1R - 1554

2007 – 2009 GWMR

10/13/2011



October 13, 2011

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 Tank Battery #1, Located in Unit Letter B, Section 25, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1554).

Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tank Battery #1 (Site) from May 2007 through April 2011. The Site is located approximately 21.50 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

On August 13, 2007, Highlander (Tetra Tech) submitted an Investigation and Characterization work plan (ICP) for an open pit at the Site. The ICP was approved by the New Mexico Oil Conservation Division (NMOCD). On September 4, 2007, Highlander submitted an additional report entitled *Workplan for Capping and Site Closure* for the Pit at this Site.

The Tract 1 Tank Battery pit was dewatered and the residual sludge, tank bottom materials, and liner were removed in late July and early August 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 200 cubic yards of soil were



excavated and transported to Gandy-Marley, Inc. facility for disposal. The pit was excavated to a point where the 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 Tank Battery #1 was submitted to the NMOCD. The report detailed the closure of the former pit at the facility.

Groundwater Investigation

Between May 2007 and January 2011, 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 limestone encountered to approximately 15 to 20 feet below ground surface (bgs) with very fine grain sands extending to approximately 120 to 130 feet bgs. From approximately 130 feet to the terminus of the borings (approximately 135 to 150 feet) the soils consisted of a gray clay. See Appendix A for Boring Logs.

During the investigation, groundwater was encountered at depths of approximately 116 to 121 feet bgs. Monitor Well MW-1 was drilled into the surrounding underlying clay to 150 feet bgs and installed with 40 feet of 0.01 inch slotted screen. The remaining monitor wells were drilled to depths of 130 to 140 feet bgs and installed with 30 feet of 0.02 inch slotted screen. Recovery well RW-1 was drilled to a depth of 130 feet and installed with 20 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 constituents of concern which were detected in the groundwater above New Mexico Water Quality Control Commission (NMWQCC) standards was chlorides, TDS, SO4 and benzene, which was found only in recovery well RW-1. No Phase Separated Hydrocarbons (PSH) has been measured in any of the onsite monitor wells. See Figure 3 detailing the monitor well locations.

Gauging and Monitor Well Sampling

On December 28, 2009, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling 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 the sampling events. The hydraulic gradient indicates a south to southwesterly direction. Groundwater gradient maps for the sampling events are included as Figures 4 through 8. 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. Of the samples collected, only one sample (RW-1 on April 14, 2011 with a result of 0.0133 milligrams per liter [mg/L]) exceeded the NMWQCC standard of 0.01 milligrams per liter (mg/L) of benzene. The remainder of the samples was below the NMWQCC standards with a majority being at or below detection limits. Chlorides for the sampling period ranged from 121 mg/L in up gradient monitor well MW-5 on January 24, 2011 to 168,000 mg/L in monitor well MW-1 on April 13, 2011. With the exception of MW-5 all additional monitor wells 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 9 through 13. Copies of the laboratory analyses are enclosed in Appendix C.

It was noted during sampling that all seven monitor wells (MW-1 through MW-7) bail dry, while very little drawdown was noted in Recovery Well RW-1.

CONCLUSIONS

- On December 28, 2009, initial sampling began at the site. During 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, delivered to Trace Analysis, Inc. of Midland, Texas and analyzed 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+.
- 2. The hydraulic gradient indicates a south to southwesterly direction at the site.
- 3. Benzene was detected above the NMWQCC standards of 0.01 mg/L in recover well RW-1 on April 14, 2011 with a result of 0.0133 mg/L. All remaining wells were below the NMWQCC standards.
- 4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor/recover wells with the exception of up gradient MW-5. The chloride concentrations at the site range from 121 mg/L in MW-5 on

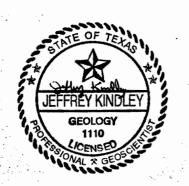


January 24, 2011 to 168,000 mg/L in MW-1 on April 13, 2011, which is near the initial source area.

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.
- A remediation system consisting of either a low flow solar/electric pump or a 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.

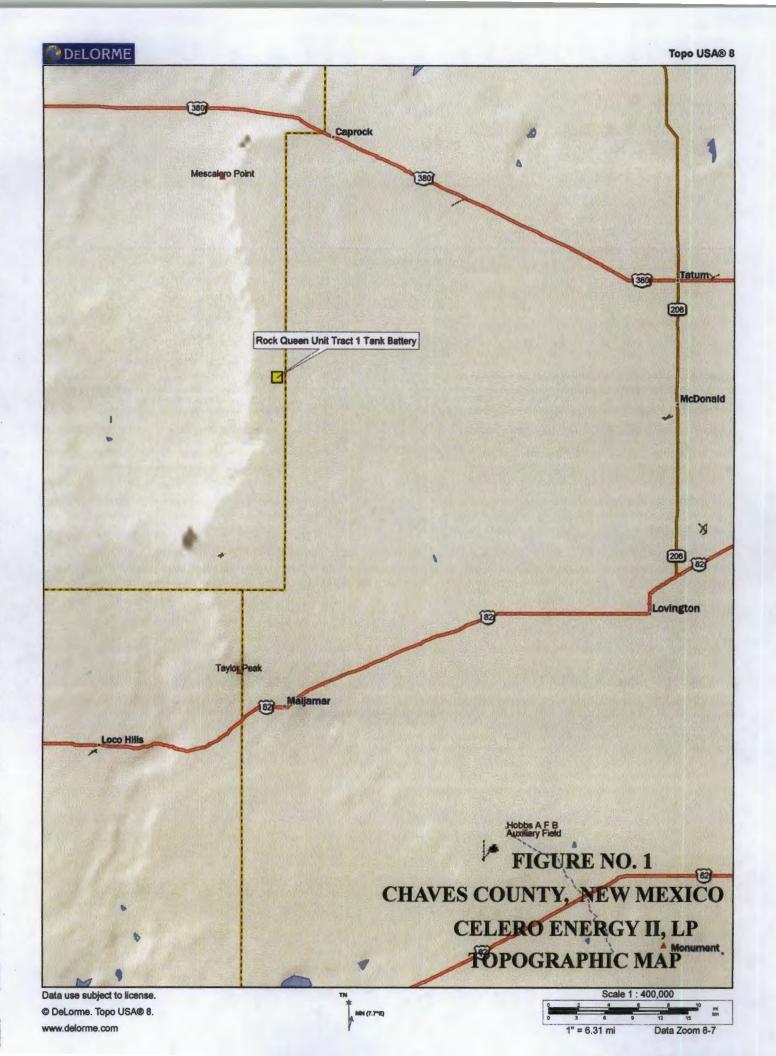


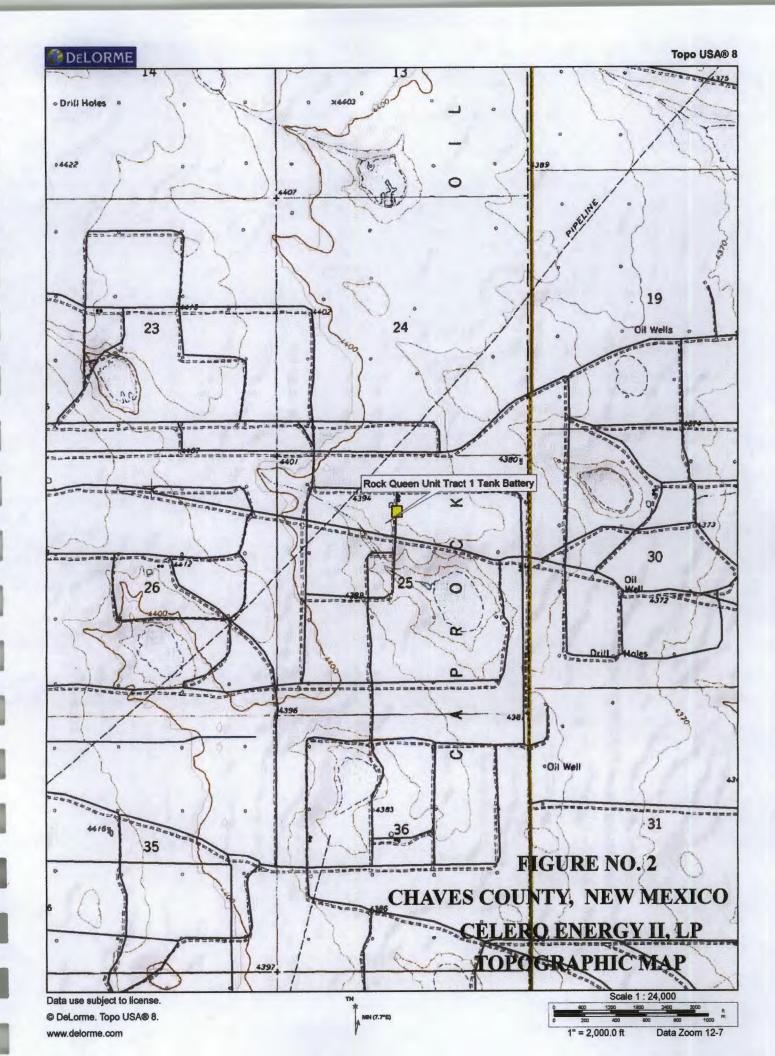
Respectfully submitted, Tetra Tech, Inc.

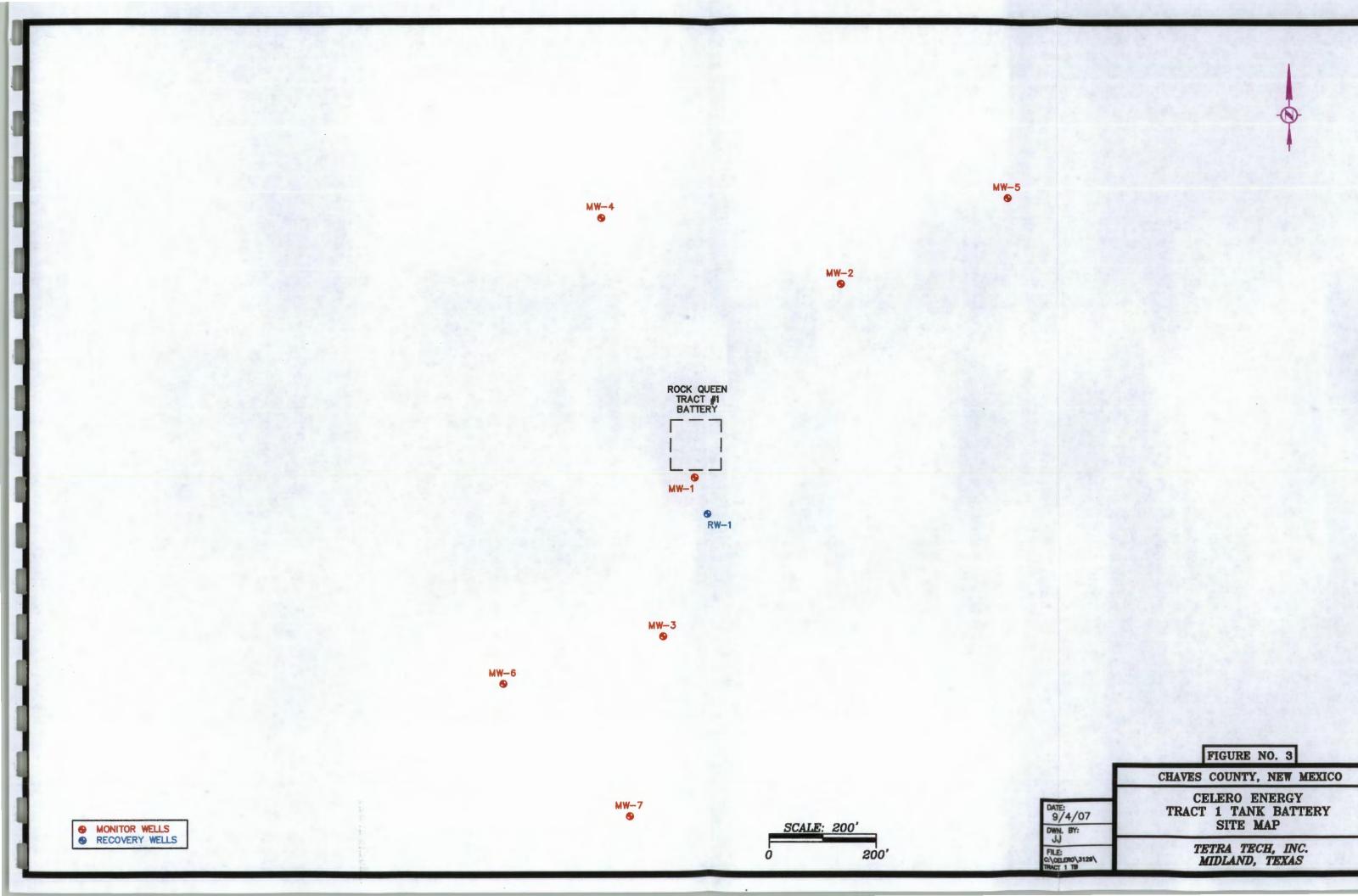
Jeffrey Kindley, P.G. Senior Environmental Geologist

