Date QC P	24.3 is based of Units mg/L is based of reparation LCS Result 26.4	mg/L on the s Dil. 1 on the s : 201 n: 201 Units mg/L	1         pike and sj         Amount         25.0         pike and sj         pike and sj         1-04-22         1-04-21         Dil.         1	25.0 pike duplic Matrix Result <0.177 pike duplic pike duplic Spike Amount 25.0	<pre>&lt;( cate res Rec. 98 cate res mate res mate res cate res cate</pre>	0.177 ult. Rec. Limit 90 - 110 ult. Ana Pre atrix esult 1 0.265	RPD 0 0 alyzed By pared By Rec.	RPD         Limit           20         20           r:         AR           r:         AR.           Rec.         Rec.
Percent recovery is based on the Param Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80572 Prep Batch: 68378 Param Chloride	F spike	C resul	t. RPD LCSD Result 24.4 t. RPD Date QC P C J	24.3 is based of Units mg/L is based of reparation LCS Result 26.4	mg/L on the s Dil. 1 on the s : 201 n: 201 Units mg/L	1         pike and sj         Amount         25.0         pike and sj         1-04-22         1-04-21         Dil.         1         pike and sj	25.0 pike duplic Matrix Result <0.177 pike duplic yike duplic Spike Amount 25.0 pike duplic	<pre>&lt;( cate res Rec. 98 cate res mate res mate res cate res cate</pre>	0.177 ult. Rec. Limit 90 - 110 ult. Ana Pre asult 1 0.265 ult.	RPD 0 0 alyzed By pared By Rec.	RPD         Limit         20         7: AR         :: AR         Rec.         Limit         90 - 110
Percent recovery is based on the Param . Sulfate Percent recovery is based on the Laboratory Control Spike (I QC Batch: 80572	F spike	C resul	LCSD Result 24.4 t. RPD Date QC P	24.3 is based of Units mg/L is based of reparation LCS Result 26.4	mg/L on the s Dil. 1 on the s : 201 n: 201 Units mg/L	1         pike and sj         Amount         25.0         pike and sj         pike and sj         1-04-22         1-04-21         Dil.         1	25.0 pike duplic Matrix Result <0.177 pike duplic pike duplic Spike Amount 25.0	<pre>&lt;( cate res Rec. 98 cate res mate res mate res cate res cate</pre>	0.177 ult. Rec. Limit 90 - 110 ult. Ana Pre atrix esult 1 0.265	RPD 0 0 alyzed By pared By Rec.	PO - 110 RPD Limit 20 7: AR 7: AR 7: AR 8: AR 8: C. Limit

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Laboratory Control Spike (LCS	-1)									
QC Batch: 80572 Prep Batch: 68378			Analyzed Preparatic		1-04-22 1-04-21				yzed By ared By	
Param	F		LCS Result	Units	Dil.	Spike Amount	Re		ec.	Rec.
Sulfate	· · · · · · · · · · · · · · · · · · ·		24.0	mg/L	1	25.0			96 9	0 - 110
Percent recovery is based on the spi	ke resu	it. RPD	is based (	on the s	pike and sp	oike duplic	ate resu	lit.		
Param Sulfate	F C	LCSD Result 23.9	Units mg/L	Dil.	Spike Amount 25.0	Matrix Result <0.177	Rec. 96	Rec. Limit 90 - 110	RPD 0	RPD Limit 20
Percent recovery is based on the spi	1						•••••••••••••••••••••••••••••••••••••••			
LaboratoryControl Spike (LCS)QC Batch:80661Prep Batch:68386	-1)		Analyzed Preparatic		1-04-25 1-04-19				yzed By ared By	
Dumun	T.	a	LCS	T	ויכו	Spike		trix		Rec.
Param Total Dissolved Solids	F	<u>C</u>	Result 997	Units mg/L	Dil1	Amount 1000			ec. 00 9	Limit 0 - 110
Percent recovery is based on the spi	ke resu	~~~~~								<u> </u>
Param	F C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	1	988	mg/L	1	1000	<9.75	99	90 - 110	1	10
Percent recovery is based on the spi Laboratory Control Spike (LCS	. resu	ıt. KPD	is based o	on the s	pike and si	oike duplic	ate resu	u <b>t.</b>		,
	-1)	D.4-	Anol	. 001	1.04.00			A 1	D	. 40
QC Batch: 80715 Prep Batch: 68387	-1)		Analyzed Preparatio		1-04-26 1-04-20				yzed By ared By	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

1

966

mg/L

1

1000

97

<9.75

90 - 110

Total Dissolved Solids

Report Date: April 27, 2011 115-6403131			Celer	Page Number: 22 of 27 Chavez Co., NM							
Param	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	992	mg/L	1	1000	<9.75	99	90 - 110	3	10
Percent recovery is based on th	e spike	resul	t. RPD	is based o	on the s	pike and s	pike duplic	ate res	ult.		
Matrix Spike (MS-1) Spil	ked Sar	nple:	263885								
QC Batch: 80546 Prep Batch: 68355				Analyzed reparatio		1-04-21 1-04-19				lyzed By ared By	
Param		F	C	MS Result	Units	Dil.	Spike Amount		atrix esult R	ec.	Rec. Limit
Chloride			1	55300.	mg/L	50	1380	5.	3000 1	67 9	0 - 110
Percent recovery is based on th	e spike	resul	t. RPD	is based o	on the s	pike and s	pike duplic	ate res	ult.		
	-					-	-				
			MCD			Colleg	Matria		Dee		מממ
Darani	F	C	MSD Besult	Unite	Dil	Spike A mount	Matrix Becult	Rec	Rec. Limit	RPD	
-	F	C	Result	Units mg/L		Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	Result 55300	mg/L	50	Amount 1380	Result 53000	167	Limit 90 - 110	RPD 0	
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil	e spike	resul	Result 55300 t. RPD 263885	mg/L is based o	50 on the s	Amount 1380 pike and sp	Result 53000	167	Limit 90 - 110 ult.	0	Limit 20
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil QC Batch: 80546	e spike	resul	Result 55300 t. RPD 263885 Date	mg/L is based of Analyzed	50 on the s .: 201	Amount 1380 pike and sp 1-04-21	Result 53000	167	Limit 90 - 110 ult. Ana	0 lyzed By	Limit 20
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil QC Batch: 80546	e spike	resul	Result 55300 t. RPD 263885 Date	mg/L is based o	50 on the s .: 201	Amount 1380 pike and sp	Result 53000	167	Limit 90 - 110 ult. Ana	0	Limit 20
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil QC Batch: 80546	e spike	resul	Result 55300 t. RPD 263885 Date	mg/L is based o Analyzed Preparatio	50 on the s .: 201	Amount 1380 pike and sp 1-04-21	Result 53000 pike duplic	167 ate res	Limit 90 - 110 ult. Ana Prep	0 lyzed By	Limit 20 : AR : AR
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil QC Batch: 80546 Prep Batch: 68355	e spike	resul	Result 55300 t. RPD 263885 Date, QC P	mg/L is based of Analyzed	50 on the s .: 201	Amount 1380 pike and sp 1-04-21	Result 53000	167 ate res	Limit 90 - 110 ult. Ana Prep atrix	0 lyzed By	: AR
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spil QC Batch: 80546 Prep Batch: 68355	e spike	ı resul	Result 55300 t. RPD 263885 Date QC F	mg/L is based o Analyzed reparatio MS	50 on the s : 201 n: 201	Amount 1380 pike and sp 1-04-21 1-04-19	Result 53000 pike duplic Spike	167 ate res M R	Limit 90 - 110 ult. Ana Prep atrix esult R	0 lyzed By ared By ec.	Limit 20 : AR : AR Rec. Limit
Chloride Percent recovery is based on th <b>Matrix Spike (MS-1)</b> Spil QC Batch: 80546 Prep Batch: 68355 Param Sulfate	e spike ked Sar	ı resul nple: F	Result 55300 t. RPD 263885 Date QC P C 1	mg/L is based of Analyzed reparatio MS Result 2360	50 on the s : 201 n: 201 Units mg/L	Amount 1380 pike and sp 1-04-21 1-04-19 Dil. 50	Result 53000 pike duplic Spike Amount 1380	167 ate res M R 1	Limit 90 - 110 ult. Ana Prep atrix esult R 170 8	0 lyzed By ared By ec.	Limit 20 : AR : AR Rec. Limit
QC Batch: 80546	e spike ked Sar	ı resul nple: F	Result 55300 t. RPD 263885 Date QC P C 1	mg/L is based of Analyzed reparatio MS Result 2360	50 on the s : 201 n: 201 Units mg/L	Amount 1380 pike and sp 1-04-21 1-04-19 Dil. 50	Result 53000 pike duplic Spike Amount 1380	167 ate res M R 1	Limit 90 - 110 ult. Ana Prep atrix esult R 170 8	0 lyzed By ared By ec.	Limit 20 : AR : AR : AR Rec.

• Matrix Spike (MS-1) Spiked Sample: 263890

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QC Batch:	80572	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68378	QC Preparation:	2011-04-21	Prepared By:	$\mathbf{AR}$

Report Date: April 27, 2011 115-6403131	Work Order: 11041524 Celero/Rock Queen Unit Tract #11						¥11		0		23 of 27 Co., NM
Param		F	С	MS Result	Units	Dil.	Spike Amount		trix sult B	lec.	Rec. Limit
Chloride			1	3810	mg/L	100	2750	13	350	89	90 - 110
Percent recovery is based on the	spike	resu	lt. RPD	is based	on the s	pike and s	pike duplic	ate resu	ılt.		
Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3800	mg/L	100	2750	1350	89	90 - 110	0	20
QC Batch: 80572	ed Sa	mple:	263890								
Prep Batch: 68378				Analyzed Preparatio		1-04-22 1-04-21				lyzed B bared B	•
		F	QC	Preparatio MS	on: 201	1-04-21	Spike		Pre <sub>l</sub> trix	ared B	y: AR Rec.
Param		F		Preparatic MS Result	on: 201 Units	1-04-21 Dil.	Amount	Re	Prep trix sult F	bared B	y: AR Rec. Limit
	spike			Preparatio MS Result 2510	on: 201 Units mg/L	1-04-21 Dil. 100	Amount 2750	Re 1	Prep trix sult F 25	ared B	y: AR Rec.
Param	spike			Preparatio MS Result 2510	on: 201 Units mg/L	1-04-21 Dil. 100	Amount 2750	Re 1	Prep trix sult F 25	bared B	y: AR Rec. Limit
Param	spike F		QC 1 C It. RPD	Preparatio MS Result 2510 is based of	on: 201 Units mg/L	Dil. 100 100 Dike and sp	Amount 2750 pike duplica	Re 1	Prep trix sult F 25 i ilt.	bared B	y: AR Rec. Limit 90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: April 27, 2011 115-6403131 Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 24 of 27 Chavez Co., NM

# **Calibration Standards**

Standard (CCV-1)

QC Batch: 80419			Date An	alyzed: 20		Analyz	zed By: ME	
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1.	mg/L	0.100	0.0932	93	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0973	97	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0962	96	80 - 120	2011-04-18
Xylene	······································	1	mg/L	0.300	0.292	97	80 - 120	2011-04-18

Standard (CCV-2)

QC Batch: 80419	Date An	alyzed: 20	Analyzed By: ME					
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0964	96	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.100	100	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0997	100	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-18

### Standard (CCV-3)

QC Batch: 80419	Date An	alyzed: 20	Analyzed By: ME					
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0957	96	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0987	99	80 - 120	2011 - 04 - 18
Xylene		1	$\rm mg/L$	0.300	0.294	98	80 - 120	2011-04-18

Report Date: April 115-6403131	27, 2011		Celere		ler: 11041524 een Unit Tract	#11		mber: 25 of 27 havez Co., NM
Standard (ICV-1)								
QC Batch: 80546			· Date	Analyzed:	2011-04-21		Analy	zed By: AR
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	24.2	97	90 - 110	2011-04-21
Standard (ICV-1)								
QC Batch: 80546			Date	Analyzed:	2011-04-21		Analy	zed By: AR
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	25.1	100	90 - 110	2011-04-21
Standard (CCV-1)	)							
QC Batch: 80546			Date	Analyzed:	2011-04-21		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	25.0	100	90 - 110	2011-04-21
								-
Standard (CCV-1)								
QC Batch: 80546			Date	Analyzed:	2011-04-21		Analy	zed By: AR

2				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.2	97	90 - 110	2011-04-21

### Standard (ICV-1)

QC Batch: 80572

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Date Analyzed: 2011-04-22

Analyzed By: AR

Report Date: A	April 27, 2011				er: 11041524			mber: 26 of 2
115-6403131			Celero	o/Rock Qu	een Unit Tract	#11	С	havez Co., N
Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.0	96	90 - 110	2011-04-2
Standard (IC)	V-1)							
QC Batch: 805	572		Date	Analyzed:	2011-04-22		Analy	zed By: AR
	·			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param Sulfate	Flag	Cert	Units mg/L	Conc. 25.0	Conc. 24.9	Recovery 100	Limits 90 - 110	Analyzed 2011-04-22
			Ing/ D		24.0		50 - 110	2011-04-2
Standard (CC	V-1)						·	
QC Batch: 805	572 .		Date	Analyzed:	2011-04-22		Analy	vzed By: AR
				CCVs True	CCVs Found	$\operatorname{CCVs}$	Percent Recovery	Date
Param Chloride	Flag	Cert	Units mg/L	Conc. 25.0	Conc.	Recovery 96	Limits 90 - 110	Analyzed 2011-04-22
Standard (CC	V-1)							
QC Batch: 805	572		Date	Analyzed:	2011-04-22		Analy	zed By: AR
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percenť Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22
		•						
		-		×				

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Report Date: April 27, 2011 115-6403131

Page Number: 27 of 27 Chavez Co., NM

# Appendix

### Laboratory Certifications

	Certifying	Certification	Laboratory
$\mathbf{C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

### Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

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Ana	alys	sis F	Re	au	lest of C	hain of Custo	odv	R	le	C	or	d	Ţ							I	PAGE	2			0		<b> </b>	
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6015 Harris Parkway, Suite 110

DBE

NCTRCA

Ft. Worth, Texas 76132 E-Mail: tab@traceanalysis.com 817-201-5260

Certifications

Kansas

Oklahoma ISO 17025

### Analytical and Quality Control Report (Corrected Report)

NELAP DoD LELAP

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

HUB

WBE

Report Date: August 24, 2011

Work Order: 11080105 

Project Location: Chavez Co., NM Project Name: Celero/Rock Queen Unit Tract #11 115-6403131 Project Number:

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
273201	MW-1	water	2011-07-27	17:30	2011-07-29
273202	MW-2	water	2011-07-27	17:10	2011-07-29
273203	MW-3	water	2011-07-27	17:50	2011-07-29
273204	MW-4	water	2011-07-27	17:00	2011-07-29
273205	MW-5	water	2011-07-27	17:20	2011-07-29
273206	MW-6	water	2011-07-27	17:40	2011-07-29
273207	MW-7	water	2011-07-27	18:00	2011-07-29

#### Report Corrections (Work Order 11080105)

• TDS was run out of hold time. Comments were added to the report. 8/23/11

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 30 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

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Michael abul

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

# **Report Contents**

Case Narrative		5
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Sample 273201 (MW-1)		6
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QC Batch 83580 - Method Blank (1)		17
QC Batch 83581 - Method Blank (1)		ι7
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		20
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QC Batch 83581 - CCV (1) ..... Appendix Laboratory Certifications Standard Flags ..... 

### **Case Narrative**

Samples for project Celero/Rock Queen Unit Tract #11 were received by TraceAnalysis, Inc. on 2011-07-29 and assigned to work order 11080105. Samples for work order 11080105 were received intact without headspace and at a temperature of 10.8 C.