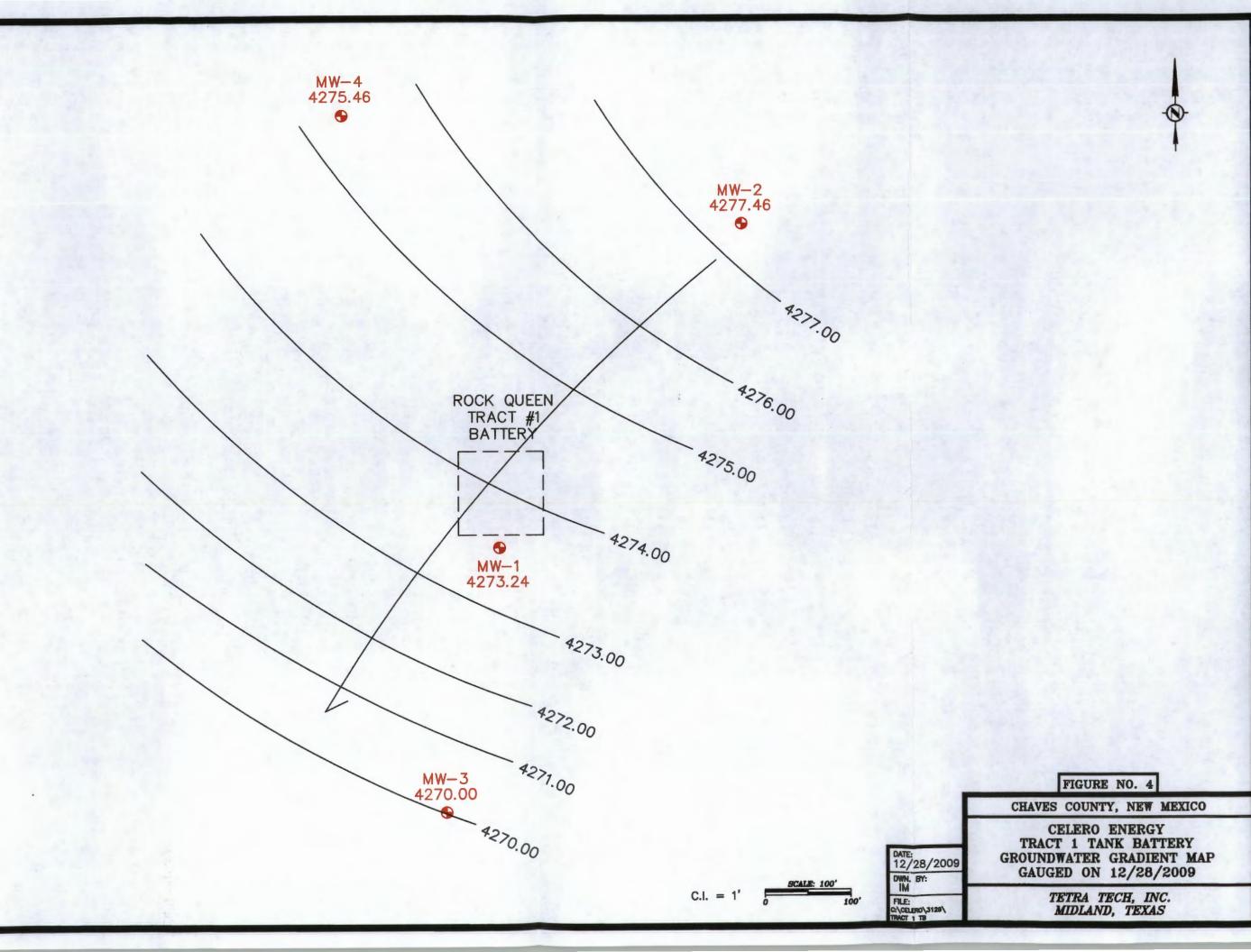
c: Bruce Woodard - Celero Energy II, LP

FIGURES









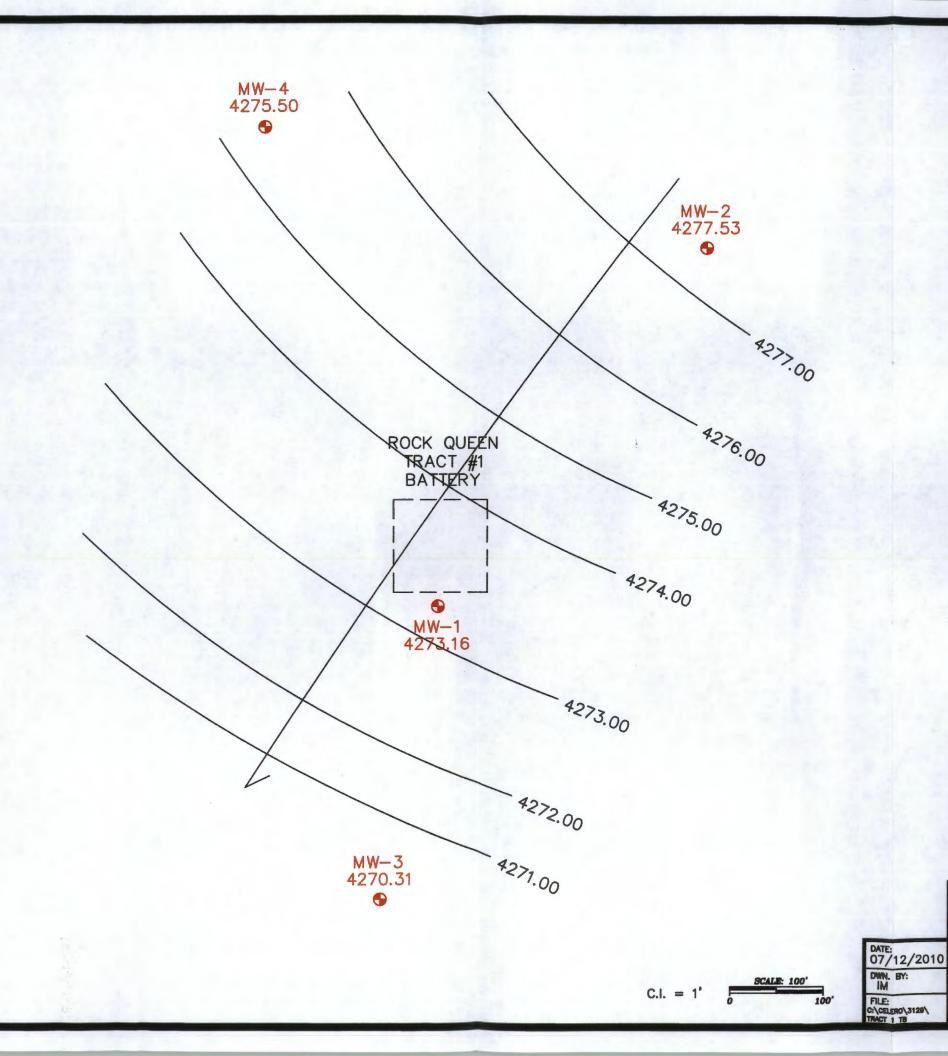


FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
TRACT 1 TANK BATTERY
GROUNDWATER GRADIENT MAP
GAUGED ON 07/12/2010

TETRA TECH, INC. MIDLAND, TEXAS

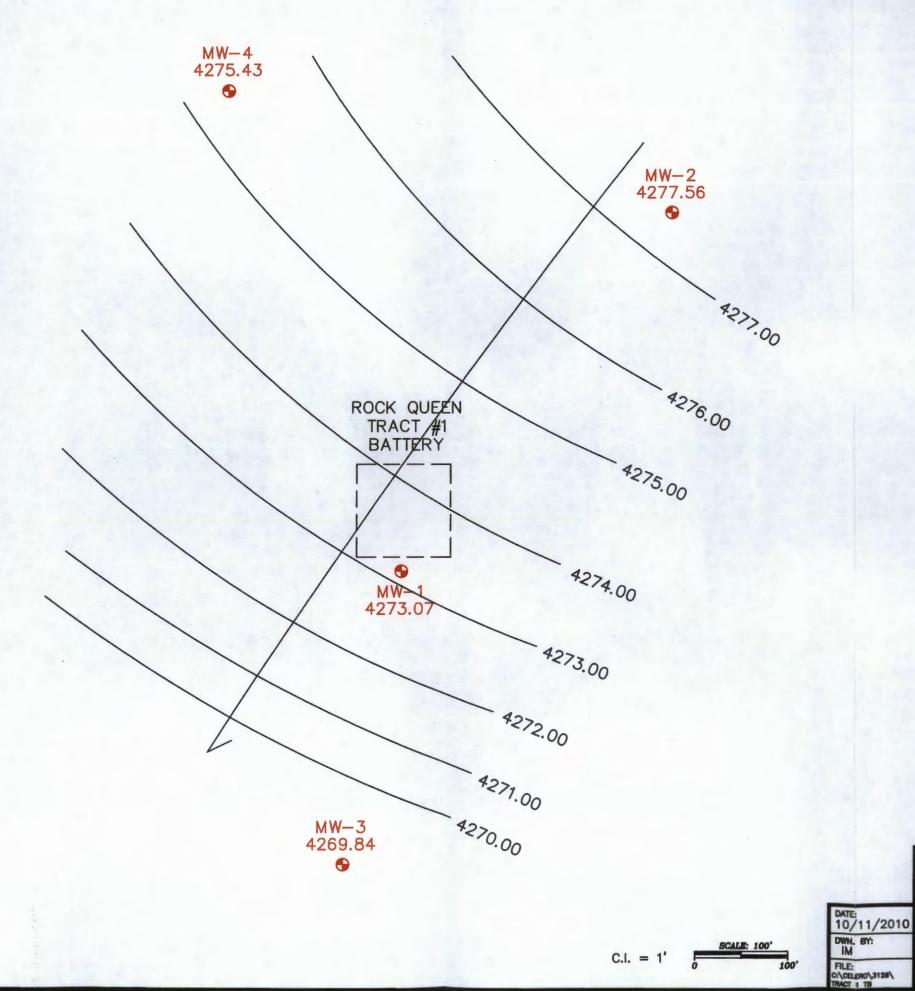
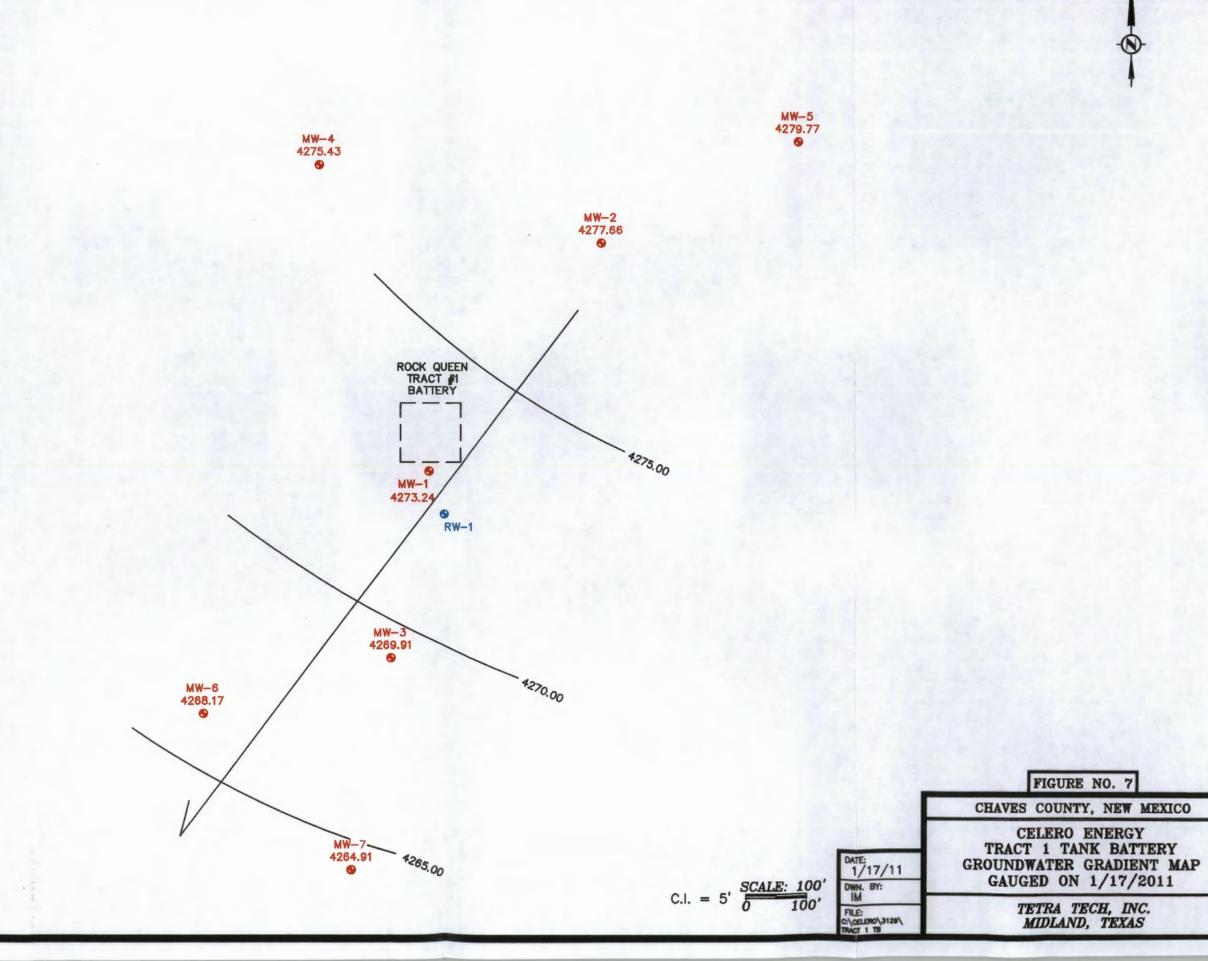