X

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	70921	2011-08-02 at 09:42	83491	2011-08-02 at 09:42
BTEX	S 8021B	70958	2011-08-03 at 09:47	83538	2011-08-03 at 09:47
Chloride (IC)	E 300.0	70898	2011-08-02 at 10:08	83580	2011-08-03 at 15:05
Chloride (IC)	E 300.0	70899	2011-08-02 at 10:09	83581	2011-08-03 at 15:06
SO4 (IC)	E 300.0	70898	2011-08-02 at 10:08	83580	2011-08-03 at 15:05
SO4 (IC)	E 300.0	70899	2011-08-02 at 10:09	83581	2011-08-03 at 15:06
TDS	SM 2540C	70948	2011-08-03 at 14:50	83789	2011-08-11 at 10:15
TDS	SM 2540C	71017	2011-08-05 at 12:42	83880	2011-08-15 at 15:06

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11080105 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

Samples were received on ice.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: August 24, 2011 115-6403131

### Work Order: 11080105 Celero/Rock Queen Unit Tract #11

Page Number: 6 of 30 Chavez Co., NM

# **Analytical Report**

Sample: 273201 - MW-1

Laboratory: Midland Analysis: BTEX QC Batch: 83491 Prep Batch: 70921		Analytical Date Analy Sample Pre	yzed:	S 8021 2011-0 : 2011-0	8-02		Prep Meth Analyzed H Prepared H	By: ME	30B
				$\mathbf{RL}$					
Parameter	Flag	Cert		Result		nits	Dilution		RL
Benzene	υ	1		:0.00100		g/L	1	0.00	
Toluene	U	1		0.00100	•	g/L	1	0.00	
Ethylbenzene	U	1	<	0.00100		g/L	1	0.00	
Xylene		1		0.0185	mę	g/L	1	0.00	100
	·	<i>a</i> .		<b>**</b> •.	<b>D1</b>	Spike	Percent	Recover	
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)			0.103	mg/L	1	0.100	103	79.1 - 12	
4-Bromofluorobenzene (4-BFB)			0.0974	mg/L	1	0.100	97	67.5 - 14	0.8
Laboratory: Midland Analysis: Chloride (IC) QC Batch: 83580 Prep Batch: 70898 Parameter	Flag	Date A	iical Metł Analyzed: e Prepara	20	300.0 11-08-03 11-08-02 U	nits	Prep M Analyze Prepare Dilution	d By: A d By: A	I/A .R .R .R
Chloride	1 1005	1	······	22100	-	g/L	1000		2.50
Sample: 273201 - MW-1 Laboratory: Midland Analysis: SO4 (IC) QC Batch: 83580 Prep Batch: 70898		Date An	al Methoo alyzed: Preparatio	2011			Prep M Analyze Prepare	d By: A	I/A R R
Parameter	Flag	Cert		Result	U	nits	Dilution	1	$\mathbf{RL}$
Sulfate		1		625		g/L	100		.50
		<u> </u>	· ·			<u> </u>			

QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         RL       RL       Result       Units       I         Parameter       Flag       Cert       Result       Units       I         Benzene       v       1       <0.00100		nber: 7 of 30 wez Co., NM
Analysis:       TDS       Analytical Method:       SM 2540C         QC Batch:       83789       Date Analyzed:       2011-08-11         Prep Batch:       70948       Sample Preparation:       2011-08-05         Parameter       Flag       Cert       Result       Units         Total Dissolved Solids $#$ $i$ 56000       mg/L         Sample:       273202 - MW-2       Laboratory:       Midland       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02       Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene $v$ $i$ <0.00100       mg/L       Diuten $w$ $i$ <0.00100       mg/L         Ethylbenzene $v$ $i$ <0.00100       mg/L       Spike       Surrogate       Flag       Cert       Result       Units       Dilution       Amount         Trifluorotoluene (TFT)       0.0866       mg/L       1       0.100       4.800.00       QC       Baboratory:       Midland       Analysis:       Chloride (IC)       Analytical Method: <td< th=""><th></th><th></th></td<>		
QC Batch:       83789       Date Analyzed:       2011-08-11         Prep Batch:       70948       Sample Preparation:       2011-08-05         Parameter       Flag       Cert       Result       Units         Total Dissolved Solids $\mu$ i       56000       mg/L         Sample:       273202 - MW-2       Laboratory:       Midland       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Prep Batch:       70921       Sample Cert       Result       Units       I         Benzene       v       1       <0.00100       mg/L       Xylene       V       1       <0.00100       mg/L         Sturrogate       Flag       Cert       Result       Units       Dilution       Amount         Trifluorotoluene (TFT)       0.0866       mg/L       1       0.100         Yelen       v       1       0.000       mg/L       Xylene       Xylene       Xolioo       Amount         Trifluorotoluene (TFT)       0.08666		
Prep Batch:       70948       Sample Preparation:       2011-08-05         Parameter       Flag       Cert       Result       Units         Total Dissolved Solids	Prep Met	
Parameter       Flag       Cert       Result       Units         Total Dissolved Solids $\varkappa$ 1       56000       mg/L         Sample:       273202 - MW-2       Laboratory:       Midland         Analysis:       BTEX       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene       v       1       <0.00100	Analyzed	
Parameter       Flag       Cert       Result       Units         Total Dissolved Solids $H$ 1       56000       mg/L         Total Dissolved Solids $H$ 1       56000       mg/L         Sample:       273202 - MW-2       Laboratory:       Midland         Analysis:       BTEX       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene $\upsilon$ 1       <0.00100	Prepared	l By: AR
Total Dissolved Solids       H       1       56000       mg/L         Sample: 273202 - MW-2       Laboratory: Midland       Analytical Method: S 8021B       QC Batch: 83491       Date Analyzed: 2011-08-02         Prep Batch: 70921       Sample Preparation: 2011-08-02       RL         Parameter       Flag       Cert       Result       Units       I         Benzene       0       1       <0.00100		
Sample: 273202 - MW-2         Laboratory:       Midland         Analysis:       BTEX       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene       u       1       <0.00100	Dilution	RL
Laboratory:       Midland         Analysis:       BTEX       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene       v       1       <0.00100	100	10.0
Laboratory:       Midland         Analysis:       BTEX       Analytical Method:       S 8021B         QC Batch:       83491       Date Analyzed:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Prep Batch:       70921       Sample Preparation:       2011-08-02         Parameter       Flag       Cert       Result       Units       I         Benzene       v       1       <0.00100		
Laboratory:       Midland Analysis:       BTEX BTEX Analytical Method:       S 8021B 		
Analysis:BTEXAnalytical Method:S 8021BQC Batch: $83491$ Date Analyzed: $2011-08-02$ Prep Batch:70921Sample Preparation: $2011-08-02$ ParameterFlagCertResultUnitsIBenzeneu1 $<0.00100$ mg/LTolueneu1 $<0.00100$ mg/LEthylbenzeneu1 $<0.00100$ mg/LXyleneu1 $<0.00100$ mg/LSurrogateFlagCertResultUnitsDilution observe(4-BFB) $0.0866$ mg/L1O.0875mg/L1 $0.100$ 4-Bromofluorobenzene (4-BFB) $0.0875$ mg/L1Sample:273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-03Prep Batch:70898Sample Preparation:2011-08-03ParameterFlagCertResultUnitsChloride191700mg/L		
QC Batch: $83491$ Date Analyzed: $2011-08-02$ Prep Batch: $70921$ Sample Preparation: $2011-08-02$ ParameterFlagCertResultUnitsIBenzene $\upsilon$ $\iota$ $<0.00100$ mg/LDoluene $\upsilon$ $\iota$ $<0.00100$ mg/LEthylbenzene $\upsilon$ $\iota$ $<0.00100$ mg/LXylene $\upsilon$ $\iota$ $<0.00100$ mg/LSurrogateFlagCertResultUnitsDilutionAmountTrifluorotoluene (TFT) $0.0866$ mg/L1 $0.100$ A-Bromofluorobenzene (4-BFB) $0.0875$ mg/L1 $0.100$ Sample: $273202 - MW-2$ Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch: $83580$ Date Analyzed: $2011-08-03$ Prep Batch:70898Sample Preparation: $2011-08-03$ Prep Batch:70898Sample Preparation: $2011-08-03$ ParameterFlagCertResultUnitsChloride191700mg/L		
Prep Batch:70921Sample Preparation:2011-08-02RLRLParameterFlagCertResultUnitsIBenzeneu1 $<0.00100$ mg/LTTolueneu1 $<0.00100$ mg/LTEthylbenzeneu1 $<0.00100$ mg/LTXyleneu1 $<0.00100$ mg/LTSurrogateFlagCertResultUnitsDilutionAmountTrifluorotoluene (TFT)0.0866mg/L10.10014-Bromofluorobenzene (4-BFB)0.0875mg/L10.100Sample: 273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02RLParameterFlagCertResultUnitsChloride191700mg/L	Prep Method	
ParameterFlagCertResultUnitsIBenzene $\upsilon$ 1<0.00100	Analyzed By	
ParameterFlagCertResultUnitsIBenzenev1<0.00100	Prepared By	r: ME
Benzeneu1 $<0.00100$ mg/LTolueneu1 $<0.00100$ mg/LEthylbenzeneu1 $<0.00100$ mg/LXyleneu1 $<0.00100$ mg/LSurrogateFlagCertResultUnitsDilutionTrifluorotoluene (TFT) $0.0866$ mg/L1 $0.100$ 4-Bromofluorobenzene (4-BFB) $0.0875$ mg/L1 $0.100$ Sample: 273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02RLParameterFlagCertResultUnitsInitsInitsInits	•	
Tolueneu1 $<0.00100$ mg/LEthylbenzeneu1 $<0.00100$ mg/LXyleneu1 $<0.00100$ mg/LSurrogateFlagCertResultUnitsDilutionAmountTrifluorotoluene (TFT)0.0866mg/L10.1004-Bromofluorobenzene (4-BFB)0.0875mg/L10.100Sample: 273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02RLParameterFlagCertResultUnits191700mg/L	Dilution	RL
Ethylbenzene       u       1       <0.00100       mg/L         Xylene       u       1       <0.00100	1	0.00100
Xylene     v     1     <0.00100     mg/L       Surrogate     Flag     Cert     Result     Units     Dilution     Amount       Trifluorotoluene (TFT)     0.0866     mg/L     1     0.100       4-Bromofluorobenzene (4-BFB)     0.0875     mg/L     1     0.100       Sample:     273202 - MW-2       Laboratory:     Midland       Analysis:     Chloride (IC)     Analytical Method:     E 300.0       QC Batch:     83580     Date Analyzed:     2011-08-03       Prep Batch:     70898     Sample Preparation:     2011-08-02       RL       Parameter     Flag     Cert     Result     Units       Chloride     1     91700     mg/L	1	0.00100
Surrogate       Flag       Cert       Result       Units       Dilution       Amount         Trifluorotoluene (TFT)       0.0866       mg/L       1       0.100         4-Bromofluorobenzene (4-BFB)       0.0875       mg/L       1       0.100         Sample: 273202 - MW-2         Laboratory:       Midland         Analysis:       Chloride (IC)       Analytical Method:       E 300.0         QC Batch:       83580       Date Analyzed:       2011-08-03         Prep Batch:       70898       Sample Preparation:       2011-08-02         RL         Parameter       Flag       Cert       Result       Units         Chloride       1       91700       mg/L	1	0.00100
SurrogateFlagCertResultUnitsDilutionAmountTrifluorotoluene (TFT)0.0866mg/L10.1004-Bromofluorobenzene (4-BFB)0.0875mg/L10.100Sample: 273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02RLParameterFlagCertResultUnitsChloride191700mg/L	1	0.00100
Trifluorotoluene (TFT)0.0866mg/L10.1004-Bromofluorobenzene (4-BFB)0.0875mg/L10.100Sample: 273202 - MW-2Laboratory:MidlandAnalysis:Chloride (IC)Analytical Method:E 300.0QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02RLParameterFlagCertResultUnitsChloride191700mg/L	Percent	Recovery
4-Bromofluorobenzene (4-BFB)       0.0875 mg/L       1       0.100         Sample: 273202 - MW-2         Laboratory: Midland         Analysis: Chloride (IC)       Analytical Method: E 300.0         QC Batch: 83580       Date Analyzed: 2011-08-03         Prep Batch: 70898       Sample Preparation: 2011-08-02         RL       Parameter         Flag       Cert       Result       Units         Chloride       1       91700       mg/L	Recovery	Limits
Sample: 273202 - MW-2         Laboratory: Midland         Analysis: Chloride (IC)       Analytical Method: E 300.0         QC Batch: 83580       Date Analyzed: 2011-08-03         Prep Batch: 70898       Sample Preparation: 2011-08-02         RL       RL         Parameter       Flag       Cert       Result       Units         Chloride       1       91700       mg/L		79.1 - 127.2 67.5 - 140.8
Laboratory: Midland Analysis: Chloride (IC) Analytical Method: E 300.0 QC Batch: 83580 Date Analyzed: 2011-08-03 Prep Batch: 70898 Sample Preparation: 2011-08-02 RL Parameter Flag Cert Result Units Chloride 1 91700 mg/L		01.0 - 140.0
Laboratory: Midland Analysis: Chloride (IC) Analytical Method: E 300.0 QC Batch: 83580 Date Analyzed: 2011-08-03 Prep Batch: 70898 Sample Preparation: 2011-08-02 RL Parameter Flag Cert Result Units Chloride 1 91700 mg/L		
Analysis:       Chloride (IC)       Analytical Method:       E 300.0         QC Batch:       83580       Date Analyzed:       2011-08-03         Prep Batch:       70898       Sample Preparation:       2011-08-02         RL       RL       RL         Parameter       Flag       Cert       Result       Units         Chloride       1       91700       mg/L		·
QC Batch:83580Date Analyzed:2011-08-03Prep Batch:70898Sample Preparation:2011-08-02ParameterFlagCertResultUnitsChloride191700mg/L		
Prep Batch: 70898 Sample Preparation: 2011-08-02 RL Parameter Flag Cert Result Units Chloride 1 91700 mg/L	Prep Met	
RLParameterFlagCertResultUnitsChloride191700mg/L	Analyzed Prepared	
ParameterFlagCertResultUnitsChloride191700mg/L	Пераса	by. Alt
Chloride 1 91700 mg/L	Dilution	$\mathbf{RL}$
	5000	2.50

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115-6403131			Celerc		rder: 1108 Jueen Uni		#11		umber: 8 o havez Co.,
Sample: 273202 - MW-2									
Laboratory:MidlandAnalysis:SO4 (IC)QC Batch:83580Prep Batch:70898		Da	ate Ar	cal Metho nalyzed: Preparat	201	00.0 1-08-03 1-08-02		Prep M Analyz Prepar	
		~				1.00.0-		- 10P	ou 29,
Parameter	Flag		Cert		$\operatorname{RL}$ Result		Units	Dilution	
Sulfate	1 105		1		1610		mg/L	50	2
Laboratory: Midland Analysis: TDS QC Batch: 83789 Prep Batch: 70948		Da	te An	al Metho alyzed: Preparati	2011	2540C -08-11 -08-05		Prep M Analyz Prepar	
				a .	D	RL			
Parameter		Flag		( 'ort		11111	Unite	Dilution	•
Parameter Total Dissolved Solids		Flag H		Cert 1		esult 000	Units mg/L	Dilution 100	
		н Anal Date	Anal	1 Method:	143 S 8021 2011-0	000 B 8-02			) 1 od: S 503 3y: ME
Total Dissolved Solids Sample: 273203 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 83491 Prep Batch: 70921	Flag	н Anal Date Samj	Anal ple Pr	1 Method: yzed:	143 S 8021 2011-0 n: 2011-0 RL	000 B 8-02	mg/L	100 Prep Meth Analyzed F Prepared F	) 1 od: S 503 3y: ME 3y: ME
Total Dissolved Solids Sample: 273203 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 83491	Flag	н Anal Date Samj	Anal	1 Method: yzed: eparatior	143 S 8021 2011-0 a: 2011-0	000 B 8-02	mg/L Units	100 Prep Meth Analyzed H	) 1 od: S 503 3y: ME
Total Dissolved Solids Sample: 273203 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 83491 Prep Batch: 70921 Parameter		н Anal Date Samj	Anal ple Pr Cert	1 Method: yzed: eparatior	S 8021 2011-0 1: 2011-0 RL Result <0.00100 <0.00100	000 B 8-02	mg/L Units mg/L mg/L	100 Prep Meth Analyzed F Prepared F Dilution	) 1 od: S 503 Зу: МЕ Зу: МЕ
Total Dissolved Solids          Sample: 273203 - MW-3         Laboratory: Midland         Analysis: BTEX         QC Batch: 83491         Prep Batch: 70921         Parameter         Benzene         Toluene         Ethylbenzene	U	н Anal Date Samj	Anal ple Pr Cert	1 Method: yzed: eparatior	S 8021 2011-0 1: 2011-0 RL Result <0.00100 <0.00100	000 B 8-02	mg/L Units mg/L mg/L mg/L	100 Prep Meth Analyzed F Prepared E Dilution 1 1 1	) 1 od: S 503 3y: ME 3y: ME 0.00 0.00 0.00
Total Dissolved Solids Sample: 273203 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 83491 Prep Batch: 70921 Parameter Benzene Toluene	บ บ	н Anal Date Samj	Anal ple Pr	1 Method: yzed: eparatior	S 8021 2011-0 1: 2011-0 RL Result <0.00100 <0.00100	000 B 8-02	mg/L Units mg/L mg/L	100 Prep Meth Analyzed F Prepared F Dilution 1 1	) 1 od: S 503 3y: ME 3y: ME 0.007 0.007
Total Dissolved Solids          Sample: 273203 - MW-3         Laboratory: Midland         Analysis: BTEX         QC Batch: 83491         Prep Batch: 70921         Parameter         Benzene         Toluene         Ethylbenzene	บ บ บ บ	н Anal Date Samj	Anal ple Pr <u>Cert</u>	1 Method: yzed: eparatior	S 8021 2011-0 1: 2011-0 RL Result <0.00100 <0.00100	000 B 8-02	mg/L Units mg/L mg/L mg/L mg/L Spike	100 Prep Meth Analyzed F Prepared F Dilution 1 1 1 1 1 1 1	) 1 od: S 503 3y: ME 3y: ME 0.00 0.00 0.00
Total Dissolved Solids Sample: 273203 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 83491 Prep Batch: 70921 Parameter Benzene Toluene Ethylbenzene Xylene	บ บ บ บ	н Anal Date Samj	Anal ple Pr Cert	1 Method: yzed: eparatior	S 8021 2011-0 1: 2011-0 RL Result <0.00100 <0.00100 <0.00100	B 8-02 8-02	units mg/L mg/L mg/L mg/L mg/L Spike ion Amount	100 Prep Meth Analyzed F Prepared F Dilution 1 1 1 1 1 1 1	) 1 od: S 503 By: ME By: ME 0.00 0.00 0.00 0.00 Recover