FIGURE NO. 6

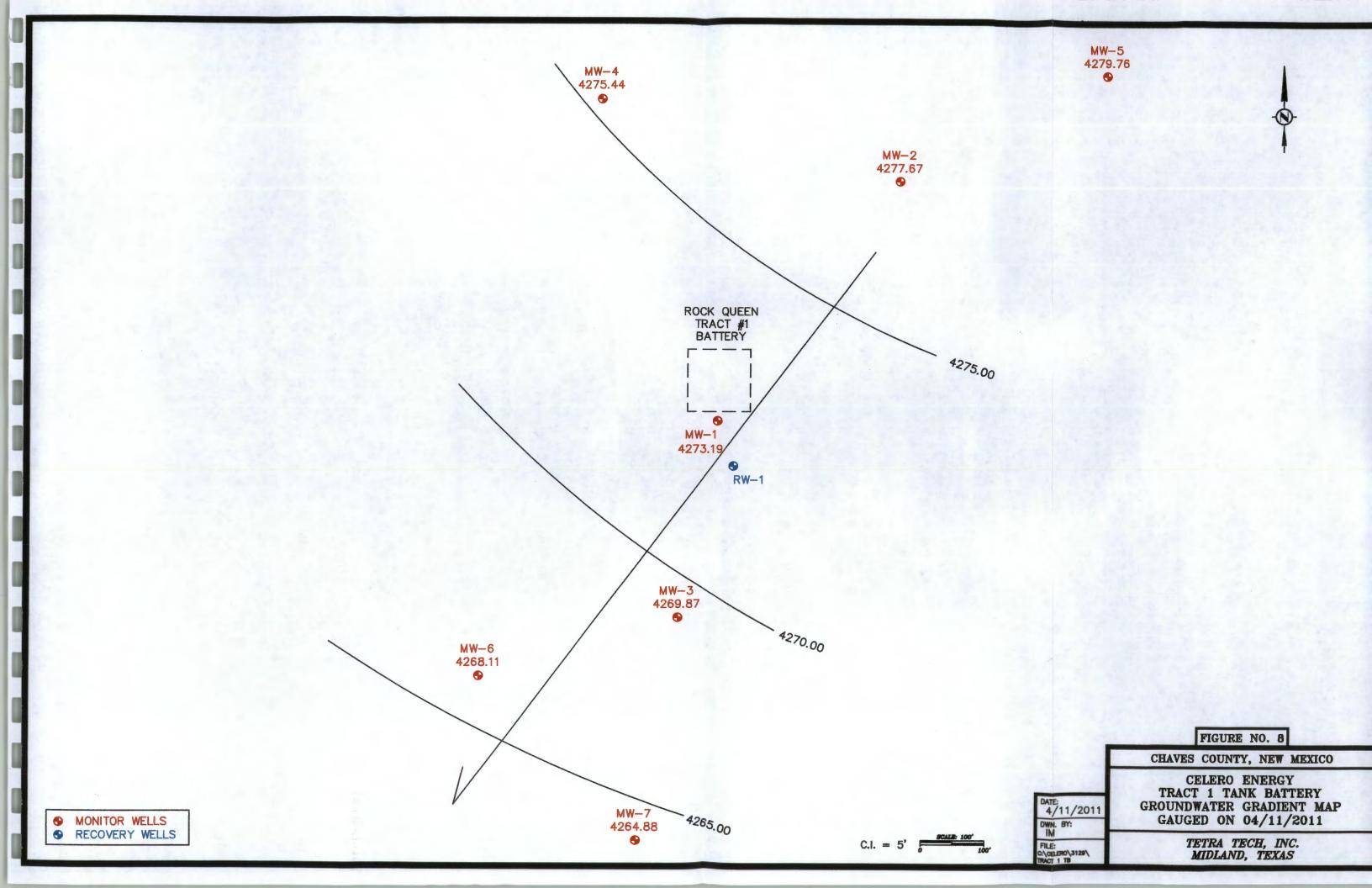
CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
TRACT 1 TANK BATTERY
GROUNDWATER GRADIENT MAP
GAUGED ON 10/11/2010

TETRA TECH, INC. MIDLAND, TEXAS



MONITOR WELLS
RECOVERY WELLS



MW-4 5,070 •

> MW-25,480 •

ROCK QUEEN TRACT #1 BATTERY • MW-1 164,000

MW-322,400

FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
TRACT 1 TANK BATTERY
CHLORIDE CONCENTRATION MAP
SAMPLED ON 12/28/2009

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS RECOVERY WELLS

RESULTS IN mg/L



DATE: 12/28/2009 DWN. BY: IM FILE: c\cillero\3129\ TRACT 1 TB

MW-4 1,140 •

> MW-25,480 •

ROCK QUEEN TRACT #1
BATTERY • MW-1 49,900

MW-3133,000 •

MONITOR WELLS RECOVERY WELLS

DATE: 07/12/2010 DWN. BY: IM FILE: 0:\00LERO\3129\

CELERO ENERGY
TRACT 1 TANK BATTERY
CHLORIDE CONCENTRATION MAP SAMPLED ON 07/12/2010

FIGURE NO. 10 CHAVES COUNTY, NEW MEXICO

TETRA TECH, INC. MIDLAND, TEXAS

MW-416,500 •

> MW-26,580

ROCK QUEEN TRACT #1 BATTERY • MW-1 133,080

MW-357,300 •

DATE: 10/11/10 DWN. BY: IM

FILE: C:\CELERO\3129\ TRACT 1 TB

CELERO ENERGY
TRACT 1 TANK BATTERY
CHLORIDE CONCENTRATION MAP
SAMPLED ON 10/11/2010

FIGURE NO. 11 CHAVES COUNTY, NEW MEXICO

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS RECOVERY WELLS

RESULTS IN mg/L

MW-4 6,230

MW-5 121 •

ROCK QUEEN TRACT #1 BATTERY MW-1144,000 RW-1 NS

MW-3 51,900 •

MW-6 88,900

MW-7 92,400 •

NS = NOT SAMPLEDRESULTS IN mg/L

MW-2 7,310



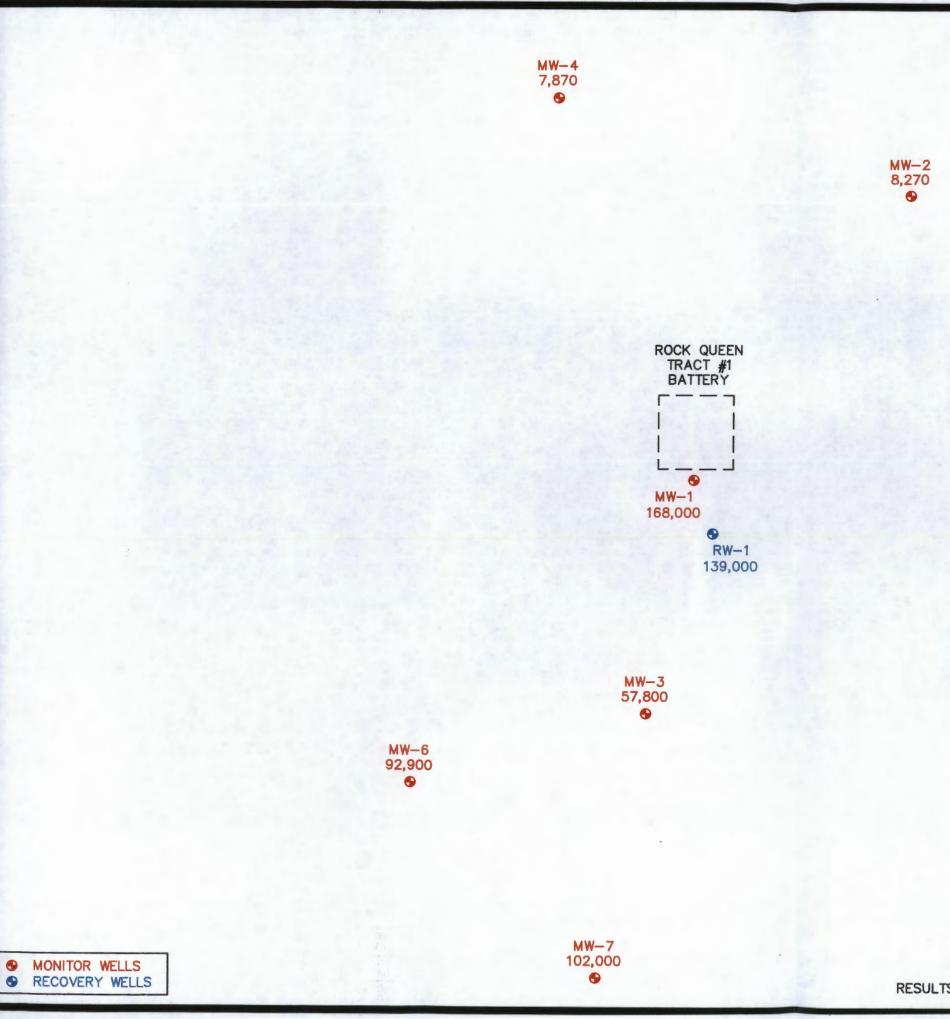
DATE: 1/24/2011 DWN. BY:

CELERO ENERGY TRACT 1 TANK BATTERY CHLORIDE CONCENTRATION MAP SAMPLED ON 01/24/2011

TETRA TECH, INC. MIDLAND, TEXAS

FIGURE NO. 12 CHAVES COUNTY, NEW MEXICO

MONITOR WELLS • RECOVERY WELLS



MW-5 62.7 **●**

FIGURE NO. 13

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY TRACT 1 TANK BATTERY CHLORIDE CONCENTRATION MAP SAMPLED ON 04/13/2011

TETRA TECH, INC. MIDLAND, TEXAS

DATE: 4/13/2011

DWN, BY:

FILE: C:\CELERO\3129\ TRACT 1 TB

TABLES

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

Monitor	Date	Date Well	TOC Elevation	Depth of Well	Depth to Groundwater	Groundwater Elevation
Well	Gauged	Installation	(ft)	(bgs in ft)	(ft)	(ft)
MW-1	05/25/07	05/24/07	4,393.50	152.80	102.80	4,290.70
	02/05/08				119.51	4,273.99
	12/28/09				120.26	4,273.24
	07/12/10				120.34	4,273.16
	10/11/10				120.43	4,273.07
İ	01/17/11				120.26	4,273.24
	04/11/11				120.31	4,273.19
MW-2	06/01/07	05/30/07	4,397.33	139.50	94.78	4,302.55
	02/05/08				119.89	4,277.44
	12/28/09				119.87	4,277.46
	07/12/10				119.80	4,277.53
	10/11/10				119.77	4,277.56
	01/17/11				119.67	4,277.66
	04/11/11				119.66	4,277.67
MW-3	12/28/09	12/09/09	4,390.65	137.28	120.65	4,270.00
	07/12/10				120.34	4,270.31
	10/11/10				120.81	4,269.84
	01/17/11	<u> </u>			120.74	4,269.91
	04/11/11				120.78	4,269.87
MW-4	12/28/09	12/10/09	4,396.96	139.40	121.50	4,275.46
	07/12/10				121.46	4,275.50
	10/11/10	ļ			121.53	4,275.43
	01/17/11	İ			121.53	4,275.43
	04/11/11				121.52	4,275.44
MW-5	01/17/11	11/23/10	4,395.87	133.35	116.10	4,279.77
	04/11/11				116.11	4,279.76
MW-6	01/17/11	11/29/10	4,390.58	142.55	122.41	4,268.17
	04/11/11				122.47	4,268.11
MW-7	01/17/11	11/23/10	4,388.41	139.00	123.50	4,264.91
	04/11/11	10/10/10	4 000 07		123.53	4,264.88
RW-1	01/17/11	12/13/10	4,392.97	131.40	120.05	4,272.92

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

			Chaves	County, New Mickle	The Head American	Groundwater Elevation
Monitor Well	Date Gauged	Date Well Installation	TOC Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	(ft)
wen	Gaugeu	motanation			120.07	4,272.90
RW-1	04/11/11				120.07	,

Table 2 Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 1 Tank Battery

Chaves County, New Mexico

Monitor Well Sampled Calcium (mg/L) Magnasium (mg/L) (mg	Hardness	
MW-1	[/] (mg/L)	pН
12/28/09 2,520 4,370 64,600 2490.0 <1.00 <1.00 <4.00 <4.00 2,230 164,000 244,000	` ,	
07/13/10	17,400	6.61
10/12/10 1,870 133,000 260,000 01/24/11 2,560 144,000 258,000 04/13/11 2,210 168,000 250,000 MW-2 08/05/08 2,210 168,000 250,000 MW-2 12/28/09 1,630 379 1,360 18.0 <1.00 <1.00 138 138 4.43 5,480 14,000 07/13/10 47.80 5,930 14,100 10/12/10 88.90 6,580 11,700 01/24/11 108 7,310 26,800 04/13/11 125 8,270 29,800 MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 <1.00 106 106 661 22,400 40,700 07/13/10 1,970 133,000 237,000	24,300	5.27
01/24/11 2,560 144,000 258,000	-	-
04/13/11 - - - - - - 2,210 168,000 250,000 MW-2 08/05/08 - - - - - - 5,510 - 12/28/09 1,630 379 1,360 18.0 <1.00	•	-
MW-2 08/05/08 - - - - - - 5,510 - 12/28/09 1,630 379 1,360 18.0 <1.00 <1.00 138 138 4.43 5,480 14,000 07/13/10 - - - - - - - 47.80 5,930 14,100 10/12/10 - - - - - - - 47.80 5,930 14,100 01/24/11 - - - - - - - - 88.90 6,580 11,700 04/13/11 - - - - - - - - 108 7,310 26,800 MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 106 106 661 22,400 40,700 07/13/10 - - - - - - - -	-	-
12/28/09 1,630 379 1,360 18.0 <1.00 <1.00 138 138 4.43 5,480 14,000 07/13/10 - - - - - - - 47.80 5,930 14,100 10/12/10 - - - - - - - - 88.90 6,580 11,700 01/24/11 - - - - - - - - 108 7,310 26,800 04/13/11 - - - - - - - - 125 8,270 29,800 MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 106 106 661 22,400 40,700 07/13/10 - - - - - - - - 1,970 133,000 237,000	-	-
07/13/10 - - - - - - 47.80 5,930 14,100 10/12/10 - - - - - - - 88.90 6,580 11,700 01/24/11 - - - - - - - 108 7,310 26,800 04/13/11 - - - - - - - 125 8,270 29,800 MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 106 106 661 22,400 40,700 07/13/10 - - - - - - - 1,970 133,000 237,000	-	~
10/12/10 - - - - - - - - -	5,630	7.30
01/24/11 - - - - - - - 108 7,310 26,800 04/13/11 - - - - - - - - 125 8,270 29,800 MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 106 106 661 22,400 40,700 07/13/10 - - - - - - - - 1,970 133,000 237,000	1 .	-
MW-3 12/28/09 2,120 804 12,000 146.0 <1.00	-	-
MW-3 12/28/09 2,120 804 12,000 146.0 <1.00 <1.00 106 106 661 22,400 40,700	-	
07/13/10 1,970 133,000 237,000		
	8,600	6.77
10/12/10 1,630 57,300 110,000		
	-	
01/24/11 2,280 51,900 95,300	-	-
04/13/11 1,990 57,800 103,000	-	-
MW-4 12/28/09 1,660 349 1,020 14.1 <1.00 <1.00 99 99 148 5,070 9,900	5,580	7.51
07/13/10 71.1 1,140 1,880	-	
10/12/10 238.0 16,500 43,800	-	-
01/24/11 180.0 6,230 12,400	-	-
04/13/11 193.0 7,870 18,500		
MW-5 01/24/11 58.4 121 518	-	-
04/13/11 62.7 126 458	-	-
MW-6 01/24/11 2,850 88,900 161,000	-	-
04/13/11 2,310 92,900 146,000		-
MW-7 01/24/11 2,580 92,400 179,000	-	

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 1 Tank Battery

Chaves County, New Mexico

Monitor	Date	Dissolved	Dissolved	Dissolved	Dissolved	Hydroxide	Carbonate	Bicarbonate	Total	Sulfate	Chloride	TDC (/l)	Hardness	-11
Weil	Sampled	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Alkalinity (mg/L)	Alkalinity (mg/L)	Alkalinity (mg/L)	(mg/L)	(mg/L)	TDS (mg/L)	(mg/L)	pH
MW-7	04/13/11	-	-	-		-	•	-	•	2,330	102,000	177,000		-
RW-1	01/24/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/13/11	-	-	-	-	-	-	-		2,680	139,000	222,000	-	-

NS - Not sampled

(-) Not Analyzed

Table 3 Celero Energy II, LP

Groundwater Analytical Results Rock Queen Unit Tract 1 Tank Battery

Chaves County, New Mexico

		Benzene	Toluene	Ethyl-	Xylene	Total
Monitor Well	Date Sampled	in	in	Benzene	in	BTEX
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	12/28/09	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	0.006	<0.001	<0.001	<0.001	0.006
MW-2	12/28/09	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	12/28/09	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	12/28/09	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-6	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	0.0063	0.0062	<0.001	<0.001	0.0125
MW-7	01/24/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
RW-1	01/24/11	NS	NS	NS	NS	NS
	04/14/11	0.0133	<0.001	<0.001	<0.001	0.0133

NS - Not sampled

APPENDIX A BORING LOGS

Boring/Well

MW-1

GPS

N33.165308° W103.775339°

Project Number

115-6403129A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract 1 Tank Battery

Site Location

Chaves County, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth 15

150

Date Installed

05/24/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
3-5	NA	Buff/tan limestone
8-10	NA	Buff/tan calcareous fine grain sand
13-15	NA	Tan/buff calcareous fine grain sand
18-20	NA	Tan/buff calcareous fine grain sand
23-25	NA	Buff/tan calcareous sand
28-30	NA	Buff/tan calcareous sand
33-35	NA	Buff/tan calcareous sand
38-40	NA	Buff/tan calcareous sand
43-45	NA	Tan fine grain well sorted sand ("sugar" sand)
48-50	NA	Tan fine grain well sorted sand ("sugar" sand)
53-55	NA	Tan fine grain well sorted sand ("sugar" sand)
58-60	NA	Tan fine grain well sorted sand ("sugar" sand)
63-65	NA	Tan fine grain well sorted sand ("sugar" sand)
68-70	NA	Tan fine grain well sorted sand ("sugar" sand)
73-75	NA	Tan fine grain well sorted sand ("sugar" sand)
78-80	NA	Tan fine grain well sorted sand ("sugar" sand)
83-85	NA	Tan fine grain well sorted sand ("sugar" sand)
88-90	NA	Tan fine grain well sorted sand ("sugar" sand)
93-95	NA	Tan fine grain well sorted sand ("sugar" sand)
98-100	NA	Tan fine grain well sorted sand ("sugar" sand)
103-105	NA	Tan fine grain well sorted sand ("sugar" sand)
108-110	NA	Tan fine grain well sorted sand ("sugar" sand)
113-115	NA	Tan fine grain well sorted sand ("sugar" sand)
118-120	NA	Tan fine grain well sorted sand ("sugar" sand)
123-125	NA	Dark brown well sorted sand

Boring/Well MW-1

GPS N33.165308° W103.775339°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves County, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth 150

Date Installed 05/24/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
128-130	NA	Dark brown well sorted sand
133-135	NA	Red clayey sand
138-140	NA	Red clayey sand
143-145	NA	Red clayey sand
148-150	NA	Red/tan clayey sand

Total Depth: 150' Groundwater encountered at approximately 119 feet

Boring/Well MW-2

GPS N33.166367° W103.774397°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves County, New Mexico

Letter B, Section 25, Township 13 South, Range 31 East

Total Depth 140
Date Installed 06/01/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	NA	Buff limestone
5-10	NA	Tan/buff calcareous fine grain sand
10-15	NA	Tan/buff calcareous fine grain sand
15-20	NA	Tan/buff calcareous fine grain sand
20-25	NA	Tan/buff calcareous fine grain sand
25-30	NA	Tan/buff calcareous fine grain sand
30-35	NA	Tan/buff calcareous fine grain sand
35-38	NA	Tan/buff calcareous fine grain sand
38-45	NA	Tan fine to very fine grain sand
45-50	NA	Tan fine to very fine grain sand
50-55	NA	Tan fine to very fine grain sand
55-60	NA	Tan fine to very fine grain sand
63-65	NA	Tan fine to very fine grain sand
68-70	NA	Tan fine to very fine grain sand
73-75	NA	Tan fine to very fine grain sand
78-80	NA	Tan fine to very fine grain sand
83-85	NA	Tan fine to very fine grain sand
88-90	NA	Tan fine to very fine grain sand
93-95	NA	Tan fine to very fine grain sand
98-100	NA	Tan fine to very fine grain sand
100-106	NA	Tan fine to very fine grain sand
106-124	NA	Tan fine grain sand with light brown clay intermixed
124-130	NA	Tan sand with shale
130-131	NA	Gray to red clay
130-140	NA	Red clay

Total Depth: 140' Groundwater encountered at approximately 119 feet

Boring/Well MW-3

GPS N33.166367° W103.774397°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 135

Date Installed 12/09/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
5-6		Hard limestone with chert
10-11		Hard limestone with chert
15-16		Hard limestone with chert
20-21		Hard limestone with chert
25-26		Calcareous sand - very fine grain
30-31		Calcareous sand - very fine grain
35-36		Calcareous sand - very fine grain
40-41		Calcareous sand - very fine grain
45-46		Calcareous sand - very fine grain
50-51		Calcareous sand - very fine grain
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
110-111		Tan fine grain sand
115-116		Tan fine grain sand
120-121		Tan fine grain sand
125-126		Grey and Red/Brown clay

Boring/Well MW-3

GPS N33.166367° W103.774397°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 135

Date Installed 12/09/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
130-131		Grey and Red/Brown clay
135-136		Red/Brown clay

Total Depth: 135'

Boring/Well MW-4

GPS N33.166367° W103.774397°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth 135

Date Installed 12/10/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
5-6		Hard limestone with chert
10-11		Hard limestone with chert
15-16		Hard limestone with chert
20-21		Hard limestone with chert
25-26		Calcareous sand - very fine grain
30-31		Calcareous sand - very fine grain
35-36		Calcareous sand - very fine grain
40-41		Calcareous sand - very fine grain
45-46		Calcareous sand - very fine grain
50-51		Calcareous sand - very fine grain
55-56		Calcareous sand - very fine grain
60-61		Calcareous sand - very fine grain
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
110-111		Tan fine grain sand
115-116		Tan fine grain sand
120-121		Sandy grey clay <10% clay
125-126		Grey hard pack clay

Boring/Well MW-4

GPS N33.166367° W103.774397°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 1 Tank Battery

Site Location Chaves, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth 135
Date Installed 12/10/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
130-131		Grey hard pack clay
135-136		Grey hard pack clay (with some red clay)

Total Depth: 135'

Boring/ Well MW-5

GPS N33.1669° W103.77383°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1Tank Battery

Site Location Chaves, New Mexico

Letter B, Section 25, Township 13 South, Range 31 East

Total Depth 130' Date Installed 11/23/10

Depth (Ft)	OVM	Sample Description
5-6'		Caliche and 60% Chert
10-11'		Caliche and 50% Chert
15-16'		Caliche and 30% Chert
20-21'		Light Buff Fine Grained Well Sorted Sand
25-26'		Light Buff Fine Grained Well Sorted Sand
30-31'		Light Buff Fine Grained Well Sorted Sand
35-36'		Light Buff Fine Grained Well Sorted Sand
40-41'	•••	Light Buff Fine Grained Well Sorted Sand
45-46'		Light Buff Fine Grained Well Sorted Sand
50-51'		Light Buff Fine Grained Well Sorted Sand
55-56'		Light Buff Fine Grained 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 with 5% Subangular Gravel
100-101'		Light Brown Fine Grain Well Sorted Sand with 5% Subangular Gravel
105-106'		Light Brown Fine Grain Well Sorted Sand with 10% Subangular Gravel
110-111'		Light Brown Fine Grain Well Sorted Sand with 50% Subangular Gravel
115-116'		Grey Blue Buff Clay and Light Brown Clay
120-121'		Grey Blue Buff Clay and 10% Light Brown Clay
125-126'	**	Grey Blue Buff Clay and 60% Light Brown Clay

Boring/ Well

MW-5

GPS

N33.1669°

W103.77383°

Project Number 115-6403129A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #1Tank Battery

Site Location

Chaves, New Mexico

Letter B, Section 25, Township 13 South, Range 31 East

Total Depth

130'

Date Installed

11/23/10

		4
130'		Grey Blue Clay with 25% Red Bed and 5% Light Brown Clay

Total Depth:

130'

Ground water depth not encountered while drilling.

Boring/ Well MW-6

GPS N33.16423° W103.77711°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 140'
Date Installed 11/29/10

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

Boring/ Well MW-6

GPS N33.16423° W103.77711°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 140' Date Installed 11/29/10

130-131'	 Light Brown Sand with 30% Buff Grey Clay
135-136'	 Grey Blue Clay with 50% Red Bed
140'	 Red Bed

Total Depth: 140' Ground water depth not encountered while drilling.

Boring/ Well MW-7

GPS N33.16362° W103.77646°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 135'
Date Installed 11/23/10

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

Boring/ Well MW-7

GPS N33.16362° W103.77646°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 135'
Date Installed 11/23/10

130-131'	 Grey Blue Clay with 15% Red Bed
135'	 Red Bed with Grey Blue Clay

Total Depth: 135' Ground water depth not encountered while drilling.