Sample: 273	3203 - MW-3							
Laboratory:	Midland							
Analysis:	Chloride (IC)			ical Me			Prep Metho	
QC Batch:	83580			nalyzed			Analyzed By	
Prep Batch:	70898		Sample	e Prepar	ation: 2011-08	8-02	Prepared By	r: AR
_			~		RL	<b></b>		51
Parameter		Flag	Cert		Result	Units	Dilution	RL
Chloride			1	•	53400	mg/L	5000	2.50
Sample: 273	3203 - MW-3							
Laboratory:	Midland							
Analysis:	SO4 (IC)		Analytica		od: E 300.0		Prep Metho	
QC Batch:	83580		Date Ana		2011-08-0		Analyzed By	
Prep Batch:	70898		Sample F	reparat	ion: 2011-08-0	)2	Prepared By	r: AR
Demonstern		DI.	Gent	÷	RL Description	TT :4 -	Dilution	RL
Parameter Sulfate		Flag	Cert		Result 881	Units mg/L	50	2.50
Dullave			1			ше/ Ц		
Laboratory: Analysis: QC Batch: Brop Batch:	Midland TDS 83789 70948		Analytica Date Ana Sample P	lyzed:	2011-08-1	1 .	Prep Metho Analyzed By Prepared By	r: AR
Prep Batch:	10940		Sample r	герагал		J	I Tepared By	. Alt
Parameter			Flag	Cert	RL Result	Units	Dilution	$\mathbf{RL}$
Total Dissolve	ed Solids		<u>н</u>	1	74700	mg/L	100	10.0
Sample: 273	3204 - MW-4							X
Laboratory:	Midland							
Analysis:	BTEX		Analytical 1					S 5030B
QC Batch:	83491		Date Analy		2011-08-02			ME
Prep Batch:	70921		Sample Pre	paration	n: 2011-08-02		Prepared By: tinued	ME
						conu	imaea	

Report Date: August 24, 2011 115-6403131			Work Order: 11080105 Celero/Rock Queen Unit Tract #11					Page Number: 10 of 30 Chavez Co., NM			
sample 273204 continued											
					$\mathbf{RL}$						
Parameter	Flag	<u></u>	Cert		Result	Ur	its	Dilution	RL		
					$\mathbf{RL}$						
Parameter	Flag		Cert		Result	Ur	its	Dilution	$\mathbf{RL}$		
Benzene	U		1		< 0.00100	mg	;/L	1	0.00100		
Toluene	U		1		< 0.00100	mg	$_{\rm s/L}$	1	0.00100		
Ethylbenzene	U		1		< 0.00100	. mg	;/L	1	0.00100		
Xylene	υ		1		< 0.00100	mg	;/L	1	0.00100		
							Spike	Percent	Recovery		
Surrogate		Flag	Cert	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits		
Trifluorotoluene (TFT)				0.0995	mg/L	1	0.100	100	79.1 - 127.2		
4-Bromofluorobenzene (4-BFB)				0.0931	mg/L	1	0.100	93	67.5 - 140.8		

### Sample: 273204 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 83581 70899		Analytical Date Analy Sample Pre	zed:	E 300.0 2011-08-03 2011-08-02		Prep Method: Analyzed By: Prepared By:	AR
				R	$\mathbf{L}$			
Parameter		Flag	Cert	Resu	lt	Units	Dilution	$\mathbf{RL}$
Chloride			1	508	0	mg/L	500	2.50

### Sample: 273204 - MW-4

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Sulfate			1	134	mg/L	5	2.50
Parameter		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
				$\mathbf{RL}$			
Prep Batch:	+		Sample Prepa			Prepared By:	
Analysis: QC Batch:	SO4 (IC) 83581		Analytical Me Date Analyzed			Prep Method: Analyzed By:	
Laboratory:	Midland			.1 1 77 000 0			<b>NT / A</b>

Report Date: August 24, 2011 115-6403131			Celero		der: 11080 ieen Unit	)105 Tract #11	L	Page Nu Cl	mber: 1 navez C	
Sample: 273204 - MW-4										
Laboratory: Midland										
Analysis: TDS				al Metho	d: SM :	2540C			lethod:	N/A
QC Batch: 83789			Date An			-08-11		Analyz		$\mathbf{AR}$
Prep Batch: 70948		1	Sample	Preparati	on: 2011	-08-05		Prepar	ed By:	AR
D /				<b>a</b> .		RL	<b>**</b> •.			D.
Parameter		Flag	5	Cert		sult	Units	Dilution		RL
Total Dissolved Solids		н	-	1	7		mg/L	1(	)	10.0
Sample: 273205 - MW-5										
Laboratory: Midland										
Analysis: BTEX		Aı	nalytical	Method:	S 8021	В		Prep Meth	od: S	5030B
QC Batch: 83491		Da	ate Anal	lyzed:	2011-0	8-02		Analyzed l	By: M	$\mathbf{E}$
Prep Batch: 70921		Sa	mple Pr	reparation	1: <b>2</b> 011-0	8-02		Prepared I	By: M	Έ
					$\mathbf{RL}$					
Parameter	Flag		$\mathbf{Cert}$		$\mathbf{Result}$	Ū	nits	Dilution		$\mathbf{RL}$
Benzene	υ		1	<	< 0.00100		ıg/L	1	0.	.00100
Toluene	υ		1	<	<0.00100	m	ıg/L	1	0.	.00100
Ethylbenzene	U		1		<0.00100		ıg/L	1		.00100
Xylene	U		1	<	<0.00100	m	lg/L	1	0.	.00100
~							Spike	Percent		overy
Surrogate	]	Flag	Cert	Result	Units	Dilution		Recovery		nits
Trifluorotoluene (TFT)				0.0894	mg/L	1	0.100	89		127.2
4-Bromofluorobenzene (4-BFB)				0.0889	mg/L	1	0.100	89	67.5 -	140.8
Sample: 273205 - MW-5										
Laboratory: Midland										
Analysis: Chloride (IC)			Analy	tical Met	hod: E	300.0		Prep M	lethod:	N/A
QC Batch: 83581				Analyzed:		11-08-03		Analyz		ÁR
40			Date	Analyzeu.		11-00-03		Analy a	eu by:	AIL

Prep Batch: 70899		Sample Pre	eparation: 2011-	Prepared By:	AR	
			$\mathbf{RL}$			
Parameter	Flag	$\mathbf{Cert}$	Result	Units	Dilution	$\mathbf{RL}$
Chloride		1	48500	mg/L	5000	2.50

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·115-6403131		Celero	Work Orde Rock Que			l		ber: 12 of 3 avez Co., NM
Sample: 273205 - MW-5								
Laboratory: Midland								
Analysis: SO4 (IC)			cal Method	: E 300	0.0		Prep Me	
QC Batch: 83581			nalyzed:	2011-(			Analyze	
Prep Batch: 70899		Sample	Preparatio	n: 2011-(	08-02		Prepared	d By: AR
٩				$\mathbf{RL}$				
Parameter	Flag	Cert		Result		Units	Dilution	RI
Sulfate		1		422	I	ng/L	50	2.50
Laboratory: Midland Analysis: TDS QC Batch: 83789 Prep Batch: 70948		Date Ar	cal Method: nalyzed: Preparatior	2011-0	8-11		Prep Me Analyze Preparec	d By: AR
Parameter		Flag	Cert	R Resu		Units	Dilution	RL
Total Dissolved Solids		Н	1	6090	0	mg/L	100	10.0
Total Dissolved Solids Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958		Analytical Date Anal	l Method:	5 8021B 2011-08- 2011-08-	03	mg/L	100 Prep Metho Analyzed By Prepared By	d: S 5030B y: ME
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958	T21	Analytical Date Anal Sample Pr	l Method: lyzed: reparation:	S 8021B 2011-08- 2011-08- RL	03 03		Prep Metho Analyzed By Prepared By	d: S 5030B y: ME y: ME
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter	Flag	Analytical Date Anal Sample Pr Cert	l Method: lyzed: reparation:	S 8021B 2011-08- 2011-08- RL Result	03 03 U	nits	Prep Metho Analyzed By Prepared By Dilution	d: S 5030B y: ME y: ME RL
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene	υ	Analytical Date Anal Sample Pr Cert	l Method: lyzed: reparation: <0	S 8021B 2011-08- 2011-08- RL Result 0.00100	03 03 	nits g/L	Prep Metho Analyzed By Prepared By Dilution	d: S 5030B y: ME y: ME RL 0.00100
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene Toluene	บ บ	Analytical Date Anal Sample Pr <u>Cert</u>	l Method: lyzed: reparation: <0 <0	S 8021B 2011-08- 2011-08- RL Result 0.00100 0.00100	03 03 U m m	nits g/L g/L	Prep Metho Analyzed By Prepared By Dilution	d: S 5030B y: ME z: ME RL 0.00100 0.00100
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene Toluene Ethylbenzene	บ บ บ	Analytical Date Anal Sample Pr Cert	l Method: lyzed: reparation: <0 <0 <0	S 8021B 2011-08- 2011-08- RL Result 0.00100 0.00100 0.00100	03 03 U m m m	nits g/L g/L g/L	Prep Metho Analyzed By Prepared By Dilution 1 1 1	d: S 5030B y: ME y: ME mE 0.00100 0.00100 0.00100
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene Toluene Ethylbenzene	บ บ	Analytical Date Anal Sample Pr <u>Cert</u>	l Method: lyzed: reparation: <0 <0 <0	S 8021B 2011-08- 2011-08- RL Result 0.00100 0.00100	03 03 U m m m	nits g/L g/L g/L g/L	Prep Metho Analyzed By Prepared By Dilution 1 1 1 1 1	d: S 5030B y: ME y: ME r: ME 0.00100 0.00100 0.00100 0.00100
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene Toluene Ethylbenzene Xylene	บ บ บ บ	Analytical Date Anal Sample Pr Cert	l Method: lyzed: reparation: <0 <0 <0 <0 <0 <0	S 8021B 2011-08- 2011-08- RL Result ).00100 ).00100 ).00100 ).00100	03 03 U m m m m m	nits g/L g/L g/L g/L g/L	Prep Metho Analyzed By Prepared By Dilution 1 1 1 1 1 1 Percent	d: S 5030B y: ME y: ME r: ME 0.00100 0.00100 0.00100 0.00100 Recovery
Sample: 273206 - MW-6 Laboratory: Midland Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Parameter Benzene Toluene Ethylbenzene	บ บ บ บ	Analytical Date Anal Sample Pr Cert	l Method: lyzed: reparation: <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0	S 8021B 2011-08- 2011-08- RL Result ).00100 ).00100 ).00100 ).00100	03 03 U m m m	nits g/L g/L g/L g/L	Prep Metho Analyzed By Prepared By Dilution 1 1 1 1 1	d: S 5030B y: ME y: ME r: ME 0.00100 0.00100 0.00100 0.00100

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	Cele	Work Orde ero/Rock Que	#11	Page Number: 13 o Chavez Co.,		
	Da	te Analyzed:	2011-08-0		Prep Method: Analyzed By: Prepared By:	N/A AR AR
	-		RL		·	
Flag						RL
		1	493	mg/L	50	2.50
					,	
						N/A
		-				AR
	Samp	ole Preparatio	n: 2011-08-02		Prepared By:	AR
			BL			
Flag	C	ert	Result	Units	Dilution	$\mathbf{RL}$
		1	80.0	mg/L	5	2.50
			:		,	
	· Analy	tical Method	: SM 2540C		Prep Method:	N/A
						ÁR
					Prepared By:	AR
			RL			
	Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
	н	1	934	mg/L	2	10.0
	Flag	Da       Flag     Ca       Flag     Ca       Analy       Date       Samp       Flag     Ca       Flag     Ca       Flag     Flag	Date Analyzed:         Sample Preparat         Flag       Cert         1       1         Analytical Method       Date Analyzed:         Sample Preparation       1         Flag       Cert         1       1         Analytical Method       Date Analyzed:         Sample Preparation       1         Flag       Cert         1       1         Flag       Cert         1       1         Flag       Cert         Flag       Cert         Flag       Cert	Date Analyzed:       2011-08-0         Sample Preparation:       2011-08-0         Flag       Cert       Result         1       493         Analytical Method:       E 300.0         Date Analyzed:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         RL       Flag       Cert         RL       Flag       Cert         Analytical Method:       SM 2540C         Date Analyzed:       2011-08-11         Sample Preparation:       2011-08-05         Analytical Method:       SM 2540C         Date Analyzed:       2011-08-05         KL       Flag       Cert         Flag       Cert       Result	Date Analyzed: 2011-08-03 Sample Preparation: 2011-08-02          RL         Flag       Cert       Result       Units         1       493       mg/L         Analytical Method:       E 300.0         Date Analyzed:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         Sample Preparation:       2011-08-03         RL       Flag       Cert       Result       Units         1       80.0       mg/L         Analytical Method:       SM 2540C       Date Analyzed:       2011-08-11         Sample Preparation:       2011-08-11       Sample Preparation:       2011-08-05         RL       Flag       Cert       Result       Units	Date Analyzed:       2011-08-03       Analyzed By:         Sample Preparation:       2011-08-02       Prepared By:         RL       Image: Cert Result Units Dilution       Dilution         1       493       mg/L       50         Analytical Method:       E 300.0       Prep Method:       Analyzed:         Date Analyzed:       2011-08-03       Analyzed By:         Sample Preparation:       2011-08-03       Analyzed By:         Sample Preparation:       2011-08-03       Prep Method:         Flag       Cert       Result       Units       Dilution         1       80.0       mg/L       5         Analytical Method:       SM 2540C       Prep Method:         Date Analyzed:       2011-08-11       Analyzed By:         Sample Preparation:       2011-08-05       Prep Method:         Malytical Method:       SM 2540C       Prep Method:         Malytical Method:       SM 2540C       Prep Method:         Date Analyzed:       2011-08-05       Prepared By:         Sample Preparation:       2011-08-05       Prepared By:         Flag       Cert       Result       Units       Dilution