Boring/ Well MW-7

GPS N33.16362° W103.77646°

Project Number 115-6403129A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #1 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth 135'
Date Installed 11/23/10

Depth (Ft)	OVM	Sample Description				
5-6'		Caliche and 15% Chert				
10-11'		Caliche and 15% Chert				
15-16'		Buff Fine Grained Sand with 50% Caliche				
20-21'		Buff Fine Grained Sand with 20% Caliche				
25-26'		Tan Light Brown Fine Grained Sand with 5% Caliche				
30-31'		Buff Tan Fine Grained Sand with 5% Caliche				
35-36'	••	Buff Tan Fine Grained Sand with 5% Caliche				
40-41'		Buff Tan Fine Grained Sand				
45-46'	10.40	Buff Tan Fine Grained Sand				
50-51'	••	Light Brown Fine Grained Sand				
55-56'	40.00	Light Brown Fine Grained Sand				
60-61'		Light Brown Fine Grained Sand				
65-66'		Light Brown Fine Grained Sand				
70-71'		Light Brown Fine Grained Sand				
75-76'		Light Brown Fine Grained Sand				
80-81'		Light Brown Fine Grained Sand				
85-86'		Light Brown Fine Grained Sand				
90-91'		Light Brown Fine Grained Sand				
95-96'		Light Brown Fine Grained Sand				
100-101'		Light Brown Fine Grained Sand				
105-106'		Light Brown Fine Grained Sand				
110-111'	-	Light Brown Fine Grained Sand				
115-116'		Light Brown Fine Grained Sand with 15% Subangular Gravel				
120-121'		Light Brown Fine Grained Sand with 15% Subangular Gravel				
125-126'		Grey Buff Light Brown Clay				

Boring/ Well

MW-7

GPS

N33.16362°

W103.77646°

Project Number

115-6403129A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #1 Tank Battery

Site Location

Chaves, New Mexico

Letter F, Section 25, Township 13 South, Range 31 East

Total Depth

135'

Date Installed

11/23/10

130-131'	alor tale	Grey Blue Clay with 15% Red Bed
135'		Red Bed with Grey Blue Clay

Total Depth:

135'

Ground water depth not encountered while drilling.

Boring/ Well

RW-1

GPS

N33.16539° W103.77579°

Project Number

115-6403129A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #1 Tank Battery

Site Location

Chaves, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth

130'

Date Installed

12/13/10

Depth (Ft)	OVM	Sample Description				
5-6'		Caliche and Chert				
10-11'		Caliche and Chert				
15-16'		Caliche and Chert				
20-21'		Caliche and 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'		Brown Fine Grained Well Sorted Sand				
60-61'		Brown Fine Grained Well Sorted Sand				
65-66'		Brown Fine Grained Well Sorted Sand				
70-71'	**	Brown Fine Grained Well Sorted Sand				
75-76'		Brown Fine Grained Well Sorted Sand				
80-81'		Brown Fine Grained Well Sorted Sand				
85-86'		Brown Fine Grained Well Sorted Sand				
90-91'		Brown Fine Grained Well Sorted Sand				
95-96'		Brown Fine Grained Well Sorted Sand				
100-101'		Brown Fine Grained Well Sorted Sand				
105-106'		Brown Fine Grained Well Sorted Sand				
110-111'		Brown Fine Grained Well Sorted Sand				
115-116'		Brown Fine Grained Well Sorted Sand				
120-121'		Grey Blue Buff Clay with Light Brown Clay				
125-126'		Grey Blue Clay with Light Brown Clay				

Boring/Well

RW-1

GPS

N33.16539°

W103.77579°

Project Number 115-6403129A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #1 Tank Battery

Site Location

Chaves, New Mexico

Letter C, Section 25, Township 13 South, Range 31 East

Total Depth

130'

Date Installed

12/13/10

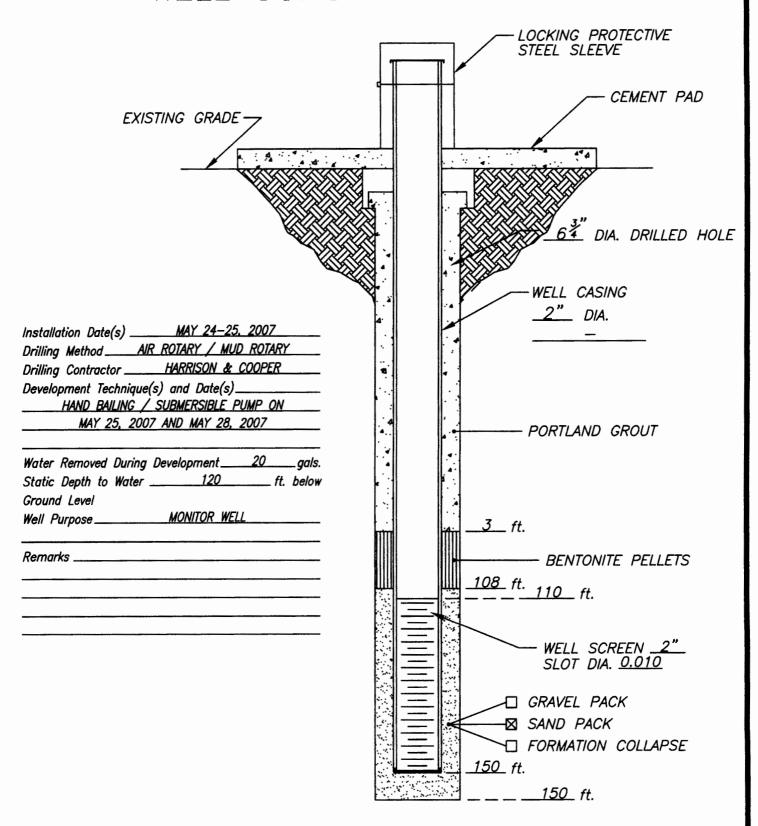
130'	 Grey Blue Clay with Light Brown Clay and Red Bed

Total Depth:

130'

Ground water depth not encountered while drilling.

APPENDIX B MONITOR WELL INSTALLATION DIAGRAMS



DATE: 5/24-25/07

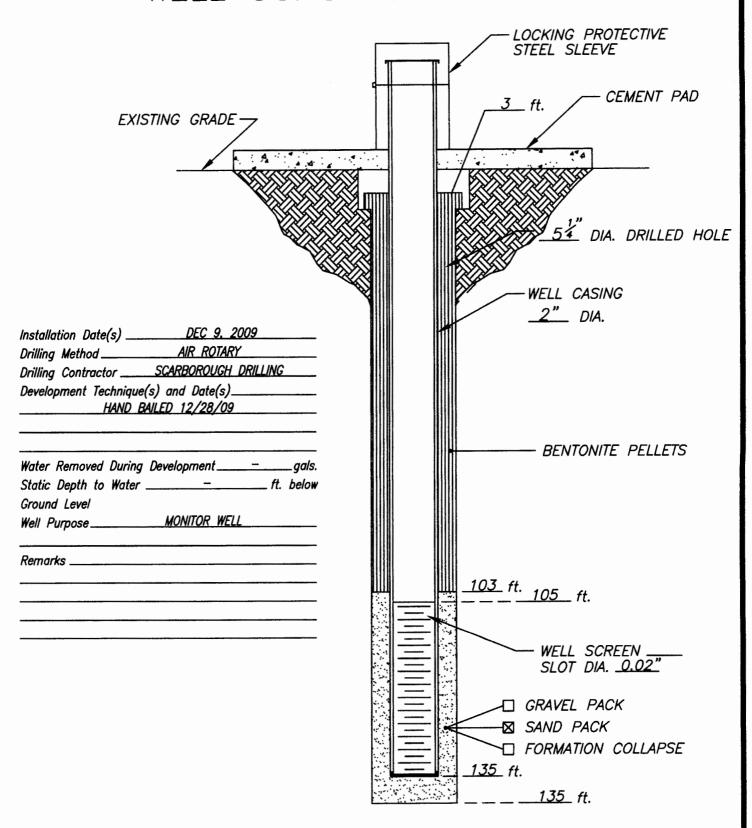
TETRA TECH, INC.
MIDLAND, TEXAS

CLIENT: CELERO ENERGY II, LP

PROJECT: ROCK QUEEN UNIT TRACT 1 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.



DATE: DEC. 9, 2009

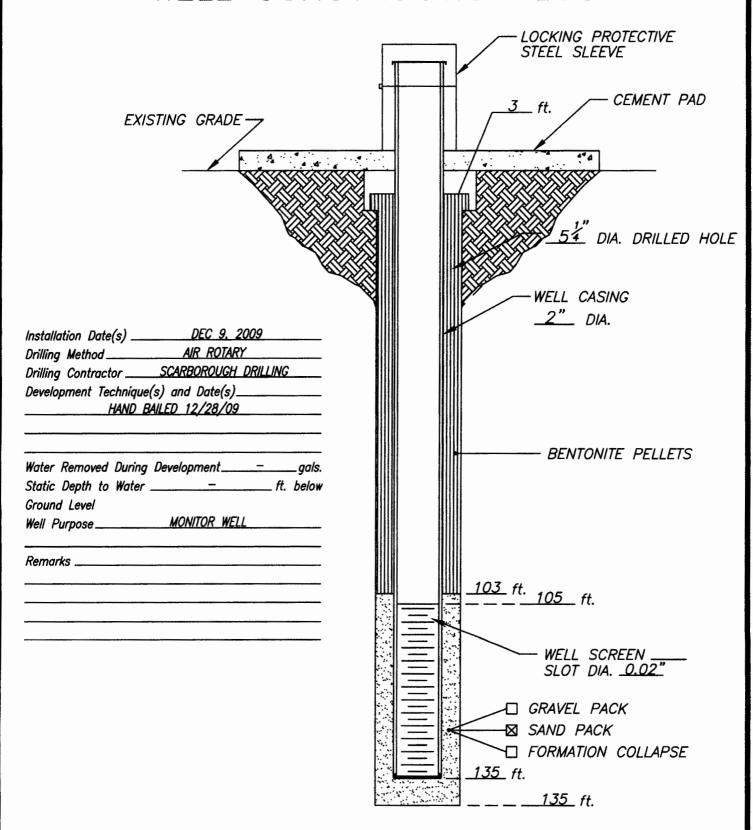
TETRA TECH, INC. MIDLAND, TEXAS

CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.



DATE:

DEC. 23, 2009

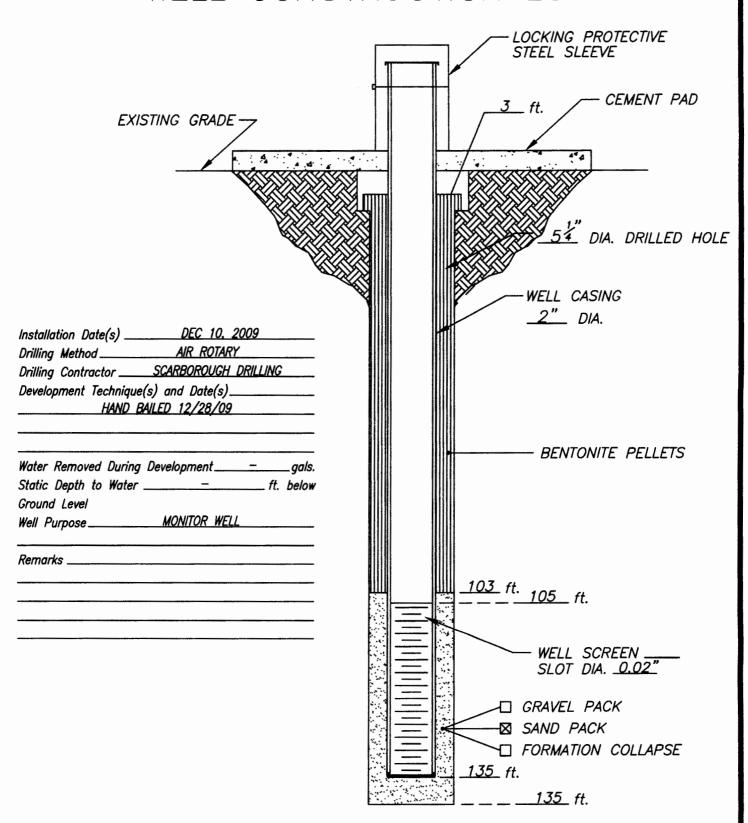
TETRA TECH, INC. MIDLAND, TEXAS

CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.



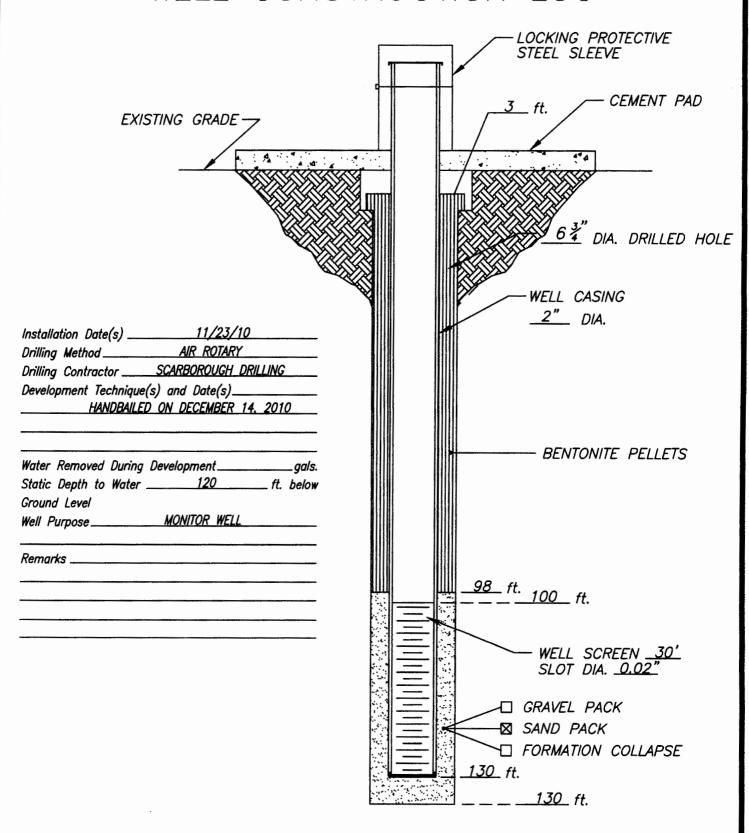
DATE: DEC. 23, 2009

TETRA TECH, INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.