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Report Date: August 24, 2011 115-6403131	Work Order: 11080105 Celero/Rock Queen Unit Tract #11						Page Number: 14 of 30 Chavez Co., NM			
sample 273207 continued			111993 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2014 - 2	`				<u> </u>		
_				RL						
Parameter	Flag	Cert		Result	Un	its	Dilution	RL		
				$\mathbf{RL}$						
Parameter	Flag	$\operatorname{Cert}$		Result	Un	its	Dilution	RL		
Benzene	U	1	<	< 0.00100	mg	/L	1	0.00100		
Toluene	U	1	<	<0.00100	mg		1	0.00100		
Ethylbenzene	U	1	<	< 0.00100	mg	/L	• 1	0.00100		
Xylene	U	1	<	<0.00100	mg	/L	1	0.00100		
						Spike	Percent	Recovery		
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits		
Trifluorotoluene (TFT)			0.104	mg/L	1	0.100	104	79.1 - 127.2		
4-Bromofluorobenzene (4-BFB)			0.0962	mg/L	1	0.100	96	67.5 - 140.8		
Sample: 273207 - MW-7										
Laboratory: Midland										

Analysis:	Chloride (IC)		Analytical	Method: E 300	0.0	Prep Method:	N/A
QC Batch:	83581		Date Analy	/zed: · 2011-	08-03	Analyzed By:	AR
Prep Batch:	70899		Sample Pre	eparation: 2011-	08-02	Prepared By:	AR
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Chloride			1	1580	mg/L	100	2.50

### Sample: 273207 - MW-7

Laboratory:	Midland						
Analysis:	SO4 (IC)		Analytical M	ethod: E 300.0		Prep Method	l: N/A
QC Batch:	83581		Date Analyze	ed: 2011-08	-03	Analyzed By	: AR
Prep Batch:	70899		Sample Prepa	aration: 2011-08	-02	Prepared By	: AR
				$\mathbf{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Sulfate			1	84.1	mg/L	5	2.50

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Sample: 273207 - MW-7					· · ·	
Laboratory: Midland						
Analysis: TDS	Analy	vtical Method:	SM 2540C		Prep Method:	N/A
QC Batch: 83880	Date	Analyzed:	2011-08-15		Analyzed By:	ÁR
Prep Batch: 71017	Samp	ole Preparation:	2011-08-08		Prepared By:	AR
			$\mathbf{RL}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids	н	1	2440	mg/L	5	10.0

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# Method Blanks

Method Blank (1) QC Batch: 83491

QC Batch: Prep Batch:	Date Analyzed: QC Preparation:	Analyzed By: Prepared By:	

					MD	L		
Parameter	Flag		Cert		Resul	t	Units	$\mathbf{RL}$
Benzene			1		< 0.00040	0	mg/L	0.001
Toluene			1		< 0.00030	D	mg/L	0.001
Ethylbenzene			1		< 0.00030	0	mg/L	0.001
Xylene			1		< 0.00033	3	mg/L	0.001
					•	Spike	Percent	Recovery
Surrogate	Flag	Cert	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0926	mg/L	1	0.100	93	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0850	mg/L	1	0.100	85	45.9 - 126.4

### Method Blank (1) QC Batch: 83538

QC Batch: 83538	Date Analyzed:		2011-08-03			Analyz	ed By: ME	
Prep Batch: 70958	QC Preparation:			2011-08-03			Prepar	ed By: ME
					MDL	,		
Parameter	Flag		Cert		Result		Units	$\mathbf{RL}$
Benzene			1		< 0.000400		mg/L	0.001
Toluene			1		< 0.000300	t i i i i i i i i i i i i i i i i i i i	mg/L	0.001
Ethylbenzene			1		< 0.000300	ŧ.	mg/L	0.001
Xylene			1		<0.000333		mg/L	0.001
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.103	mg/L	1	0.100	103	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0946	mg/L	1	0.100	95	45.9 - 126.4

Report Date: August 2 115-6403131	24, 2011	Work Ord Celero/Rock Que	er: 11080105 een Unit Trac	Page Number: 17 of 3 Chavez Co., NM		
Method Blank (1)	QC Batch: 83580					
QC Batch: 83580 Prep Batch: 70898		Date Analyzed: QC Preparation:	2011-08-03 2011-08-02		Analyzed By: Prepared By:	AR AR
Parameter	Flag	Cert		MDL Result	Units	$\mathbf{RL}$
Chloride	r lag		· · · ·	2.77	mg/L	2.5
Method Blank (1)	QC Batch: 83580					
QC Batch: 83580		Date Analyzed:	2011-08-03		Analyzed By:	AR
Prep Batch: 70898	· .	QC Preparation:	2011-08-02		Prepared By:	AR
Parameter	Flag	Cert		MDL Result	Units	$\mathbf{RL}$
Sulfate	1 105	1		<0.177	mg/L	2.5
Method Blank (1) QC Batch: 83581 Prep Batch: 70899	QC Batch: 83581	Date Analyzed: QC Preparation:	2011-08-03 2011-08-02	,	Analyzed By: Prepared By:	AR AR
Parameter	Flag	Cert		MDL Result	Units	RL
Chloride		1		2.80	mg/L	2.5
Method Blank (1)	QC Batch: 83581					
QC Batch: 83581 Prep Batch: 70899		Date Analyzed: QC Preparation:	2011-08-03 2011-08-02		Analyzed By: Prepared By:	AR AR
Parameter	Flag	· Cert		MDL Result	Units	RL
Sulfate	0	1		<0.177	mg/L	2.5

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Report Date: August 24, 2011 115-6403131	Work Ord Celero/Rock Que	er: 11080105 een Unit Trac	* I	Page Number: 18 of 30 Chavez Co., NM		
Method Blank (1) QC Batch: 83789						
QC Batch: 83789 Prep Batch: 70948	Date Analyzed: QC Preparation:	2011-08-11 2011-08-03			Analyzed By: Prepared By:	
Parameter	Flag	Cert	MDL Result		Units	$\mathbf{RL}$
Total Dissolved Solids		1	<9.75		mg/L	10
·						
Method Blank (1) QC Batch: 83880						
QC Batch: 83880 Prep Batch: 71017	Date Analyzed: QC Preparation:	2011-08-15 2011-08-05			Analyzed By: Prepared By:	
Parameter	Flag	Cert	MDL Result		Units	RL
Total Dissolved Solids		1 .	<9.75		mg/L	10
Duplicates (1) Duplicated Sample: 2732 QC Batch: 83789 Prep Batch: 70948	206 Date Analyzed: QC Preparation:	2011-08-11 2011-08-03			Analyzed By: Prepared By:	
D.	Duplicate	Sample	** •		מתת	RPD
Param Total Dissolved Solids	Result 940	Result 934	Units mg/L	Dilution 2	RPD 1	Limit 10
Duplicates (1) Duplicated Sample: 2732 QC Batch: 83880 Prep Batch: 71017	Date Analyzed: QC Preparation:	2011-08-15 2011-08-05			Analyzed By: Prepared By:	AR
QC Batch: 83880	Date Analyzed:		Units	Dilution		

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## Laboratory Control Spikes

#### Laboratory Control Spike (LCS-1)

QC Batch:	83491	.•	•	Date Anal	yzed:	2011-08-0	02		Analy	zed By: ME
Prep Batch:	70921			QC Prepa	ration:	2011-08-0	02		Prepa	red By: ME
				LCS			Spike	Matrix		Rec.
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene			1	0.104	mg/L	1	0.100	< 0.000400	104	76.8 - 110.3
Toluene			1	0.101	mg/L	1	0.100	< 0.000300	101	90.9 - 122.2
Ethylbenzen	e		1	0.0945	mg/L	1	0.100	< 0.000300	94	72.7 - 120.2
Xylene			1	0.284	mg/L	1	0.300	< 0.000333	95	72.1 - 121.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\dot{\mathbf{F}}$	С	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	RPD	Limit
Benzene		1	0.104	mg/L	1	0.100	< 0.000400	104	76.8 - 110.3	0	20
Toluene		1	0.101	mg/L	1	0.100	< 0.000300	101	90.9 - 122.2	0	20
Ethylbenzene		1	0.0952	mg/L	1	0.100	< 0.000300	95	72.7 - 120.2	1	20
Xylene		1	0.286	mg/L	1	0.300	< 0.000333	95	72.1 - 121.5	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0993	0.0992	mg/L	1	0.100	99	99	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0973	0.0980	mg/L	1	0.100	97	98	56.4 - 127.9

#### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	83538 70958			Date Analy QC Prepar	,	2011-08-( 2011-08-(				zed By: ME red By: ME
Param		F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene			1	0.101	mg/L	1	0.100	< 0.000400	101	76.8 - 110.3
Toluene			1	0.0979	mg/L	1	0.100	< 0.000300	98	90.9 - 122.2
Ethylbenzene	e		1	0.0919	mg/L	1	0.100	< 0.000300	92	72.7 - 120.2
Xylene			1	0.276	mg/L	1	0.300	< 0.000333	92	72.1 - 121.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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			LCSD			Spike	М	latrix		I	Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	R	esult	Rec.	. L	imit	RPD	Limit
Benzene		1	0.103	mg/L	, 1	0.100	<0.	000400	103	76.8	- 110.3	2	20
Toluene		1	0.0996	mg/L	, 1	0.100	<0.	000300	100	90.9	- 122.2	2	20
Ethylbenzene		1	0.0942	mg/L	, 1	0.100	<0.	000300	94	72.7	- 120.2	2	20
Xylene		1	0.282	mg/L	<u> </u>	0.300	<0.	000333	94	72.1	- 121.5	2	20
Percent recovery is based on the	spike	e res	ult. RPI	) is bas	sed on t	he spike a	and sp	oike dup	licate	result.			
			L	CS	LCSD			Spi	ke	LCS	LCSD		lec.
Surrogate			Res	sult .	Result	Units	Dil.	Amo	unt	Rec.	Rec.	$\mathbf{L}$	imit
Trifluorotoluene (TFT)			0.0		0.0894	mg/L	1	0.10	)0	99	89	61.9	- 119.2
4-Bromofluorobenzene (4-BFB)			0.0	986	0.0880	mg/L	1	0.10	)0	99	88	56.4	- 127.9
QC Batch: 83580 Prep Batch: 70898		F	QC	e Anal Prepar LCS Result	ration:	2011-08- 2011-08- its Dil	02	Spike		atrix	•		
		<b>r</b>			Uni		. <i>F</i>						- 113.9
Chloride			1	26.1	mg			25.0		0.265	104	90.9	- 110.9
Percent recovery is based on the	spike	e rest	ult. RPI	) is bas	sed on t	he spike a	and sp	oike dup	licate	result.			
			LCSD			Spike	e N	latrix		F	lec.		RPD
Param	F	С	Result					Result	Rec.		imit	RPD	Limit
Chloride		1	26.3	mg/	L 1	25.0	<	(0.265	105	90.9	- 113.9	1	20
Percent recovery is based on the a Laboratory Control Spike (La QC Batch: 83580 Prep Batch: 70898	-		Dat	e Anal	yzed:	2011-08- 2011-08-	03	nke dup	licate	result.		vzed By ared By	
								a					D
Deserve		ъ	C	LCS			.1	Spike		Matrix	<b>D</b>		Rec.
Param		F	C	Result		nits Di		Amoun 25.0		Result	Rec. 103		Limit - 113.6
Sulfate Percent recovery is based on the s	snike	, res	ı ult. RPI	25.7 ) is bas		g/L 1 the spike a		25.0 pike dup		<0.177 result.	103		- 119.0
I CLOCKE LOOVERY IS DESCE OIL UIC	Pirc	100			JUL UII (	-	-	-	10000		D		חחח
Deserve	F	~	LCSD			Spik		Matrix	ъ		Rec.	מחח	RPD
Param	F	C	Result					Result	Rec		imit	RPD	Limit
Sulfate		1	25.4	mg	/L 1	25.	U	<0.177	102	. 99	- 113.6	1	20

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Percent recovery is based on the spike r	result. RPD is based on the spike and spike duplicat	e result.
Laboratory Control Spike (LCS-1)		

QC Batch: Prep Batch:	83581 70899			ate Analy: C Prepara		2011-08-03 2011-08-02				zed By: AR red By: AR
Param		F	С	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			1	26.2	mg/L	, 1	25.0	< 0.265	105	90.9 - 113.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	С	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	•	1	26.6	mg/L	1	25.0	< 0.265	106	90.9 - 113.9	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	83581 70899			ate Analyz C Preparat		1-08-03 1-08-02				ed By: AR ed By: AR
Param		न	С	LCS Result	Units	Dil.	Spike Amount	Matrix Result	, Rec.	Rec. Limit
Sulfate			1	25.6	mg/L	1	25.0	<0.177	102	99 - 113.6
	very is based on t	the spike resu	ılt. RI			oike and			102	99 - 115

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	25.4	mg/L	1	25.0	<0.177	102	99 - 113.6	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch:	83789	Date Analyzed:	2011-08-11	Analyzed By:	AR
Prep Batch:	70948	QC Preparation:	2011-08-03	Prepared By:	AR

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Report Date: August 24, 2011 115-6403131		Ce			11080105 Unit Tra			Pa	-	mber: 2 havez C	
			· · · ·								
_	_	~	LCS			Spike	Mat		_		lec.
Param	F	C	Result	Units	Dil.	Amount	Res		Rec.		.mit
Total Dissolved Solids		1	981	mg/L	1	1000	<9		98	60.0	- 112.7
Percent recovery is based on th	e spike res	ult. RP	D is base	d on the	spike and	i spike dup	olicate re	esult.			,
		LCSE	)		Spike	Matrix		Rec.			RPD
Param	FC	Result	t Units	Dil.	Amount	Result	Rec.	Limi	t	RPD	Limit
Total Dissolved Solids	- 1	1030	mg/L	, 1	1000	<9.75	103	85.5 - 1	12.7	5	10
Percent recovery is based on th	o opino rob	uio. xui		a on one	Spine and	i opino dap		55410			
Laboratory Control Spike (	LCS-1)										
QC Batch: 83880		Da	te Analyz	zed: 2	011-08-15				Analy	yzed By:	AR
Prep Batch: 71017			Prepara		011-08-05	•				ared By:	
1									-	v	
				•							
			T CR			Sniko	Ма			σ	
Param	ਸ	C	LCS Besult	Units	Dil	Spike Amount	Mat		Rec		lec.
	F	C	Result	Units mg/L	Dil.	Amount	Res	ult l	Rec.	Li	imit
Param Total Dissolved Solids Percent recovery is based on th		1	Result 1020	mg/L	1	Amount 1000	Res <9	ult 1.75	Rec. 102	Li	
Total Dissolved Solids		ı ult. RP	Result 1020 D is base	mg/L	1 spike and	Amount 1000 l spike dup	Res <9	ult 1 .75 esult.	102	Li	imit - 112.7
Total Dissolved Solids Percent recovery is based on th	e spike res	ı ult. RP LCSD	Result 1020 D is base	mg/L d on the	1 spike and Spike	Amount 1000 I spike dup Matrix	Res <9	ult 1 .75 esult. Rec.	102	Li 85.5	mit - 112.7 RPD
Total Dissolved Solids Percent recovery is based on th Param	e spike res F C	ı ult. RP LCSD Result	Result 1020 D is base	mg/L d on the Dil.	1 spike and Spike Amount	Amount 1000 I spike dup Matrix Result	Res <9 licate re Rec.	ult 1 .75 esult. Rec. Limi	102 t	Li 85.5 RPD	mit - 112.7 RPD Limit
Total Dissolved Solids Percent recovery is based on the Param Total Dissolved Solids	e spike res F C	1 ult. RP LCSD Result 1040	Result 1020 D is base Units mg/L	mg/L d on the Dil.	1 spike and Spike Amount 1000	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 esult. Rec. Limi 85.5 - 1	102 t	Li 85.5	mit - 112.7 RPD
Total Dissolved Solids Percent recovery is based on the Param Total Dissolved Solids	e spike res F C	1 ult. RP LCSD Result 1040	Result 1020 D is base Units mg/L	mg/L d on the Dil.	1 spike and Spike Amount 1000	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 esult. Rec. Limi 85.5 - 1	102 t	Li 85.5 RPD	mit - 112.7 RPD Limit
Total Dissolved Solids Percent recovery is based on th	e spike res F C	1 ult. RP LCSD Result 1040	Result 1020 D is base Units mg/L	mg/L d on the Dil.	1 spike and Spike Amount 1000	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 esult. Rec. Limi 85.5 - 1	102 t	Li 85.5 RPD	mit - 112.7 RPD Limit
Total Dissolved Solids Percent recovery is based on the Param Total Dissolved Solids	e spike res F C	1 ult. RP LCSD Result 1040	Result 1020 D is base Units mg/L	mg/L d on the Dil.	1 spike and Spike Amount 1000	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 esult. Rec. Limi 85.5 - 1	102 t	Li 85.5 RPD	mit - 112.7 RPD Limit
Total Dissolved Solids Percent recovery is based on the Param Total Dissolved Solids Percent recovery is based on the	e spike res F C	ult. RP LCSD Result 1040 ult. RP	Result 1020 D is base Units mg/L D is base	mg/L d on the Dil.	1 spike and Spike Amount 1000	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 esult. Rec. Limi 85.5 - 1	102 t	Li 85.5 RPD	mit - 112.7 RPD Limit
Total Dissolved Solids Percent recovery is based on the Param Total Dissolved Solids Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spil	e spike res F C 1 e spike res	ı ult. RP LCSD Result 1040 ult. RP e: 27320	Result 1020 D is base Units mg/L D is base	mg/L d on the Dil. d on the	1 spike and Amount 1000 spike and	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 75 ssult. Rec. Limi 85.5 - 1 ssult.	102 t 12.7	Li 85.5 RPD 2	mit - 112.7 RPD Limit 10
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)       Spil         QC Batch:       83491	e spike res F C 1 e spike res	ı ult. RPI LCSD Result 1040 ult. RPI e: 27320 Dat	Result 1020 D is base Units mg/L D is base 5 5 5	mg/L d on the Dil. d on the zed: 2	1 spike and Amount 1000 spike and	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 .75 	102 t 12.7 Analy	Li 85.5 RPD 2	mit - 112.7 RPD Limit 10
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)         Spil         QC Batch:       83491	e spike res F C 1 e spike res	ı ult. RPI LCSD Result 1040 ult. RPI e: 27320 Dat	Result 1020 D is base Units mg/L D is base	mg/L d on the Dil. d on the zed: 2	1 spike and Amount 1000 spike and	Amount 1000 I spike dup Matrix Result <9.75	Res <9 licate re Rec. 104	ult 1 .75 	102 t 12.7 Analy	Li 85.5 RPD 2	mit - 112.7 RPD Limit 10
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)         Spil         QC Batch:       83491	e spike res F C 1 e spike res	ı ult. RPI Result 1040 ult. RPI e: 27320 Dat QC	Result 1020 D is base Units mg/L D is base 5 Se Analyz Prepara	mg/L d on the Dil. d on the zed: 2	1 spike and Amount 1000 spike and	Amount 1000 I spike dup Matrix Result <9.75 I spike dup	Res <9. licate re Rec. 104 licate re	ult 1 .75 	102 t 12.7 Analy	Li 85.5 RPD 2 z	mit - 112.7 RPD Limit 10 ME ME
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)         Spil         QC Batch:       83491         Prep Batch:       70921	e spike res F C 1 e spike res œd Sampl	ı ult. RPI Result 1040 ult. RPI e: 27320 Dat QC	Result 1020 D is base Units mg/L D is base 5 See Analyz Prepara MS	mg/L d on the Dil. d on the sed: 2 tion: 2	1 spike and Amount 1000 spike and 011-08-02 011-08-02	Amount 1000 I spike dup Matrix Result <9.75 I spike dup	Res <9. licate re 104 licate re	ult 1 75 ssult. Rec. Limi 85.5 - 1 ssult.	102 t 12.7 Analy Prepa	Li 85.5 RPD 2 vzed By: ared By: R	mit - 112.7 RPD Limit 10 ME ME ME
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)       Spil         QC Batch:       83491         Prep Batch:       70921	e spike res F C 1 e spike res	ı ult. RPI Result 1040 ult. RPI e: 27320 Dat QC	Result 1020 D is base Units mg/L D is base 5 See Analyz Prepara MS Cesult	mg/L d on the Dil. d on the zed: 2 tion: 2 Units	1 spike and Amount 1000 spike and 011-08-02 011-08-02 Dil.	Amount 1000 I spike dup Matrix Result <9.75 I spike dup Spike Amount	Res <pre> Rec. 104 licate re Matr Result </pre>	ult 1 75 ssult. Rec. Limi 85.5 - 1 ssult.	102 t 12.7 Analy Prepa Rec.	Li 85.5 RPD 2 vzed By: wred By: R Li	mit - 112.7 RPD Limit 10 ME ME ME cec. mit
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)       Spil         QC Batch:       83491         Prep Batch:       70921         Param       Benzene	e spike res F C 1 e spike res œd Sampl	1 ult. RPI Result 1040 ult. RPI e: 27320 Dat QC C F 1 0	Result 1020 D is base Units mg/L D is base 5 se Analyz Prepara MS cesult .0992	mg/L d on the Dil. 1 d on the zed: 2 tion: 2 Units mg/L	1 spike and Amount 1000 spike and 011-08-02 011-08-02 Dil. 1	Amount 1000 I spike dup Matrix Result <9.75 I spike dup	Res <9. licate re 104 licate re	ult 1 75 ssult. Rec. Limi 85.5 - 1 ssult.	102 t 12.7 Analy Prepa	Li 85.5 RPD 2 vzed By: ured By: R Li 66.9	mit - 112.7 RPD Limit 10 ME ME ME
Total Dissolved Solids         Percent recovery is based on the         Param         Total Dissolved Solids         Percent recovery is based on the         Matrix Spike (MS-1)         Spil         QC Batch:       83491	e spike res F C 1 e spike res œd Sampl	1 ult. RP Result 1040 ult. RP e: 27320 Dat QC C F 1 0 1 0	Result 1020 D is base Units mg/L D is base 5 se Analyz Prepara MS cesult .0992	mg/L d on the Dil. d on the zed: 2 tion: 2 Units	1 spike and Amount 1000 spike and 011-08-02 011-08-02 Dil.	Amount 1000 I spike dup Matrix Result <9.75 I spike dup Spike dup	Res <pre> Rec. 104 licate re Matr Resu </pre>	ult 1 75 ssult. Rec. Limi 85.5 - 1 ssult.	102 t 12.7 Analy Prepa Rec. 99	Li 85.5 RPD 2 z z z z ed By: red By: R Li 66.9 81.6	ME ME ME ME ME ME ME ME

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Report Date: August 24, 2011 115-6403131			Ce			er: 110801 en Unit T		11		[			23 of 30 Co., NM
matrix spikes continued													
			MSD			Spike	Ma	trix		F	lec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Res	sult	Rec.	L	imit	RPD	Limit
			MSD			Spike	Ma	trix		F	lec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Res	ult	Rec.	$\mathbf{L}$	imit	RPD	Limit
Benzene		1	0.107	mg/L	1	0.100	< 0.00	00400	107	66.9	- 128.2	8	20
Toluene		1	0.0999	mg/L		0.100	<0.00	00300	100	81.6	- 122.9	7	20
Ethylbenzene		1	0.0868	mg/L		0.100	< 0.00	0300	87	62.7	- 117.9	8	20
Xylene		1	0.259	mg/L	1	0.300	<0.00	0333	86	62.9	- 118.2	7	20
Percent recovery is based on the	spik	e re	sult. RPI	D is bas	ed on t	he spike a	nd spil	æ dupl	icate 1	result.			
			N	AS	MSD			Spi	ke	MS	MSD	Ŧ	lec.
Surrogate			Re	sult ]	Result	Units	Dil.	Amo		Rec.	Rec.	$\mathbf{L}$	imit
Trifluorotoluene (TFT)			0.0	)945 (	0.0975	mg/L	1	0.	1	94	98	58.6	- 119.7
							-						

#### Matrix Spike (MS-1) Spiked Sample: 273037

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4-Bromofluorobenzene (4-BFB)

QC Batch:	83538	Date Analyzed:	2011-08-03	Analyzed By:	ME
Prep Batch:	70958	QC Preparation:	2011-08-03	Prepared By:	ME

0.0997

mg/L

1

0.1

96

100

52.2 - 135.8

			MS			Spike	Matrix		Rec.
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	0.587	mg/L	5	0.500	0.127	92	66.9 - 128.2
Toluene		1	0.544	mg/L	5	0.500	0.1205	85	81.6 - 122.9
Ethylbenzene		1	0.421	mg/L	5	0.500	<0.00150	84	62.7 - 117.9
Xylene		1	1.29	mg/L	5	1.50	0.1543	76	62.9 - 118.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

0.0964

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.607	mg/L	5	0.500	0.127	96	66.9 - 128.2	3	20
Toluene		3.	0.563	mg/L	5	0.500	0.1205	88	81.6 - 122.9	3	20
Ethylbenzene		1	0.438	mg/L	5	0.500	< 0.00150	88	62.7 - 117.9	4	20
Xylene		1	1.34	mg/L	5	1.50	0.1543	79	62.9 - 118.2	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	$\mathbf{Result}$	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.511	0.468	mg/L	5	0.5	$10\overline{2}$	94	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.502	0.461	mg/L	5	0.5	100	92	52.2 - 135.8

Report Date: August 24, 2 115-6403131	2011		C			11080105 1 Unit Tra			P:	-	umber: 2 Zhavez C	
Matrix Spike (MS-1)	Spiked S	Sampl	e: 27320	)1								
QC Batch: 83580 Prep Batch: 70898				te Analyz C Preparat		011-08-03 011-08-02					yzed By ared By:	
_				MS			Spike		trix			lec.
Param		F	C	Result	Units	Dil.	Amount		sult	Rec.		imit
Chloride			1	21800	mg/L	100	2750		600	7	48.4	- 143.2
Percent recovery is based of	on the spi	ke res	ult. RP	D is based	i on the	e spike and	spike dup	olicate r	esult.			
,			MSD	1		Spike	Matrix		Re	c.		RPD
Param	F	<u>ר י</u>	Resul		Dil.	Amount	Result	Rec.	Lim		RPD	Limit
Chloride		1	21800	) mg/L	100	2750	21600	7	48.4 -	143.2	0	20
Matrix Spike (MS-1) QC Batch: 83580 Prep Batch: 70898	Spiked S	Sampl	Da	)1 te Analyz C Preparat		011-08-03 011-08-02					yzed By ared By:	
				MS			Spike	Ma	trix		F	lec.
Param		F	С	Result	Units	Dil.	Amount		sult	Rec.		imit
Sulfate			1	3000	mg/L	100	2750	65	25	86	59.7	- 115.4
Percent recovery is based o	n the spil	ke res	ult. RP	D is based	l on the	spike and	spike dup	licate r	esult.			
			MSD			Spike	Matrix		Rec	c.		RPD
Param	F	Ċ	Result		Dil.	Amount	Result	Rec:	Lim		RPD	Limit
Sulfate		1	3020	mg/L	100	2750	625	87	59.7 - 1	115.4	1	20
Percent recovery is based o	_			·	l on the	spike and	spike dup	licate r	esult.			
Matrix Spike (MS-1)	Spiked S	ample										
QC Batch: 83581 Prep Batch: 70899				te Analyze Preparat		011-08-03 011-08-02					yzed By: ared By:	
							a .,				п	
_		_	-	MS			Spike		trix	_		lec.
Param Chloride		F	С	MS Result 1770	Units mg/L	Dil. 50	Amount 1380	Re	sult 93	Rec. 93	Li	tec. imit - 143.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Report Date: August 24, 2011 115-6403131			Cele			: 11080105 n Unit Tra			•		25 of 30 Co., NM
			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	RPD	Limit
Chloride		1	1790	mg/L	50	1380	493	94	48.4 - 143.2	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 273206

•	83581 70899			e Analyz Preparat		2011-08-03 2011-08-02					vzed By ared By	
				MS			Spike	Ma	atrix		F	lec.
Param		$\mathbf{F}$	C	Result	Units	Dil.	Amount	Re	esult	Rec.	L	imit
Sulfate			1	1360	mg/L	50	1380	1	.11	91	59.7	- 115.4
Percent recove	ery is based on the spi	ke res	ult. RPI	) is based	l on the	e spike and	spike dup	licate	result.			
			MSD			Spike	Matrix		Rec			RPD
Param	F	r C	Result	Units	Dil.	Amount	Result	Rec.	Limi	it	RPD	Limit
Sulfate		1	1360	mg/L	50	1380	111	91	59.7 - 1	15.4	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: August 24, 2011 115-6403131 Work Order: 11080105 Celero/Rock Queen Unit Tract #11 Page Number: 26 of 30 Chavez Co., NM

## **Calibration Standards**

Standard (CCV-2)

QC Batch: 83491			Date An	alyzed: 20	11-08-02		Analyz	zed By: ME
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.104	104	80 - 120	2011-08-02
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-08-02
Ethylbenzene		1	mg/L	0.100	0.0933	93	80 - 120	2011-08-02
Xylene		1	mg/L	0.300	0.279	93	80 - 120	2011-08-02

### Standard (CCV-3)

QC Batch: 83491			Date An	alyzed: 20	11-08-02		Analy	zed By: ME
				CCVs	CCVs	CCVs	Percent	
	•			True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2011-08-02
Toluene		1	mg/L	0.100	0.0976	98	80 - 120	2011-08-02
Ethylbenzene		1	mg/L	0.100	0.0913	91	80 - 120	2011-08-02
Xylene		1	mg/L	0.300	0.274	91	80 - 120	2011-08-02

#### Standard (CCV-1)

QC Batch: 83538			Date An	alyzed: 20	11-08-03		Analy	zed By: ME
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0989	99	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0948	95	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0892	89	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.271	90	80 - 120	2011-08-03

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Report Dat 115-640313	te: August 24, 20 1	)11			ler: 11080105 een Unit Tract	t #11		mber: 27 of 3 havez Co., NM
Standard	(CCV-2)							
QC Batch:	83538	γ.	Date A	nalyzed:	2011-08-03		Analy	zed By: ME
				CCVs		CCVs	Percent	
Danam	וס	ag Cert	Units	True Conc.	Found Conc.	Percent	Recovery Limits	Date Analyzed
Param Benzene	Fl	ag Cert	mg/L	0.100		Recovery 102	80 - 120	2011-08-03
Toluene		1	mg/L mg/L	0.100		98	80 - 120 80 - 120	2011-08-03
Ethylbenzer	ae.	1	mg/L	0.100		92	80 - 120	2011-08-03
Xylene	10	1	mg/L	0.300		92 92	80 - 120	2011-08-03
Standard		•						
QC Batch:	83580	· .	Date A	nalyzed:	2011-08-03		Analy	zed By: AR
				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	26.5	106	90 - 110	2011-08-03
Standard	(ICV-1)							
QC Batch:	83580		Date A	nalyzed:	2011-08-03		Analy	zed By: AR
				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	25.5	102	90 - 110	2011-08-03
Standard			Date Ar	nalyzed:	2011-08-03		Analy	zed By: AR
QC Batch:				CCVs	CCVs	CCVs	Percent	-
QC Batch:				True	Found	Percent	Recovery	Date
						-		
QC Batch: Param Chloride	Flag	Cert	Units mg/L	Conc. 25.0	<u>Conc.</u> 26.2	Recovery 105	Limits 90 - 110	Analyzed 2011-08-03

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Report Date: August 24, 2011 115-6403131			Cele		der: 11080105 ueen Unit Trac	Page Number: 28 of 30 Chavez Co., NM		
Standard (CO	CV-1)							
QC Batch: 83	580		Date	Analyzed:	2011-08-03		Analy	vzed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2011-08-03
•								
Standard (IC	V-1)							
QC Batch: 83	581		Date	Analyzed:	2011-08-03		Analy	zed By: AR
			-	ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	26.2	105	90 - 110	2011-08-03
Standard (IC	<b>V-1</b> )							
QC Batch: 83	581		Date	Analyzed:	2011-08-03		Analy	zed By: AR
				ICVs	ICVs	ICVs	Percent	
						Descent	<b>D</b> - <sup>1</sup>	<b>D</b> /
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	True Conc.	Found Conc.	Recovery	Limits	Date Analyzed

## Standard (CCV-1)

QC Batch:	83581		Date Analyzed:			2011-08-03		Analyzed By: AR		
					CCVs	CCVs	CCVs	Percent	•	
					True	Found	Percent	Recovery	Date	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride			1	mg/L	25.0	26.0	104	90 - 110	2011-08-03	

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### Standard (CCV-1)

### QC Batch: 83581

Date Analyzed: 2011-08-03

Analyzed By: AR

Report Date: August 24, 2011 115-6403131			Cele	Work Ord ro/Rock Que	Page Number: 29 of 30 Chavez Co., NM			
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.5	102	90 - 110	2011-08-03

. . Report Date: August 24, 2011 115-6403131

#### Work Order: 11080105 Celero/Rock Queen Unit Tract #11

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## Appendix

### Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

### **Standard Flags**

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.