DATE: 11/23/10

TETRA TECH, INC. MIDLAND, TEXAS

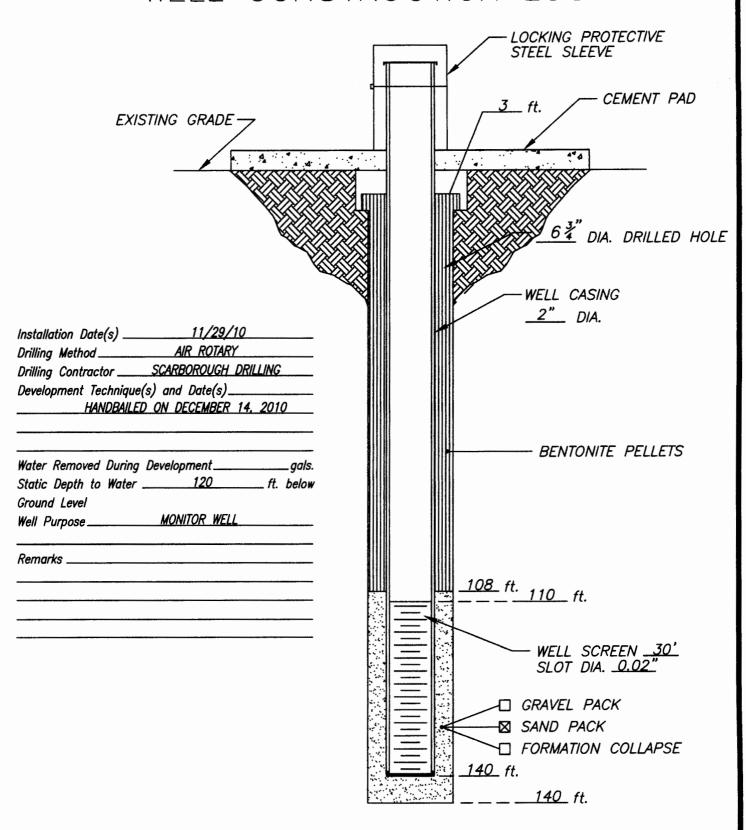
CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-5



TETRA TECH, INC. MIDLAND, TEXAS

11/23/10

DATE:

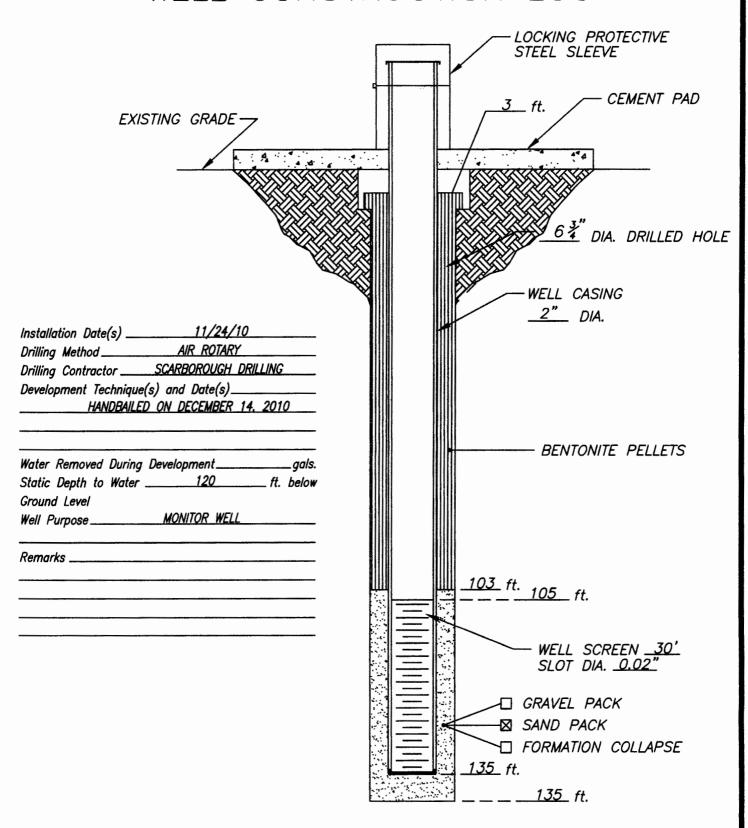
CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-6



DATE:

11/24/10

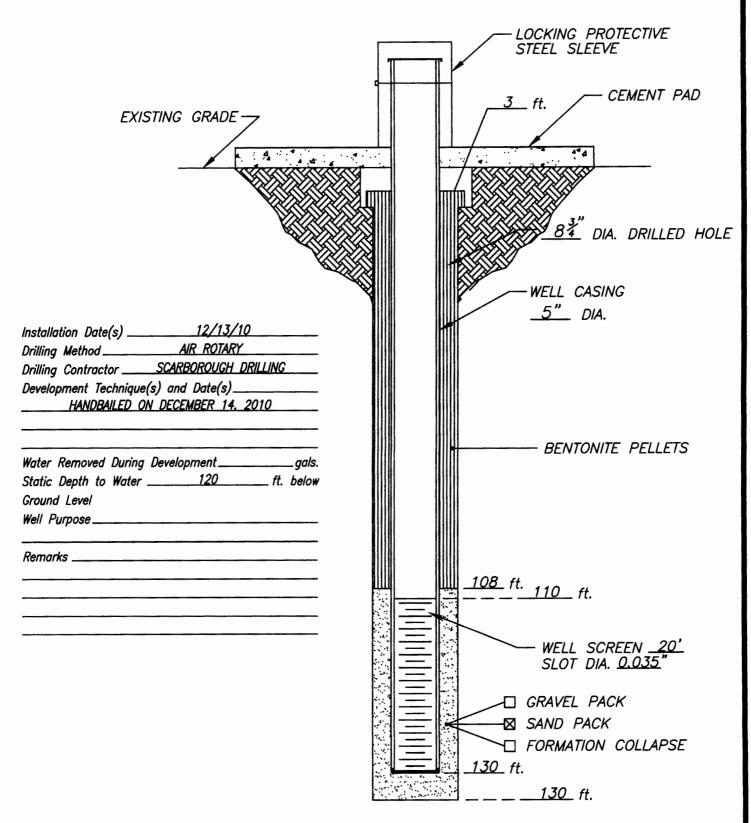
TETRA TECH, INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-7



DATE: 12/13/10

TETRA TECH, INC. MIDLAND, TEXAS

CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN UNIT TRACT #1

LOCATION: CHAVES COUNTY, NM

WELL NO.

RW-1

APPENDIX C LABORATORY ANALYSIS



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301 817 • 201 • 5260

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

E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

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

Report Date: June 12, 2007

Work Order: 7053116

Project Location: Chaves Co. NM

Project Name:

Celero Energy-Rock Queen ESA

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
125990	Tract 1, T.B. #1- MW-1	water	2007-05-29	18:15	2007-05-31

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.

Dr. Blair Leftwich, Director

Standard Flags

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

Report Date: June 12, 2007 Work Order: 7053116 Page Number: 2 of 15 2972 Celero Energy-Rock Queen ESA Chaves Co. NM

Analytical Report

Sample: 125990 - Tract 1, T.B. #1- MW-1

Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A QC Batch: 37942 Date Analyzed: 2007-06-06 Analyzed By: JS Prep Batch: 32856 Sample Preparation: 2007-06-06 Prepared By: SM

		RL			
Parameter	\mathbf{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		154	mg/L as CaCo3	1	4.00
Total Alkalinity		154	mg/L as CaCo3	1	4.00

Sample: 125990 - Tract 1, T.B. #1- MW-1

BTEX Prep Method: S 5030B Analysis: Analytical Method: S 8021B QC Batch: 37858 2007-06-05 Analyzed By: MTDate Analyzed: Prep Batch: 32791 Prepared By: Sample Preparation: 2007-06-05 MT

		RL			
Parameter	Flag	Result	Units	Dilution	RL
MTBE		< 0.00500	mg/L	5	0.00100
Benzene		< 0.00500	m mg/L	5	0.00100
Toluene		< 0.00500	$\mathrm{mg/L}$	5	0.00100
Ethylbenzene		< 0.00500	m mg/L	5	0.00100
Xylene		< 0.00500	mg/L	5	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.487	mg/L	5	0.500	97	78.1 - 112
4-Bromofluorobenzene (4-BFB)		0.411	mg/L	5	0.500	82	63.1 - 120

Sample: 125990 - Tract 1, T.B. #1- MW-1

Analysis: Prep Method: S 3005A Cations Analytical Method: S 6010B QC Batch: 38016 Date Analyzed: 2007-06-09 Analyzed By: TPPrep Batch: 32743 Prepared By: Sample Preparation: 2007-06-04 KV

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Calcium		2170	mg/L	100	0.500
Dissolved Potassium		1380	mg/L	100	0.500
Dissolved Magnesium		3320	mg/L	100	0.500
Dissolved Sodium		75500	mg/L	1000	0.500

Report Date: June 12, 2007 Work Order: 7053116 Page Number: 3 of 15 2972 Celero Energy-Rock Queen ESA Chaves Co. NM

Sample: 125990 - Tract 1, T.B. #1- MW-1

Prep Method: Analysis: Chloride (IC) Analytical Method: E 300.0 N/ADate Analyzed: 2007-06-08 Analyzed By: $\mathbf{E}\mathbf{R}$ QC Batch: 38024 32926 Sample Preparation: 2007-06-08 Prepared By: $\mathbf{E}\mathbf{R}$ Prep Batch:

Sample: 125990 - Tract 1, T.B. #1- MW-1

S 6010B Analysis: Analytical Method: Prep Method: N/AHardness Date Analyzed: Analyzed By: TP QC Batch: 38029 2007-06-11 Prep Batch: 32755 Sample Preparation: 2007-06-04 Prepared By: TS

Sample: 125990 - Tract 1, T.B. #1- MW-1

Analytical Method: E 300.0 Prep Method: N/A Analysis: Ion Chromatography QC Batch: 38024 2007-06-08 Analyzed By: ERDate Analyzed: 32926 Sample Preparation: 2007-06-08 Prepared By: ERPrep Batch:

Sample: 125990 - Tract 1, T.B. #1- MW-1

Analysis: pHAnalytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 37839^{a} Date Analyzed: 2007-06-01 Analyzed By: SMPrep Batch: 32776 Sample Preparation: 2007-06-01 Prepared By: SM

aran in lab

Sample: 125990 - Tract 1, T.B. #1- MW-1

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 37789 Date Analyzed: 2007-06-04 Analyzed By: AR Prep Batch: 32739 Sample Preparation: Prepared By: AR

Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 4 of 15 Chaves Co. NM

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		188300	mg/L	100	10.00

Sample: 12	25990 -	Tract	1. T.	.B. #1-	MW-1
------------	---------	-------	-------	---------	------

Analysis:	TPH DRO
QC Batch:	37771
Prep Batch	32726

Analytical Method: Mod. 8015B Date Analyzed: 2007-06-01 Sample Preparation: 2007-06-01

Prep Method: N/A
Analyzed By: AG
Prepared By: AG

70 - 130

Parameter	Fla	g	$rac{ ext{RL}}{ ext{Result}}$	Unit	s	Dilution	$_{ m RL}$
DRO			19.5	mg/l	L	1	5.00
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits

15.0

mg/L

Sample: 125990 - Tract 1, T.B. #1- MW-1

14.6

Analysis:	TPH GRO
QC Batch:	37859
Prep Batch:	32791

n-Triacontane

Analytical Method: S 8015B
Date Analyzed: 2007-06-05
Sample Preparation: 2007-06-05

Prep Method: S 5030B Analyzed By: MT Prepared By: MT

97

			RL					
Parameter	Flag		Result		Units	Di	lution	RL
GRO			< 0.500		mg/L		5	0.100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TF	T)		0.534	mg/L	5	0.500	107	72.8 - 107
	-,							

Method Blank	(1)	QC Batch: 37771
--------------	------------	-----------------

QC Batch:	37771		
Prep Batch:	32726		

Date Analyzed: 2007-06-01 QC Preparation: 2007-06-01

MDL

Analyzed By: AG Prepared By: MS

Parameter		Flag	Result		ι	RL		
DRO				< 2.61	mg/L		5	
	Elem	Result	Units	Dilution	Spike	Percent	Recovery Limits	
Surrogate	\mathbf{Flag}	nesuit	Cints	Dilution	Amount	Recovery	Limits	
n-Triacontane		14.0	mg/L	1	15.0	93	70 - 130	

Report Date: June 12, 2007

2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 5 of 15 Chaves Co. NM

Method Blank (1)

QC Batch: 37789

QC Batch: 37789

2007-06-04 Date Analyzed:

Analyzed By: AR

Prep Batch: 32739 QC Preparation: 2007-06-04 Prepared By: AR

MDL Result

10.00

Parameter Flag Total Dissolved Solids

Units RLmg/L10

Method Blank (1)

QC Batch: 37858

QC Batch: 37858 Prep Batch: 32791

Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05

Analyzed By: MT Prepared By: MT

MDI.