U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

Analysis F	Request of Chain of Cus	stody Record	PAGE: ANALYSIS REQUES (Circle or Specify Metho	
	<b>TETRATECH</b> 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		5 (Ext. to C35) d Cr Pb Hg Se d Vr Pd Hg Se	SCI - V
CLIENT NAME:	SITE MANAGER: Jett Kindley	PRESERVATIVE METHOD	2. TX1005 As Ba Cd As Ba Cd Ba Cd As Ba Cd As Cd As Ba Cd	ations, pH, TDS Su [ fares
PROJECT NO .: 115-2403131	PROJECT NAME: Cehero / Rock Green #11		8015 MOD. 8015 MOD. Metals Ag A. Metals Ag A. Vol. 8240/82 5emi Vol. 8240/82 8080/608	c. srCatto
LAB I.D. NUMBER DATE TIME	Chover C., NM HINDO SAMPLE IDENTIFICATION	PRESERVATIVE METHOD HITLEBED (V.V.) ICE BUILTERED (V.V.)	TPL 8015 MOD. TX1005 PAH 8270 RCRA Metals Ag As Ba Cd V TCLP Volatiles TCLP Volatiles TCLP Semi Volatiles RCI GC.MS Vol. 8240/3260/624 GC.MS Semi. Vol. 8270/625 PCB's 8080/608 Pest. 808/608	Gamma Spec. Alpha Beta (Air) PLM (Asbestos) Major Anions/Cations, pH, TDS Major Anions/Cations, pH, TDS Major Anions/Cations, pH, TDS Addates Su (Jarks)
73201 7/27 1730	12 X mw 1	4NX X	(             X	XX
202 / 1710	MWZ			
203 1750	mw3			
204 1700				
205 1720	MW-5			
200 1740	MW-L			
207 1800	₩ ₩ mw-7			44
RELINQUISHED BY: (Signature)	Date:	Date: 7/2011	SAMPLED BY: (Print & Initial)	
RELINQUISHED BY: (Signature)	Time:         15.35         Decisive Difference           Date:	Time:5:3	SAMPLE SHIPPED BY: (Circle)	Date: Time: AIRBILL #:
RELINQUISHED BY: (Signature)	Time: RECEIVED BY: (Signature) Time:	Time: Date: 	FEDEX BUS MAND DELIVERED UPS TETRA TECH CONTACT PERSON:	OTHER:
RECEIVING LABORATORY:		TIME:	- Jeff Kindley	RUSH Charges Authorized: Yes No

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800+378+1295 806 • 794 • 1296 FAX 806 .794 . 1298

200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

NCTRCA DBE NELAP

El Paso, Texas 79922 Midiand, Texas 79703

888 • 588 • 3443 E-Mail: tab@traceanalysis.com

Certifications

DoD LELAP

915+585+3443 FAX 915+585+4944 432 • 689 • 6301 FAX 432+689+6313 817 • 201 • 5260

Kansas

Oklahoma ISO 17025

## Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

WBE HUB

Report Date: November 4, 2011

Work Order: 11103123 

Project Location: Chavez Co., NM **Project Name:** Celero/Rock Queen Unit Tract #11 Project Number: 115-6403131

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date	
Sample	Description	Matrix	Taken	Taken	Received	
281132	MW-6	water	2011-10-26	16:40	2011-10-31	
281133	MW-7	water	2011-10-26	17:39	2011-10-31	
281134	MW-4	water	2011-10-26	18:30	2011-10-31	
281135	MW-1	water	2011-10-27	09:20	2011-10-31	
281136	MW-5	water	2011-10-27	10:07	2011-10-31	
281137	MW-3	water	2011-10-27	10:47	2011-10-31	
281138	MW-2	water	2011-10-27	11:30	2011-10-31	

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

# **Report Contents**

Case Narrative	4
Analytical Report         Sample 281132 (MW-6)         Sample 281133 (MW-7)         Sample 281134 (MW-4)         Sample 281135 (MW-1)         Sample 281136 (MW-5)         Sample 281137 (MW-3)         Sample 281138 (MW-2)	55567789
QC Batch 86076 - Method Blank (1)	1 1 1 1
QC Batch 86076 - LCS (1)       1         QC Batch 86077 - LCS (1)       1         QC Batch 85998 - MS (1)       1         QC Batch 86076 - MS (1)       1	.2 12 13 13 14
Calibration Standards       1         QC Batch 85998 - CCV (1)       1         QC Batch 85998 - CCV (2)       1         QC Batch 86076 - CCV (1)       1         QC Batch 86076 - CCV (2)       1         QC Batch 86076 - CCV (2)       1         QC Batch 86077 - CCV (1)       1         QC Batch 86077 - CCV (2)       1         Appendix       1'	.5 .5 .5 .5 .6 .6 <b>7</b>
Laboratory Certifications       1         Standard Flags       1         Attachments       1	7

## **Case Narrative**

Samples for project Celero/Rock Queen Unit Tract #11 were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103123. Samples for work order 11103123 were received intact without headspace and at a temperature of 3.9 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	73013	2011-11-01 at 15:26	85998	2011-11-01 at 15:26
Chloride (IC)	E 300.0	73085	2011-11-02 at 09:33	86076	2011-11-02 at 11:36
Chloride (IC)	E 300.0	73086	2011-11-02 at $09:33$	86077	2011-11-02 at 17:50

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11103123 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 4, 2011 115-6403131

#### Work Order: 11103123 Celero/Rock Queen Unit Tract #11

Page Number: 5 of 17 Chavez Co., NM

5000

2.50

## **Analytical Report**

#### Sample: 281132 - MW-6

Laboratory:	Lubbock								_
Analysis:	BTEX		nalytical		S 8021E	-		Prep Method:	S 5030B
QC Batch:	85998		ate Analy		2011-11	-01		Analyzed By:	$\mathbf{ZLM}$
Prep Batch:	73013	Sa	mple Pre	eparation:	2011-11	-01		Prepared By:	ZLM
•					$\mathbf{RL}$				
Parameter		Flag	Cert		Result	Units		Dilution	RL
Benzene	U	U	1 ·	<(	.00100	mg/L		1 .	0.00100
Toluene	υ	U	1	<0	.00100	mg/L		· 1	0.00100
Ethylbenzene	e v	U	1	<0	.00100	mg/L		1	0.00100
Xylene	υ	U	1	<0	.00100	mg/L		1	0.00100
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount		Limits
Trifluorotolue	ane (TET)	I' LAB	0010	0.0924	mg/L	1	0.100	92	70 - 130
	obenzene (4-BFB)			0.0324	mg/L	1	0.100	88	70 - 130 70 - 130
	obelizenc (+DFD)			0.0001		L	0.100		10 - 100
Sample: 28	1132 - MW-6					•			
Laboratory:	Midland							-	
Analysis:	Chloride (IC)		Analyt	ical Metho	d: E3	00.0		Prep Meth	od: N/A
QC Batch:	86076		-	nalyzed:		1-11-02		Analyzed F	•
Prep Batch:	73085			Preparati	ion: 201	1-11-02		Prepared E	•
					$\mathbf{RL}$				
Parameter		Flag	Cert		Result	Units		Dilution	RL

#### Sample: 281133 - MW-7

Qs

Qs

Chloride

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	85998	Date Analyzed:	2011-11-01	Analyzed By:	ZLM
Prep Batch:	73013	Sample Preparation:	2011-11-01	Prepared By:	ZLM

2

29300

mg/L

Report Date: November 4, 20 115-6403131	Work Order: 11103123 Celero/Rock Queen Unit Tract #11					Page Number: 6 of 17 Chavez Co., NM		
	······································				11000 <del>11</del> 11			
				$\mathbf{RL}$			· ·	
Parameter	Flag	Cert		Result	Units		Dilution	F
Benzene u	<u> </u>	1	<	0.00100	mg/L		1	0.001
Toluene v	U	1		0.00100	mg/L		1	0.001
Ethylbenzene u	U	1	<	0.00100	mg/L		1	0.001
Xylene u	U	1	<	0.00100	mg/L		1	0.001
						Spike	Percent	Recove
Surrogate	Flag	Cert	Result	Units	Dilution	Amount		Limit
Trifluorotoluene (TFT)	0		0.0947	mg/L	1	0.100	95	70 - 13
4-Bromofluorobenzene (4-BFB	;)		0.0956	mg/L	1	0.100	96	70 - 13
-								
Sample: 281133 - MW-7								
-								
Laboratory: Midland		Analyt	ical Metho	od: E3	800.0		Prep Met	hod: N
Laboratory: Midland Analysis: Chloride (IC)			ical Metho		300.0 1-11-02		Prep Met Analyzed	,
Laboratory: Midland Analysis: Chloride (IC) QC Batch: 86076		Date A		201			•	By: Al
Analysis: Chloride (IC) QC Batch: 86076		Date A	analyzed:	201	1-11-02		Analyzed	By: Al
Laboratory: Midland Analysis: Chloride (IC) QC Batch: 86076	Flag	Date A	analyzed: e Preparat	201 ion: 201	1-11-02	3	Analyzed	By: Al

#### Sample: 281134 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 85998 73013		Date Ana	l Method: lyzed: reparation:	S 8021E 2011-11 2011-11	-01		Prep Method: Analyzed By: Prepared By:	S 5030B ZLM ZLM
					$\mathbf{RL}$				
Parameter		Flag	Cert		Result	Units		Dilution	$\mathbf{RL}^{+}$
Benzene	U	U	1	<(	0.00100	mg/L		1	0.00100
Toluene	. U	U	1	<(	0.00100	mg/L		1	0.00100
Ethylbenzene	; U	U	· 1	<(	0.00100	mg/L		1	0.00100
Xylene			1	0	.00660	mg/L		1	0.00100
							Spike	Percent	Recovery
Surrogate		$\mathbf{F}$	lag Cert	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)			0.116	mg/L	1	0.100	116	70 - 130
4-Bromofluor	obenzene (4-BFB)		1	0.103	mg/L	1	0.100	103	70 - 130

Report Date: November 4, 2013 115-6403131	1	Work Order: 11103123 Celero/Rock Queen Unit Tract #11					Page Number: 7 of 1 Chavez Co., NI		
Sample: 281134 - MW-4									
Laboratory: Midland									
Analysis: Chloride (IC)		Analy	tical Meth	od: E 3	00.0		Prep Meth	od: N/A	
QC Batch: 86076		Date	Analyzed:	201	1-11-02		Analyzed I	By: AR	
Prep Batch: 73085		Samp	le Preparat	ion: 201	1-11-02		Prepared E	By: AR	
				$\mathbf{RL}$					
Parameter	Flag	Cert		Result	Unit	S	Dilution	RL	
Chloride q.	Qs	2		56400	mg/l	[.	5000	2.50	
Sample: 281135 - MW-1 Laboratory: Lubbock Analysis: BTEX OC Batch: 85008		Analytical Date Anal		S 8021E			Prep Method:	S 5030B ZLM	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998		Date Anal		2011-11 2011-11	-01		Prep Method: Analyzed By: Prepared By:	S 5030B ZLM ZLM	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013	Flag	Date Anal Sample Pr	yzed:	2011-11 2011-11 RL	-01 -01		Analyzed By: Prepared By:	ZLM ZLM	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter	Flag	Date Anal Sample Pr Cert	yzed: reparation:	2011-11 2011-11 RL Result	-01 -01 Units		Analyzed By: Prepared By: Dilution	ZLM ZLM RL	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene u	Flag U U	Date Anal Sample Pr	yzed: reparation: 	2011-11 2011-11 RL	-01 -01 Units mg/L		Analyzed By: Prepared By:	ZLM ZLM	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene v Toluene v	U	Date Anal Sample Pr Cert	yzed: reparation: <(	2011-11 2011-11 RL Result 0.00100	-01 -01 Units mg/L mg/L		Analyzed By: Prepared By: Dilution	ZLM ZLM RL 0.00100	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene u Toluene u Ethylbenzene u	U U	Date Anal Sample Pr Cert	yzed: reparation: <( <(	2011-11 2011-11 RL Result 0.00100 0.00100	-01 -01 Units mg/L		Analyzed By: Prepared By: Dilution 1 1	ZLM ZLM RL 0.00100 0.00100	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene u Toluene u Ethylbenzene u	U U	Date Anal Sample Pr Cert 1 1	yzed: reparation: <( <(	2011-11 2011-11 RL Result 0.00100 0.00100 0.00100	-01 -01 Units mg/L mg/L		Analyzed By: Prepared By: Dilution 1 1 1 1	ZLM ZLM 0.00100 0.00100 0.00100	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene v Toluene v Ethylbenzene v Xylene	U U U	Date Anal Sample Pr Cert 1 1	yzed: reparation: <( <(	2011-11 2011-11 RL Result 0.00100 0.00100 0.00100	-01 -01 Units mg/L mg/L		Analyzed By: Prepared By: Dilution 1 1 1 1 1 Percent	ZLM ZLM 0.00100 0.00100 0.00100 0.00100	
Laboratory: Lubbock Analysis: BTEX QC Batch: 85998 Prep Batch: 73013 Parameter Benzene v Toluene v	U U U	Date Anal Sample Pr Cert 1 1 1 1	yzed: reparation: <( <( <( 0	2011-11 2011-11 RL Result 0.00100 0.00100 0.00100 .00140	-01 -01 mg/L mg/L mg/L	Spike	Analyzed By: Prepared By: Dilution 1 1 1 1 1 Percent	ZLM ZLM 0.00100 0.00100 0.00100 0.00100 Recovery	

#### Midland Chloride (IC) 86077 Laboratory: Analysis: Analytical Method: E 300.0 Prep Method: N/A Analyzed By: Prepared By: QC Batch: Date Analyzed: 2011-11-02 AR Prep Batch: 73086 Sample Preparation: 2011-11-02 $\mathbf{AR}$ RL Dilution Parameter Flag $\mathbf{Cert}$ Result Units RL47300 5000 Chloride Qs mg/L 2.50Qs 2

Report Date: 115-6403131	ort Date: November 4, 2011 6403131				Work Ore /Rock Qu		Page Number: 8 of 17 Chavez Co., NM			
Sample: 281	136 - MW-5									
5	Lubbock					G acad	_			G (000D
	BTEX 85998			nalytical ate Analy		S 80211	-		Prep Method:	S 5030B ZLM
•	73013				paration:	2011-11 2011-11			Analyzed By: Prepared By:	ZLM
Tiep Daten.	10010		50	unpie i re	parasion.	2011-11	-01		riepared by.	211/11
						$\mathbf{RL}$				
Parameter		Flag		Cert	-	Result	Units		Dilution	$\mathbf{RL}$
Benzene				1	<	0.00100	mg/L		1	0.00100
Toluene	U	U		1	<	0.00100	mg/L		1	0.00100
Ethylbenzene	U	U		1	<	0.00100	mg/L		1	0.00100
Xylene				1	0	.00100	mg/L		1	0.00100
								Spike	Percent	Recovery
Surrogate		•	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluer	ne (TFT)				0.106	mg/L	1	0.100	106	70 - 130
4-Bromofluoro	benzene (4-BFB)				0.110	mg/L	1	0.100	110	70 - 130

#### Sample: 281136 - MW-5

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 86077 73086		Analytical M Date Analyz Sample Prep	ed:	E 300.0 2011-11-02 2011-11-02	,	Prep Method: Analyzed By: Prepared By:	
Parameter	·	Flag	Cert	Rest		Units	Dilution	RL
Chloride	Qs	Qs	2	716	00	mg/L	5000	2.50

### Sample: 281137 - MW-3

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 85998 73013			Analytical Meth Date Analyzed: Sample Preparat	2011-11-01		Prep Method: Analyzed By: Prepared By:	S 5030B ZLM ZLM
					RL			
Parameter		H	lag	$\mathbf{Cert}$	$\mathbf{Result}$	Units	Dilution	RL
Benzene	U		U	1	< 0.00100	mg/L	1	0.00100
Toluene	υ		U	1	< 0.00100	mg/L	1	0.00100
Ethylbenzene	υ	١	U	1	<0.00100	mg/L	1	0.00100
Xylene	U		U	1	< 0.00100	mg/L	1	0.00100

Report Date: November 4, 2011 115-6403131		Work Order: 11103123 Celero/Rock Queen Unit Tract #11						ber: 9 of 17 rez Co., NM
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.108	mg/L	1	0.100	108	70 - 130

#### Sample: 281137 - MW-3

Chloride	Qa	Qs	2	120	00	mg/L	1000	2.50
Parameter		Flag	Cert	Rest	ılt	Units	Dilution	RL
				F	<b>R</b> L			
Prep Batch:	73086		Sample Pre	paration:	2011-11-	02	Prepared By:	AR
QC Batch:	86077		Date Analy	zed:	2011-11-	02	Analyzed By:	AR
Analysis:	Chloride (IC)		Analytical I	Method:	E 300.0		Prep Method:	N/A
Laboratory:	Midland							

#### Sample: 281138 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 85998 73013		Da	te Analy	Method: vzed: eparation:	S 8021B 2011-11- 2011-11-	-01		Prep Method: Analyzed By: Prepared By:	S 5030B ZLM ZLM
						$\mathbf{RL}$				
Parameter		Flag		Cert		Result	Units		Dilution	RL
Benzene	U	U		1	<(	0.00100	mg/L		1	0.00100
Toluene	U	U		1	<(	0.00100	mg/L		1	0.00100
Ethylbenzene	υ	U		1	<0	0.00100	mg/L		1 `	0.00100
Xylene	U	U		1	<0	0.00100	mg/L		1	0.00100
Surrogate		F	'lag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	ne (TFT)				0.106	mg/L	1	0.100	106	70 - 130
	obenzene (4-BFB)				0.112	mg/L	1	0.100	112	70 - 130

### Sample: 281138 - MW-2

ţ

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	86077	Date Analyzed:	2011-11-02	Analyzed By:	AR
Prep Batch:	73086	Sample Preparation:	2011-11-02	Prepared By:	AR

	Flag Qs	Cert 2	RL Result 68200	Units mg/L	Dilution 5000	RL 2.50
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Report Date: November 4, 2011 115-6403131

#### Work Order: 11103123 Celero/Rock Queen Unit Tract #11

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## Method Blanks

QC Batch: 85998		Date An	alvzed	2011-11-0	1		Analyzed 1	By: ZLM
Prep Batch: 73013		QC Prep	•	2011-11-0			Prepared I	-
					MDL			
Parameter	Flag		Cert		Result		Units	$\mathbf{RL}$
Benzene		·····	1		<0.000765		mg/L	0.001
Toluene			1		< 0.000719		mg/L	0.001
Ethylbenzene			1		< 0.000860		mg/L	0.001
Xylene			1	·	< 0.000942		mg/L	0.001
	· ·					Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0927	mg/L	1	0.100	· 93	70 - 130
4-Bromofluorobenzene (4	-BFB)		0.0945	mg/L	· 1	0.100	94	70 - 130

#### Method Blank (1) QC Batch: 86076

QC Batch:	86076		Date Analyzed:	2011-11-02	Analyzed I	By: AR
Prep Batch:	73085		QC Preparation:	2011-11-02	Prepared F	By: AR
				MD	L	
Parameter		Flag	Cert	Resu	lt Units	$\mathbf{RL}$
Chloride			2	< 0.26	5 mg/L	2.5

#### Method Blank (1) QC Batch: 86077

QC Batch: Prop. Potchi	86077 72086		Date Analyzed: QC Preparation:	2011-11-02	Analyzed By: Propored By:	
Prep Batch:	13080		QC Preparation:	2011-11-02	Prepared By:	An
				MDL		
Parameter		Flag	Cert	Result	Units	$\mathbf{RL}$
Chloride			2	0.668	mg/L	2.5

Report Date: November 4, 2011 115-6403131 Work Order: 11103123 Celero/Rock Queen Unit Tract #11 Page Number: 12 of 17 Chavez Co., NM

## Laboratory Control Spikes

#### Laboratory Control Spike (LCS-1)

QC Batch:	85998	Date Analyzed:	2011-11-01	Analyzed By:	ZLM
Prep Batch:	73013	QC Preparation:	2011-11-01	Prepared By:	ZLM

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	0.0989	mg/L	1	0.100	< 0.000765	99	70 - 130
Toluene		1	0.0957	mg/L	1	0.100	< 0.000719	96	70 - 130
Ethylbenzene		1	0.0945	mg/L	1	0.100	<0.000860	94	70 - 130
Xylene		1	0.279	mg/L	1	0.300	< 0.000942	93	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.0991	mg/L	1	0.100	< 0.000765	99	70 - 130	0	20
Toluene		1	0.0949	mg/L	1	0.100	< 0.000719	95	70 - 130	1	<b>20</b>
Ethylbenzene		1	0.0941	mg/L	1	0.100	< 0.000860	94	70 - 130	0	, 20
Xylene		1	0.280	mg/L	1	0.300	< 0.000942	93	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD ·			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0935	0.0945	mg/L	1	0.100	94	94	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0948	0.0979	mg/L	1	0.100	95	98	70 - 130

#### Laboratory Control Spike (LCS-1)

Prep Batch: 73085		QC	Preparatio	on: 2011	-11-02	·	Analyzed By: AR Prepared By: AR			
			LCS			Spike	Matrix		Rec.	
Param	F	$\mathbf{C}$	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\mathbf{Limit}$	
Chloride		2	23.8	mg/L	1	25.0	< 0.265	95	90 - 110	

continued ...

Report Date: 115-6403131	November 4, 2011			C			: 11103123 n Unit Tra			Page 1		: 13 of 1 Co., NM
			-									
control spikes	continued			LCS	D		Spike	Matrix		Rec.		RPD
Param		F	С	Rest		s Dil.	Amount		Rec.	Limit	RPD	
				LCS	D.		Spike	Matrix		Rec.		RPD
Param		F	С	Resu	lt Unit	s Dil.	Amount		Rec.	Limit	RPD	
Chloride	•		2	24.0	) mg/l	່ 1	25.0	< 0.265	96	90 - 110	) 1	20
Laboratory	Control Spike (LC	<b>CS-1</b>	)									
QC Batch:	86077			Da	te Analyz	ed: 20	011-11-02			Ana	alyzed E	By: AR
Prep Batch:	73086			QC	Preparat	ion: 20	011-11-02					by: AR
					LCS							Rec.
D			-	a		<b>.</b>	<b>D</b> 11	Spike		atrix	<b>n</b>	
Param			F	C	Result	Unit	attend on the second	Amount	Re	sult l	Rec.	Limit
Chloride	erv is based on the s			2	Result 23.7	mg/	L 1	Amount 25.0	Re <0	esult 1 1.265	Rec. 95	Limit
Chloride	ery is based on the s			2 lt. RP	Result 23.7 D is based	mg/	L 1 spike and	Amount 25.0 spike duplic	Re <0	esult l 0.265 ult.		Limit 90 - 11(
Chloride Percent recov	ery is based on the s	pike	resu	2 lt. RP LCS	Result 23.7 D is based D	mg/. l on the	L 1 spike and Spike	Amount 25.0 spike duplic Matrix	Re <0 cate rest	esult 1 0.265 ult. Rec.	95	Limit 90 - 110 RPD
Chloride	ery is based on the s			2 lt. RP	Result 23.7 D is based D lt Units	mg/. l on the s Dil.	L 1 spike and	Amount 25.0 spike duplic Matrix	Re <0 cate res Rec.	esult l 0.265 ult.	95 RPD	Limit 90 - 110 RPD • Limit
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Report Date: November 4 115-6403131	4, 2011	. <u> </u>	Work Order: 11103123 Celero/Rock Queen Unit Tract #11							Page Number: 14 of 17 Chavez Co., NM			
matrix spikes continued													
Danam	, E	a	MSD	TIm:4a	Dil	Spike	Matri		Rec.	מחת	RPD		
Param Ethylbenzene	F		Result 0.0979	Units mg/L		Amount 0.100	Resul		Limit 70 - 130	$\frac{RPD}{1}$	Limit 20		
Xylene		1 1	0.0979	mg/L mg/L	1	0.100	<0.0008		70 - 130 70 - 130	1	20 20		
Percent recovery is based	on the spike										,		
•	•					,	1			(CD)	n i .		
Surrogate				1S sult	MSD Result	Units	Dil.	Spike Amount		ISD Rec.	Rec. Limit		
Trifluorotoluene (TFT)					0.0978	mg/L	1	0.1			70 - 130		
4-Bromofluorobenzene (4-	BFB)				0.0961	mg/L	1	0.1			70 - 130		
Matrix Spike (MS-1) QC Batch: 86076 Prep Batch: 73085	Spiked Sa	mple:	Date	Analyz Prepara		11-11-02 11-11-02				yzed By pared By			
		n	a	MS			Spi		atrix		Rec.		
Param Chloride		F Qs	C	Result 4150				<i>a</i>		lec. 83	Limit		
Percent recovery is based	Qs on the enike		2 + DDD		mg/					50	90 - 110		
r ercent recovery is based	on the spike	resu			1 on the	-	-	-					
D	-		MSD			Spike			Rec.		RPD		
Param	F					Amoun			Limit	RPD	Limit		
Chloride	Q. Q.		4200	0,		2750	186		90 - 110	1	20		
Percent recovery is based Matrix Spike (MS-1) QC Batch: 86077 Prep Batch: 73086	Spiked Sa		281137 Date	Analyz Preparat	ed: 20	11-11-02 11-11-02	Spike du	pricate res	Anal	yzed By ared By			
_		_	~	MS			Spi		atrix		Rec.		
Param		F	C	Result						ec.	Limit		
Chloride	Qs	Qs	2	14800						33	90 - 110		
Percent recovery is based of	on the spike	resul	t. RPD	IS DASEC	1 on the	spike and	spike du	plicate res	uit.				
			MSD	)		Spike	Matr	·ix	Rec.		RPD		
						-							
Param Chloride	F Qs Q			t Uni		Amoun 2750	nt Resu	lt Rec.	Limit 90 - 110	RPD 1	Limit 20		

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

ł

Report Date: November 4, 2011 115-6403131 Work Order: 11103123 Celero/Rock Queen Unit Tract #11 Page Number: 15 of 17 Chavez Co., NM

## **Calibration Standards**

Standard (CCV-1)

QC Batch: 85998		1	Date Ana	lyzed: 201	Analyzed By: ZLM			
				CCVs True	CCVs Found	CCVs Percent	Percent	Date
_							Recovery	
Param	Flag	$\mathbf{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0978	98	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.0936	94	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.0927	93	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.274	91	80 - 120	2011-11-01

Standard (CCV-2)

QC Batch: 85998			Date Ana	lyzed: 201	Analyzed By: ZLM			
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.104	104	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.0999	100	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.0984	98	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.292	97	80 - 120	2011-11-01

#### Standard (CCV-1)

QC Batch: 86076				Date .	Analyzed:	2011-11-02		Analy	rzed By: AR
					CCVs	CCVs	CCVs	Percent	· .
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			2	mg/L	25.0	23.6	94	90 - 110	2011-11-02

Standard (CCV-2)

QC Batch: 86076

Date Analyzed: 2011-11-02

Analyzed By: AR

Report Date: N 115-6403131	Report Date: November 4, 2011 115-6403131			Work Ord ro/Rock Que	Page Number: 16 of 17 Chavez Co., NM			
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	23.8	95	90 - 110	2011-11-02

## Standard (CCV-1)

QC Batch: 86077				Date	Analyzed:	2011-11-02		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			2	mg/L	25.0	23.8	95	90 - 110	2011-11-02

## Standard (CCV-2)

QC Batch:	86077	7 Date Analyz				2011-11-02		Analyzed By: AR		
					CCVs	CCVs	CCVs	Percent		
					True	Found	Percent	Recovery	Date	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride			2	mg/L	25.0	23.6	94	90 - 110	2011-11-02	

Report Date: November 4, 2011 115-6403131 Page Number: 17 of 17 Chavez Co., NM

## Appendix

### Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-11-4	Lubbock
2	NELAP	T104704392-10-TX	Midland

### Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

#### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

Analysis F	Request of Chain of (	Custody F	Reco	rd -		(Cii		AGE: SIS REQU ecify Me		 .)	1
	<b>TETRATECH</b> 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-	3946			(Ext. to ( Cr. Ph. Ha	Cd Vr Pd Hg Se				SQ	
LENT NAME	site manager: Jeff Kindley			ERVATIVE	X 8	BaC	50/624 70/625			s, pH,	
PROJECT NO.: 115-6403131	PROJECT NAME: 1 Celero / Rack Queen #11	ONTAIL	2		MOD.	Ag As s	240/821 Vol. 82	88	. 5	os) /Cation	
	XILLIN BURNESSAMPLE IDENTIFICATI		FILTERED (Y/N) HCL HNO3	ICE NONE BITEY BRITH	11 EX 80219 12 EX 8015 MOD. 12 EX 10 EX 10 13 EX 10 14 EX Metals An As	TCLP Metals Ag As E TCLP Volatiles TCLP Semi Volatiles	RCI GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/625	PCB's 8080/6 Pest. 808/606	Chloride Gamma Spec. Albha Beta (Air	PLM (Asbestos) Major Anions/Cations, pH, TDS	
20.00	WX MW-L	4	NX	X 7					X		
133 1739	MW-7	1	717								
134 1830	MW-4										
135 10/27 0000	// mw-1										
136 1007	MW-5							+++	$\Pi$		
137 1047	MW-3	1				+++		$\uparrow \uparrow \uparrow$	$\parallel$		
128	₩ ₩ MW-Z	4	44			$\uparrow\uparrow\uparrow$			4		$\dagger$
		· · · · · · · · · · · · · · · · · · ·									
										$\frac{1}{1}$	
RELINQUISHED BY: (Signature)	Time: X.	nature) M	Date: Time:	10/3.11.		PLED BY: (Prin	لـ	1/3A	- <u> </u>	Date: JU Time:	
RELINGUISHED BY: (Signature)	Date:RECEIVED BY: (Sig Date:RECEIVED BY: (Sig	nature)	Date: Time: Date:		FE	ND DELIVERE	BUS	•		IBILL #: HER:	
	Time:	(s) Ward	Time:			A TECH CONT		N:	<u>.</u>	Results by	
ADDRESS: MINIGHA STATE:	PHONE: DATE:	1	ME:	:40		Jeta	Kin	dky		RUSH Cha Authorized Yes	urges f: No
SAMPLE CONDITION WHEN RECEIVED: Intact 39C	X Midland-Chlori	de Ph		hts v	£	2 7	9/3.1	0 973			3.90



 6701 Aberdeen Avenue, Suite 9
 Lubbock, Texas 79424

 200 East Sunset Road, Suite E
 El Paso, Texas 79922

 5002 Basin Street, Suite A1
 Midland, Texas 79703

 6015 Harris Parkway, Suite 110
 'Ft, Worth, Texas 76132

Lubbock, Texas 79424 800+378+1296 El Paso, Texas 79922 888+598+3443 Midtand, Texas 79703 L. Worth, Texas 76132 E-Mail: tab@traceanalysis.com

806+794+1296 FAX 806+794+1298 915+585+3443 FAX 915+585+4944 432+689+6301 FAX 432+689+6313 817+201+5260

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: November 30, 2011

Work Order: 11103123

Project Location:Chavez Co.; NMProject Name:Celero/Rock Queen Unit Tract #11Project Number:115-6403131

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
281132	MW-6	water	2011-10-26	16:40	2011-10-31
281133	MW-7	water	2011-10-26	17:39	2011-10-31
281134	MW-4	water	2011-10-26	18:30	2011-10-31
281135	MW-1	water	2011-10-27	09:20	2011-10-31
281136	MW-5	water	2011-10-27	10:07	2011-10-31
281137	MW-3	water	2011-10-27	10:47	2011-10-31
281138	MW-2	water	2011-10-27	11:30	2011-10-31

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

#### Notes:

For inorganic analyses, the term MQL should actually read PQL.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