		.VIDL		
Parameter	Flag	Result	Units	RL
MTBE		< 0.000470	mg/L	0.01
Benzene		< 0.000247	${ m mg/L}$	0.001
Toluene		< 0.000257	${\sf mg/L}$	0.001
Ethylbenzene		< 0.000336	mg/L	0.001
Xylene		< 0.000218	m mg/L	0.001

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0836	mg/L	1	0.100	84	77.3 - 113
4-Bromofluorobenzene (4-BFB)		0.0867	mg/L	1	0.100	87	77.2 - 116

Method Blank (1)

QC Batch: 37859

QC Batch: 37859 Prep Batch: 32791 Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05 Analyzed By: MT Prepared By: MT

MDL

Parameter Flag Result Units RLGRO < 0.0104 mg/L 0.1

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0906	mg/L	1	0.100	91	68 - 117
4-Bromofluorobenzene (4-BFB)		0.0913	mg/L	1	0.100	91	75.8 - 110

Method Blank (1)

QC Batch: 37942

QC Batch: 37942 Prep Batch: 32856

Date Analyzed: 2007-06-06 QC Preparation: 2007-06-06

Analyzed By: JS Prepared By: JS

MDL

Parameter	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1

continued ...

Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 6 of 15 Chaves Co. NM

		MDL		
Parameter	Flag	Result	Units	RL
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Method Blank (1) QC Batch: 38016

remod Blaim (1) QO Baten. 5001

QC Batch: 38016 Date Analyzed: 2007-06-09 Analyzed By: TP Prep Batch: 32743 QC Preparation: 2007-06-04 Prepared By: KV

		MDL		
Parameter	Flag	Result	Units	RL
Dissolved Calcium		< 0.0290	mg/L	0.5
Dissolved Potassium		< 0.307	mg/L	0.5
Dissolved Magnesium		< 0.0740	${\sf mg/L}$	0.5
Dissolved Sodium		< 0.529	mg/L	0.5

Method Blank (1)

QC Batch: 38024

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER Prep Batch: 32926 QC Preparation: 2007-06-08 Prepared By: ER

		MDL		
Parameter	Flag	Result	Units	RL
Chloride		< 0.172	mg/L	0.5

Method Blank (1)

QC Batch: 38024

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER
Prep Batch: 32926 QC Preparation: 2007-06-08 Prepared By: ER

		MDL		
Parameter	Flag	Result	Units	RL
Sulfate		< 0.777	mg/L	0.5

Duplicates (1)

QC Batch:37789Date Analyzed:2007-06-04Analyzed By:ARPrep Batch:32739QC Preparation:2007-06-04Prepared By:AR

	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	1685	1590	mg/L	5	6	20

Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 7 of 15 Chaves Co. NM

Duplicates (1)

QC Batch: 37839 Prep Batch: 32776 Date Analyzed: 2007-06-01 QC Preparation: 2007-06-01 Analyzed By: SM Prepared By: SM

RPD Duplicate Sample RPD Dilution Limit Param Result Result Units 0 0.8 pН 8.52 8.50 s.u.

Duplicates (1)

QC Batch: 37942 Prep Batch: 32856 Date Analyzed: 2007-06-06 QC Preparation: 2007-06-06 Analyzed By: JS Prepared By: JS

RPD Duplicate Sample **RPD** Limit Dilution Param Result Result Units Hydroxide Alkalinity mg/L as CaCo3 < 1.00 < 1.00 $\overline{0}$ 20 1 Carbonate Alkalinity 0 20 < 1.00 < 1.00 mg/L as CaCo3 1 1 2 20 Bicarbonate Alkalinity 480 492 mg/L as CaCo3 1 2 20 Total Alkalinity 480 492 mg/L as CaCo3

Laboratory Control Spike (LCS-1)

QC Batch: 37771 Prep Batch: 32726 Date Analyzed: 2007-06-01 QC Preparation: 2007-06-01 Analyzed By: AG Prepared By: MS

LCS Rec. Spike Matrix Rec. Limit Param Result Units Dil. Amount Result 70 - 130 DRO 31.1 mg/L 25.0 < 2.61 124

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

RPD LCSD Rec. Spike Matrix RPD Limit Dil. Limit Param Result Units Amount Result Rec. 25.0 < 2.61 115 70 - 130 20 DRO 28.8 mg/L 1

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

LCSD Rec. LCS LCSD Spike LCS Limit Surrogate Result Result Units Dil. Amount Rec. Rec. 107 80 70 - 130 n-Triacontane 16.0 12.0 mg/L 1 15.0

Laboratory Control Spike (LCS-1)

QC Batch: 37858 Prep Batch: 32791 Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05 Analyzed By: MT Prepared By: MT

LCS Rec. Spike Matrix Rec. Limit Param Result Units Dil. Amount Result 0.100 < 0.000470 90 76 - 117 MTBE 0.0900 mg/L 1

 $continued \dots$

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 8 of 15 Chaves Co. NM

control	snikes	continued		

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.0916	mg/L	1	0.100	< 0.000247	92	82 - 118
Toluene	0.0924	mg/L	1	0.100	< 0.000257	92	81.4 - 118
Ethylbenzene	0.0946	nıg/L	1	0.100	< 0.000336	95	81.5 - 120
Xylene	0.290	mg/L	1	0.300	< 0.000218	97	82.2 - 121

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	Limit
MTBE	0.0930	mg/L	1	0.100	< 0.000470	93	76 - 117	3	20
Benzene	0.0934	mg/L	1	0.100	< 0.000247	93	82 - 118	2	20
Toluene	0.0941	mg/L	1	0.100	< 0.000257	94	81.4 - 118	2	20
Ethylbenzene	0.0967	mg/L	1	0.100	< 0.000336	97	81.5 - 120	2	20
Xylene	0.296	mg/L	1	0.300	< 0.000218	99	82.2 - 121	2	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)	0.0820	0.0851	mg/L	1	0.100	82	85	75.7 - 113
4-Bromofluorobenzene (4-BFB)	0.0900	0.0922	mg/L	1	0.100	90	92	75.8 - 110

Laboratory Control Spike (LCS-1)

QC Batch: 37859 Prep Batch: 32791 Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05 Analyzed By: MT Prepared By: MT

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	1.06	mg/L	1	1.00	< 0.0104	106	72 - 131

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	Limit
GRO	1.04	mg/L	1	1.00	< 0.0104	104	72 - 131	2	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)	0.0983	0.0954	mg/L	1	0.100	98	95	72.1 - 120
4-Bromofluorobenzene (4-BFB)	0.103	0.0988	mg/L	1	0.100	103	99	80.9 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 38016 Prep Batch: 32743 Date Analyzed: 2007-06-09 QC Preparation: 2007-06-04

Analyzed By: TP Prepared By: KV

continued ...

2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 9 of 15 Chaves Co. NM

control spikes continued . . .

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	51.6	mg/L	1	50.0	< 0.0290	103	79.1 - 121
Dissolved Potassium	51.0	mg/L	1	50.0	< 0.307	102	78.8 - 114
Dissolved Magnesium	50.6	mg/L	1	50.0	< 0.0740	101	80.2 - 120
Dissolved Sodium	51.4	mg/L	1	50.0	< 0.529	103	79.4 - 123

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	Limit
Dissolved Calcium	50.6	mg/L	1	50.0	< 0.0290	101	79.1 - 121	2	20
Dissolved Potassium	50.1	${ m mg/L}$	1	50.0	< 0.307	100	78.8 - 114	2	20
Dissolved Magnesium	49.7	mg/L	1	50.0	< 0.0740	99	80.2 - 120	2	20
Dissolved Sodium	50.3	mg/L	1	50.0	< 0.529	101	79.4 - 123	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: 38024 Date Analyzed:

2007-06-08

Analyzed By: ER Prepared By: ER

Prep Batch:

32926

QC Preparation:

2007-06-08

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 91 Chloride 11.4 mg/L 12.5 < 0.17290 - 110

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	Limit
Chloride	11.6	mg/L	1	12.5	< 0.172	93	90 - 110	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: 38024 Prep Batch: 32926 Date Analyzed: QC Preparation:

2007-06-08 2007-06-08 Analyzed By: ER Prepared By: ER

LCS Spike Matrix Rec. Result Units Dil. Amount Result Rec. Limit Param 12.2 < 0.777 98 90 - 110 Sulfate mg/L1 12.5

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	12.3	mg/L	1	12.5	< 0.777	98	90 - 110	1	20

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

Report Date: June 12, 2007

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 10 of 15 Chaves Co. NM

Matrix Spike (MS-1)

Spiked Sample: 126260

QC Batch: 37859 Prep Batch: 32791

2972

Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05 Analyzed By: MT Prepared By: MT

	MS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO 1	5.33	mg/L	5	1.00	< 0.0518	533	55 - 138

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	2	5.85	mg/L	5	1.00	< 0.0518	585	55 - 138	9	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		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)		0.522	0.517	mg/L	5	0.5	104	103	75.5 - 111
4-Bromofluorobenzene (4-BFB)	3 4	0.514	0.552	mg/L	5	0.5	103	110	92.3 - 102

Matrix Spike (MS-1)

Spiked Sample: 126000

QC Batch: 38016 Prep Batch: 32743 Date Analyzed: 2007-06-09 QC Preparation: 2007-06-04

Analyzed By: TP Prepared By: KV

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	$\mathbf{A}\mathbf{mount}$	Result	Rec .	Limit
Dissolved Calcium	5	78.3	mg/L	1	50.0	6.22	144	69 - 130
Dissolved Potassium		57.9	mg/L	1	50.0	1.54	113	76.8 - 117
Dissolved Magnesium		51.9	mg/L	1	50.0	< 0.0740	104	77.9 - 122
Dissolved Sodium		51.8	mg/L	1	50.0	< 0.529	104	84.2 - 120

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Calcium	6	77.1	mg/L	1	50.0	6.22	142	69 - 130	2	20
Dissolved Potassium		57.3	mg/L	1	50.0	1.54	112	76.8 - 117	1	20
Dissolved Magnesium		51.0	mg/L	1	50.0	< 0.0740	102	77.9 - 122	2	20
Dissolved Sodium		50.8	mg/L	1	50.0	< 0.529	102	84.2 - 120	2	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: 126999

QC Batch: 38024 Prep Batch: 32926 Date Analyzed:

2007-06-08 2007-06-08 Analyzed By: ER

QC Preparation:

Prepared By: ER

¹Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.

²Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.

³Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.

⁴Matrix spike recovery out of control limits. Use LCS/LCSD to demonstrate analysis is under control.

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

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

Report Date: June 12, 2007

2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 11 of 15 Chaves Co. NM

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	126	mg/L	5	62.5	54.1581	115	10 - 188

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	125	mg/L	5	62.5	54.1581	113	10 - 188	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: 126999

QC Batch:

38024

Date Analyzed:

2007-06-08

Analyzed By: ER

Prep Batch: 32926

QC Preparation: 2007-06-08

Prepared By: ER

	MS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	$\mathrm{Rec}.$	Limit
Sulfate	193	mg/L	5	62.5	124.44	110	83.1 - 114

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	189	mg/L	5	62.5	124.44	103	83.1 - 114	2	20

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

Standard (CCV-1)

QC Batch: 37771

Date Analyzed: 2007-06-01

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/L	250	262	105	85 - 115	2007-06-01

Standard (CCV-2)

QC Batch: 37771

Date Analyzed: 2007-06-01

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	$_{ m Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/L	250	241	96	85 - 115	2007-06-01

Standard (ICV-1)

QC Batch: 37789

Date Analyzed: 2007-06-04

Analyzed By: AR

Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 12 of 15 Chaves Co. NM

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Dissolved Solids		nıg/L	1000	1034	103	90 - 110	2007-06-04

Standard (CCV-1)

QC Batch: 37789

Date Analyzed: 2007-06-04

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Dissolved Solids		mg/L	1000	1000	100	90 - 110	2007-06-04

Standard (ICV-1)

QC Batch: 37839

Date Analyzed: 2007-06-01

Analyzed By: SM

			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pН		s.u.	7.00	7.10	101	98 - 102	2007-06-01

Standard (CCV-1)

QC Batch: 37839

Date Analyzed: 2007-06-01

Analyzed By: SM

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pН		s.u.	7.00	7.12	102	98 - 102	2007-06-01

Standard (ICV-1)

QC Batch: 37858

Date Analyzed: 2007-06-05

Analyzed By: MT

			ICVs	ICV s	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.100	0.0896	90	85 - 115	2007-06-05
Benzene		mg/L	0.100	0.0900	90	85 - 115	2007-06-05
Toluene		mg/L	0.100	0.0908	91	85 - 115	2007-06-05
Ethylbenzene		mg/L	0.100	0.0930	93	85 - 115	2007-06-05
Xylene		mg/L	0.300	0.286	95	85 - 115	2007-06-05

Standard (CCV-1)

QC Batch: 37858

Date Analyzed: 2007-06-05

Analyzed By: MT

Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.100	0.102	102	85 - 115	2007-06-05
Benzene		mg/L	0.100	0.0951	95	85 - 115	2007-06-05
Toluene		mg/L	0.100	0.0958	96	85 - 115	2007-06-05
Ethylbenzene		m mg/L	0.100	0.0980	98	85 - 115	2007-06-05
Xylene		mg/L	0.300	0.298	99	85 - 115	2007-06-05

Standard (ICV-1)