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## Case Narrative

Samples for project Celero/Rock Queen Unit Tract #11 were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103123. Samples for work order 11103123 were received intact without headspace and at a temperature of 3.9 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	$\operatorname{Batch}$	Date
$\overline{SO4}$ (IC)	E 300.0	73346	2011-11-01 at 10:24	86370	2011-11-02 at 10:28
SO4 (IC)	E 300.0	73346	2011-11-01 at 10:24	86371	2011-11-02 at 10:30
TDS	SM 2540C	73423	2011-11-15 at 13:54	86753	2011-11-18 at 15:13

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11103123 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: November 30, 2011 115-6403131

## **Analytical Report**

#### Sample: 281132 - MW-6

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86370 73346			Date .	Analytical Method:E 300.0Date Analyzed:2011-11-02Sample Preparation:2011-11-03					ethod: N/A ed By: AR ed By: AR
			$\operatorname{SDL}$	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	F	С	Result	Result	Result	Units	Dilution	$\operatorname{SDL}$	(Unadjusted)	(Unadjusted)
Sulfate	$_{\rm J,Qs}$	1	378	<1250	<88.5	mg/L	500	88.5	2.5	0.177

#### Sample: 281132 - MW-6

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 86753 73423	S Analytic 53 Date An		nalytical ate Analy ample Pre		2011-11-18			Prep Method: N/A Analyzed By: AR Prepared By: AR		
				SDL	MQL	Method			,		
				Based	Based	Blank				MQL	MDL
Parameter	_	$\mathbf{F}$	С	Result	$\mathbf{Result}$	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Total Dissolv	red Solids		1	73100	73100	<975	mg/L	100	975	10	9.75

### Sample: 281133 - MW-7

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86370 73346			Date	tical Metho Analyzed: e Preparati	201	00.0 1-11-02 1-11-03		Prep M Analyze Prepare	v
			$\mathbf{SDL}$	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	$\mathbf{F}$	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Sulfate	J,Qs	1	139	<250	<17.7	mg/L	100	17.7	2.5	0.177

#### Sample: 281133 - MW-7

Laboratory:	Midland	`			
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A

Report Date: November 30 115-6403131	), 2011		Work Order: 11103123 Pa Celero/Rock Queen Unit Tract #11					0	Page Number: 6 of 15 Chavez Co., NM		
QC Batch: 86753 Prep Batch: 73423			ate Anal ample Pr	yzed: eparation:	2011-1 2011-1			Analyze Prepare	d By: AR d By: AR		
	F (	SDL Based	MQL Based	Method Blank				MQL	MDL		
Parameter	C Result	$\mathbf{Result}$	$\mathbf{Result}$	Units	Dilution	$\operatorname{SDL}$	(Unadjusted)	(Unadjusted)			
Total Dissolved Solids	1	<b>2910 2910</b> <48.8 mg/L 5 48.8				10	9.75				

### Sample: 281134 - MW-4

:

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86370 73346		•	Date .	tical Metho Analyzed: le Preparati	201	00.0 1-11-02 1-11-03		Prep M Analyze Prepare	•
,			SDL	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	F	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Sulfate	J,Qs	1	967	<1250	<88.5	mg/L	500	88.5	2.5	0.177

# Sample: 281134 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 86753 73423			D	nalytical ate Analy ample Pre		SM 254 2011-11 2011-11	l-18		Prep Me Analyze Prepare	-
				SDL	MQL	Method		•			
				Based	Based	Blank				MQL	MDL
Parameter		F	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Total Dissolv	red Solids		1	97300	97300	<975	mg/L	100	975	10	9.75

### Sample: 281135 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86371 73346			Date	ytical Meth Analyzed: ple Preparat	201	800.0 1-11-02 1-11-03		Prep M Analyz Prepare	•
Parameter Sulfate	F Qs	C	SDL Based Result 1740	MQL Based Result 1740	Method Blank Result <88.5	Units mg/L	Dilution 500	SDL 88.5	MQL (Unadjusted) 2.5	MDL (Unadjusted) 0.177

Report Date: 115-6403131	November	30, 20	)11	1 Work Order: 11103123 Celero/Rock Queen Unit Tract #11						Page Number: 7 of 15 Chavez Co., NM		
Sample: 281	135 - MW	-1										
Laboratory:	Midland											
Analysis:	TDS			Α	nalytical	Method:	SM 254	l0C		Prep Me	ethod: N/A	
QC Batch:	86753			D	ate Analy	zed:	2011-11	-18		Analyze	d By: AR	
Prep Batch:	73423			S	ample Pre	eparation:	2011-11	-15		Prepare	d By: AR	
				$\mathbf{SDL}$	MQL	Method						
				Based	Based	Blank				MQL	MDL	
Parameter F C Result Result					Result	Units	Dilution	$\mathbf{SDL}$	(Unadjusted)	(Unadjusted)		
Total Dissolve	Total Dissolved Solids 1 73900 73900 <975				<975	mg/L	100	975	10	9.75		

### Sample: 281136 - MW-5

Laboratory: Analysis: QC Batch:	Midland SO4 (IC) 86371			Date	tical Metho Analyzed:	201	00.0		Analyze	5
Prep Batch:	73346			Sampl	le Preparati	on: 201	1-11-03		Prepare	ed By: AR
			$\mathbf{SDL}$	MQL	Method					
			Based	Based	Blank				$\mathbf{MQL}$	MDL
Parameter	$\mathbf{F}$	С	Result	Result	Result	Units	Dilution	$\operatorname{SDL}$	(Unadjusted)	(Unadjusted)
Sulfate	J,Qs	1	1020	<1250	<88.5	mg/L	500	88.5	2.5	0.177

### Sample: 281136 - MW-5

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 86753 73423			D	nalytical M ate Analyz ample Prep	æd:	SM 254( 2011-11- 2011-11-	-18		Prep Me Analyze Prepare	
				SDL	MQL	Method					
				Based	Based	Blank				$\mathbf{MQL}$	MDL
Parameter	÷	$\mathbf{F}$	С	Result	Result	Result	Units	Dilution	$\mathbf{SDL}$	(Unadjusted)	(Unadjusted)
Total Dissolv	ed Solids		1	106000	106000	<975	mg/L	100	975	10	9.75

# Sample: 281137 - MW-3

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Laboratory:					
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	86371	Date Analyzed:	2011-11-02	Analyzed By:	AR
Prep Batch:	73346	Sample Preparation:	2011-11-03	Prepared By:	AR

Report Date: 115-6403131	November	30, 2	2011	Ce	Work ( lero/Rock (	Page Number: 8 of 15 Chavez Co., NM				
	_	~	SDL Based	MQL Based	Method Blank			ant	MQL	MDL
Parameter	$\mathbf{F}$	С	$\mathbf{Result}$	$\mathbf{Result}$	$\mathbf{Result}$	Units	Dilution	$\operatorname{SDL}$	(Unadjusted)	(Unadjusted)
Sulfate	$_{ m J,Qs}$	173	<250 <17.7 mg/L 100 17.7					2.5 0.177		

### Sample: 281137 - MW-3

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Laboratory:	Midland										
Analysis:	TDS			А	nalytical	Method:	SM 254	l0C		Prep Me	ethod: N/A
QC Batch:	86753			D	ate Analy	zed:	2011-11	-18		Analyze	d By: AR
Prep Batch:	73423			. S	ample Pre	eparation:	2011-11	-15		Prepare	d By: AR
				SDL	MQL	Method					
				Based	Based	Blank				MQL	MDL
Parameter		$\mathbf{F}$	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Total Dissolv	red Solids		1	22800	22800	<975	mg/L	100	975	10	9.75

### Sample: 281138 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86371 73346			Date	ytical Meth Analyzed: ble Preparat	201	300.0 1-11-02 1-11-03		Prep M Analyze Prepare	•
			$\operatorname{SDL}$	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	$\mathbf{F}$	С	$\mathbf{Result}$	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Sulfate	Qs	1	1990	1990	<88.5	mg/L	500	88.5	2.5	0.177

### Sample: 281138 - MW-2

Laboratory: Midlan Analysis: TDS QC Batch: 86753 Prep Batch: 73423	d			D	nalytical M ate Analyz ample Prep	ed:	SM 254 2011-11- 2011-11-	-18		Prep Me Analyze Prepare	÷
				SDL	MQL	Method					
				Based	Based	Blank				$\mathbf{MQL}$	MDL
Parameter		$\mathbf{F}$	$\mathbf{C}$	$\mathbf{Result}$	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Total Dissolved Solid	s		1	102000	102000	<975	mg/L	100	975	10	9.75

Report Date: November 30, 2011 115-6403131		Work Order: 7 Rock Queen	Page Number: 9 of 18 Chavez Co., NM			
Method Blanks						
Method Blank (1)						
QC Batch: 86370 Prep Batch: 73346	Date Ana QC Prepa		-11-02 -11-01		Analyzed By: AR Prepared By: AR	
Parameter F	C		Result	Units	Reporting Limits	
Sulfate	1		<0.177	mg/L	0.177	
Method Blank (1)						
QC Batch: 86371 Prep Batch: 73346	Date Anal QC Prepa		-11-02 -11-01		Analyzed By: AR Prepared By: AR	
Parameter F	C		Result	Units	Reporting Limits	
Sulfate	·. 1		<0.177	mg/L	0.177	
Method Blank (1)						
QC Batch: 86753 Prep Batch: 73423	Date Anal QC Prepa		-11-18 -11-15		Analyzed By: AR Prepared By: AR	
Parameter	F	С	Result	Units	Reporting Limits	
Total Dissolved Solids		1	<9.75	mg/L	9.75	

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Duplicate (1) Duplicated Sample: 281141

. . .

QC Batch:	86753	Date Analyzed:	2011-11-18	Analyzed By:	AR
Prep Batch:	73423	QC Preparation:	2011-11-15	Prepared By:	AR

Report Date: November 30 115-6403131	, 2011		Work O Celero/Rock O	Pag	Page Number: 10 of 15 Chavez Co., NM			
		С	Duplicate	Sample		Dibution	RPD	RPD
Param	r	U	$\mathbf{Result}$	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids		1	22400	23200	mg/L	100	4	10

Report Date: November 30, 2011 115-6403131

# Laboratory Control Spikes

#### Laboratory Control Spike (LCS-1)

QC Batch: 86370 Prep Batch: 73346	······································								•	•	
Param	Ī	Į.		LCS lesult	Units	Dil.	Spike Amount		atrix esult	Rec.	Rec. Limit
Sulfate			1	25.4	_mg/L	1	25.0	<(	).177	102	90 - 110
Percent recovery is base	d on the spike	resu	lt. RPD	is based	l on th	e spike and	l spike du	plicate	result.		
			LCSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPE	) Limit
Sulfate		1 .	25.5	mg/L	1	25.0	< 0.177	102	90 - 110	) 0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 86371 Prep Batch: 73346			Analyzed reparatio		.1-11-02 .1-11-01 °				yzed By ared By	
Param	F		LCS Result	Units	ויס	Spike Amount		atrix sult R		Rec.
Sulfate	<b>r</b>	<u> </u>	25.2	mg/L	Dil1	25.0				Limit 0 - 110
	1					·····			01 3	0-110
Percent recovery is based on the spi	ke res	uit. RPD	IS Dased	on the	e spike an	a spike auj	Dicate	result.		
		LCSD			Spike	Matrix		Rec.		RPD
Param .	C ?	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	RPD	Limit
Sulfate	1	25.1	mg/L	1	25.0	< 0.177	100	90 - 110	0	20
Percent recovery is based on the spi	ke res	ult. RPD	) is based	on the	spike and	d spike dur	olicate	result.		
Laboratory Control Spike (LCS	5-1)									
QC Batch: 86753		Date A	Analyzed	201	1-11-18			Anal	yzed By	AR
Prep Batch: 73423			reparation		1-11-15				ared By:	
		L	CS			Spike	Matri	x	F	lec.
Param	$\mathbf{F}$	C Re	esult I	Jnits	Dil.	Amount	Resul	lt Rec.	$\mathbf{L}_{\mathbf{i}}$	imit
Total Dissolved Solids		1 9	)61 r	ng/L .	1	1000	<9.7	5 96	85.5	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: November 30, 2011 115-6403131			Cel	Wor ero/Roo	0	Page Number: 12 of 15 Chavez Co., NM					
Param	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	-	1	987	mg/L	1	1000	<9.75	99	85.5 - 112.7	3	10

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)	Spiked S	ample	: 281133								
QC Batch: 86370 Prep Batch: 73346				analyzed: eparation		1-11-02 1-11-01				alyzed By pared By	
Param		F	CI	MS Result	Units	Dil.	Spike Amount		atrix esult	Rec.	Rec. Limit
Sulfate		Qs	1	2360	mg/L		2750		39		0 - 110
Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	F Q		2360	 	<u> </u>	Amount 2750	Result 139	Rec. 81	Limit 90 - 110		Limit 20
Percent recovery is based	on the spik	te resu			on the	spike and	spike dup	olicate	result.		
Matrix Spike (MS-1)	Spiked S	ampie	281137								
QC Batch: 86371 Prep Batch: 73346				nalyzed: eparatior		1-11-02 1-11-01				lyzed By pared By	

			MS			Spike	Matrix		Rec.	
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	

	-	<u> </u>	recourt	Q III UD	D.I.	Timouno	ICOUL	1000.	Dunno	
Sulfate	Qs	1	2450	mg/L	100	2750	173	83	90 - 110	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	Qs	1	2460	mg/L	100	2750	173	83	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

# **Calibration Standards**

### Standard (ICV-1)

QC Batch:	86370				Date Analyzed:	2011-11-02	Analy	zed By: AR	
					CCVs	CCVs	CCVs	Percent	Data
					True	Found	Percent	Recovery	Date
Param		$\mathbf{F}$	С	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate			1	mg/L	25.0	25.2	101	90 - 110	2011-11-02

### Standard (CCV-1)

QC Batch:	86370	·			Date Analyzed:	2011-11-02		Analyzed By:				
					CCVs	CCVs	CCVs	Percent				
					True	Found	Percent	Recovery	Date			
Param		F	С	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
Sulfate			1	mg/L	25.0	25.6	102	90 - 110	2011-11-02			

### Standard (ICV-1)

QC Batch:	86371				Date Analyzed:	2011-11-02		Analy	zed By: AR
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		F	С	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate			1	mg/L	25.0	25.6	102	90 - 110	2011-11-02

#### Standard (CCV-1)

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QC Batch:	86371				Date Analyzed:	2011-11-02		Analy	zed By: AR
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		F	С	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate			1	mg/L	25.0	25.2	101	90 - 110	2011-11-02

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# Limits of Detection (LOD)

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# Appendix

### **Report Definitions**

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

### Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

# **Standard Flags**

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

Analysis Request of Chain of Custody Record										PAGE: ) Ur: ] ANALYSIS REQUEST (Circle or Specify Method No.)															-			
•					1910 N. E Midland,	<b>A TECH</b> lig Spring St. Texas 79705 59 • Fax (432) 682-3946								5 (Ext. to C35)	d Cr Pb Hg Se	d Vr Pd Hg Se									SQ			
LIENT NAME Lehro					Jeff	SITE MANAGER: Jeff Kudley				PRESERVATIVE METHOD							ø		260/624	270/625					ns, pH, 1			
ROJECT NO	0.: 64031	31	PRO	JEC	elero Rack	CONTA		(N/A				a	MOD	ls Ag A	uls Ag A	lles Volatile		8240/8	ni. Vol. 8	88		BC.	stos)	ns/Catic				
LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	GRAP	SA	MPLE IDENTIFICATION			FILTERED (Y/N)	HNO3	ЗŪ.	NONE	BTEX 8021	TPH 8015 MOD. TX1005	PAH 8270 RCRA Meta	TCLP Mete	TCLP Volatiles TCI P Semi Volatiles	RCI	GC.MS Vol.	GC.MS Sen	Pest. 808/608	Chionage	Gamma Sp Alabo Boto	PLM (Asbe	Major Anions/Cations, pH, TDS			
281132		1640	w	K	-		4		N	<	X		X									X						1
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134	+	1830			MW-4	·																						,
135	10/27	0170		\ \	mw-1																							
136		1007			MW-5	·																						
137		1047			MW-3																							
138		1130	4	4	MW-2		+			7	V		1	/								¥						
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