QC Batch: 37859

Date Analyzed: 2007-06-05

Analyzed By: MT

Page Number: 13 of 15

Chaves Co. NM

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/L	1.00	1.07	107	85 - 115	2007-06-05

Standard (CCV-1)

QC Batch: 37859

Date Analyzed: 2007-06-05

Analyzed By: MT

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/L	1.00	1.12	112	85 - 115	2007-06-05

Standard (ICV-1)

QC Batch: 37942

Date Analyzed: 2007-06-06

Analyzed By: JS

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo3	250	244	98	90 - 110	2007-06-06

Standard (CCV-1)

QC Batch: 37942

Date Analyzed: 2007-06-06

Analyzed By: JS

Analyzed By: TP

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2007-06-06

Standard (ICV-1)

QC Batch: 38016

Date Analyzed: 2007-06-09

Work Order: 7053116	Page Number: 14 of 15
Celero Energy-Rock Queen ESA	Chaves Co. NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	50.0	50.2	100	90 - 110	2007-06-09
Dissolved Potassium		$_{ m mg/L}$	50.0	50.2	100	90 - 110	2007-06-09
Dissolved Magnesium		mg/L	50.0	50.4	101	90 - 110	2007-06-09
Dissolved Sodium		mg/L	50.0	49.8	100	90 - 110	2007-06-09

Standard (CCV-1)

QC Batch: 38016 Date Analyzed: 2007-06-09 Analyzed By: TP

			$rac{ ext{CCVs}}{ ext{True}}$	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	53.1	106	90 - 110	2007-06-09
Dissolved Potassium		mg/L	50.0	52.5	105	90 - 110	2007-06-09
Dissolved Magnesium		mg/L	50.0	52.6	105	90 - 110	2007-06-09
Dissolved Sodium		mg/L	50.0	51.9	104	90 - 110	2007-06-09

Standard (ICV-1)

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER

			ICVs	ICV s	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.5	11.7	94	90 - 110	2007-06-08

Standard (ICV-1)

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	11.5	92	90 - 110	2007-06-08

Standard (CCV-1)

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.5	11.7	94	90 - 110	2007-06-08

Standard (CCV-1)

QC Batch: 38024 Date Analyzed: 2007-06-08 Analyzed By: ER Report Date: June 12, 2007 2972

Work Order: 7053116 Celero Energy-Rock Queen ESA Page Number: 15 of 15 Chaves Co. NM

			CCVs	CCVs	CCVs	Percent	Data
_			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	11.9	95	90 - 110	2007-06-08

WO# 7053116

Ana	lysi	s Re	eq	$u\epsilon$	28	t a	$\overline{\mathbf{nd}}$	Ch	ai	$\overline{\mathbf{n}}$	of	<u> </u>	Cus	tod	y	F	le	co	ro	i								PAG					0	P:			\Box
								~~~~													-				(Cir			YSI. Spe				r od N	io.)				
	HIGI		1 🗸	1	91	N E 0 N. dlan	Big	g S	pri	ng	S	t.	1 A	L Fax					394	6			2000		C P Fe Se				_			de					
CLIENT N	A:	0					SITE	ANA	GER	il.	/				18.83		Pi		ERVA THO	ATTVI DD	E		POD.		8 8				788/06	06/0/06		Chioride			2	eh ed	
PROJECT			PF	OJE	CT	NAME:	och	Q	ve	e~	E	SA			" CONTAINERS	(K/X)					-	ACA!	11 (8016	1 1	7 7	3 8	Voletiles				808	p.H., 1705,	20.	tos)	100	HH	
LAB LD. NUMBER	DATE	TIME	KATRIX	COMP.			SAM	PLE I	IDEN	TIFIC	CATIC	ON .			NUMBER OF	FILTERED (	HCL	HINOS	ace	NONE	0000 to	LETTER ADSO		PAH 8870	RCRA Metals	TCLP Volatil	TCLP Send	BCI	GC.MS Vol.	PCB's 8060/606	Peat. 808/808	BOD, 735, pH.	Germma Sp	Alpha Beta PLM (Arbea	Mago	775	
125990	5-29-01	6:15	_	_		Tract	+1,	7.	B.	#	1 -	- 11	IW (	′	4				X		ľ	X	4												X		
			Ш		$\perp$																		$\perp$				L										
																										$\perp$			$\perp$								Ш
										,																											$\perp \mid$
			Ш																						$\perp$						$oxed{oxed}$						Ш
			Ц				V															$\perp$					L	Ш			$\perp$						Ш
																															$\perp$						
																<u> </u>						$\perp$		$\sqcup$		$\perp$	L		$\downarrow$		ot						Ц
			$\coprod$													L						$\perp$	$\perp$	Ш		_	L			$\perp$	$\perp$			_			Ш
					$\perp$				-															$oxed{oxed}$			Ļ	Ц							-	207	Ш
RELINQUISH						Date:	10:3	50					te !				Tim	10:	10	31 31 5	87	- -		WPLE *	11	20	<u></u>	<u> </u>					late: ime:		:0'	2	
RELINQUISH						Date: Time: Date:							lignet: Renet:	•			Dat Tim	10:				- 	FE	MPLE DEE- ND L	_	-		: (6	role BU UP:	3			BILL.	1/13	NE	- <b>S</b> T	Te
RECEIVING 1			(G	CE		Time:							enotur	•			Thu						Ш	GHLA	OE.	CO	TAC	T P	erso	N:			Re	oults	by:		
ADDRESS: CITY: CONTACT:		£	TATE	ONE	-		ZIP:			TE:				-	ma	<u> </u>																	A	mer Ci Liborii Tan	ood: burge	No.	
	Cool	HEN RECE			Fe		MATRIX:	(F	Vate Soli	<b>&gt;</b>	A-A	ir Sludge	_	D-Solid D-Other			R	RMA	RKS:																	,	

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

El Paso, Texas 79922 Midland Texas 79703

888 • 588 • 3443

915 • 585 • 3443 432 • 689 • 6301 817 • 201 • 5260

806 • 794 • 1296

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

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

E-Mail lab@traceanalysis.com

### Certifications

**WBENC:** 237019

HUB:

Lubbock, Texas 79424

1752439743100-86536

**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

Project Location: Chavez County, NM Project Name: Celero/Tract 1 TB

114-6403129 Project Number:

Report Date: January 7, 2010

Work Order: 9122911

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
218521	MW-1	water	2009-12-29	15:00	2009-12-29
218522	MW-2	water	2009-12-29	15:30	2009-12-29
218523	MW-3	water	2009-12-29	16:00	2009-12-29
218524	MW-4	water	2009-12-29	14:30	2009-12-29

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 april

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

#### Standard Flags

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

#### Case Narrative

Samples for project Celero/Tract 1 TB were received by TraceAnalysis, Inc. on 2009-12-29 and assigned to work order 9122911. Samples for work order 9122911 were received intact without headspace and at a temperature of 2.1 deg. C.

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

		Prep	$\mathbf{Prep}$	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Alkalinity	SM 2320B	56729	2009-12-30 at 12:20	66366	2009-12-30 at 14:20
BTEX	S 8021B	56863	2010-01-06 at 11:00	66515	2010-01-06 at 12:46
Ca, Dissolved	S 6010B	56807	2010-01-05 at 13:18	66490	2010-01-06 at 14:02
Chloride (IC)	E 300.0	56732	2009-12-30 at 11:39	66392	2009-12-30 at 17:04
Chloride (IC)	E 300.0	56733	2009-12-30 at 11:40	66393	2009-12-30 at 20:05
Hardness	S 6010B	56807	2010-01-05 at 13:18	66490	2010-01-06 at 14:02
K, Dissolved	S 6010B	56807	2010-01-05 at 13:18	66490	2010-01-06 at 14:02
Mg, Dissolved	S 6010B	56807	2010-01-05 at 13:18	66490	2010-01-06 at 14:02
Na, Dissolved	S 6010B	56807	2010-01-05 at 13:18	66490	2010-01-06 at 14:02
pН	SM 4500-H+	56717	2009-12-29 at 15:30	66350	2009-12-29 at 15:45
SO4 (IC)	E 300.0	56732	2009-12-30 at 11:39	66392	2009-12-30 at 17:04
SO4 (IC)	E 300.0	56733	2009-12-30 at 11:40	66393	2009-12-30 at 20:05
TDS	SM 2540C	56731	2009-12-30 at 12:35	66452	2010-01-05 at 12:34

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 9122911 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: January 7, 2010 Work Order: 9122911 Page Number: 4 of 25 114-6403129 Celero/Tract 1 TB Chavez County, NM

# **Analytical Report**

Sample: 218521 - MW-1

Laboratory: Midland

Analysis: Alkalinity QC Batch: 66366 Prep Batch: 56729 Analytical Method: SM 2320B Date Analyzed: 2009-12-30 Sample Preparation: 2009-12-30

Prep Method: N/A Analyzed By: AR 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		<4.00	mg/L as CaCo3	1	4.00
Total Alkalinity		< 4.00	mg/L as CaCo3	1	4.00

Sample: 218521 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 66515 Prep Batch: 56863 Analytical Method: S 8021B Date Analyzed: 2010-01-06 Sample Preparation: 2009-01-06

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

		m RL			
Parameter	Flag	Result	Units	Dilution	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)		0.0727	mg/L	1	0.100	73	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0755	mg/L	1	0.100	76	57.1 - 118.8

Sample: 218521 - MW-1

Laboratory: Lubbock

Analysis: Cations QC Batch: 66490 Prep Batch: 56807 Analytical Method: S 6010B
Date Analyzed: 2010-01-06
Sample Preparation: 2010-01-05

Prep Method: S 3005A Analyzed By: RR Prepared By: KV

continued . . .

Report Date: January 7, 2010 Work Order: 9122911 Page Number: 5 of 25
114-6403129 Celero/Tract 1 TB Chavez County, NM

sample 218521 continued ...

RL
Parameter Flag Result Units Dilution RL

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Potassium		2490	m mg/L	10	1.00
Dissolved Magnesium		4370	mg/L	100	1.00
Dissolved Sodium		64600	mg/L	1000	1.00

Laboratory: Midland Analysis: Chloride (IC) Prep Method: N/A Analytical Method: E 300.0 QC Batch: 66392 2009-12-30 Date Analyzed: Analyzed By: ARPrep Batch: 56732 Sample Preparation: 2009-12-30 Prepared By: ARRL

Sample: 218521 - MW-1

Sample: 218521 - MW-1

Parameter	Flag	Result	Units	Dilution	RL
Chloride		164000	${ m mg/L}$	5000	0.500

#### Laboratory: Lubbock Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 66490 Date Analyzed: 2010-01-06 Analyzed By: RRPrep Batch: 56807 Sample Preparation: Prepared By: 2010-01-05 KVRI.

Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		24300	mg eq CaCO3/L	1	0.00

#### Sample: 218521 - MW-1 Laboratory: Midland Analysis: Analytical Method: SM 4500-H+ Prep Method: N/A pН QC Batch: 66350 Date Analyzed: 2009-12-29 Analyzed By: ARPrep Batch: 56717 Sample Preparation: 2009-12-29 Prepared By: ARRLParameter Flag Result Units Dilution RLpH5.27s.u. 0.00

114-6403129	January 7	, 2010		Work Order Celero/Tra		Page Number: 6 Chavez Count	
Sample: 218	521 - MW	V-1					
Laboratory:	Midland						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	N/A
•	66392			Date Analyzed:	2009-12-30	Analyzed By:	AR
Prep Batch:	56732			Sample Preparation:	2009-12-30	Prepared By:	AR
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Sulfate		- 146		2230	mg/L	50	0.500
Sample: 218	521 - MW	V-1					
-	Midland	. –					
	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
•	66452			Date Analyzed:	2010-01-05	Analyzed By:	AR
-	56731			Sample Preparation:	2009-12-30	Prepared By:	AR
Trep Baten.	00701			bampie i reparation.	2003-12-30	r repared by:	7116
_				RL			
Parameter			Flag	Result	Units	Dilution	$\mathrm{RL}$
	. ~						
Total Dissolve	d Solids			244000	mg/L	100	10.0
Sample: 218 Laboratory: Analysis: QC Batch:		V-2		Analytical Method: Date Analyzed: Sample Preparation:	mg/L SM 2320B 2009-12-30 2009-12-30	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Sample: 218 Laboratory: Analysis: QC Batch:	<b>522 - MW</b> Midland Alkalinity 66366	V-2		Analytical Method: Date Analyzed: Sample Preparation:	SM 2320B 2009-12-30	Prep Method: Analyzed By:	N/A AR
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch:	<b>522 - MW</b> Midland Alkalinity 66366	V-2	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL	SM 2320B 2009-12-30 2009-12-30	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch:	<b>522 - MW</b> Midland Alkalinity 66366 56729	V-2	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 2320B 2009-12-30 2009-12-30 Units	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk	<b>522 - MW</b> Midland Alkalinity 66366 56729	V-2	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <1.00	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RL 1.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk Carbonate Alk	522 - MW Midland Alkalinity 66366 56729 calinity	V-2	Flag	Analytical Method: Date Analyzed: Sample Preparation:  RL Result <1.00 <1.00	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3 mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution 1 1	N/A AR AR RL 1.00 1.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk	522 - MW Midland Alkalinity 66366 56729 calinity kalinity kalinity	V-2	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result <1.00	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR 1.00 1.00 4.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk Carbonate Alk Bicarbonate A Total Alkalinit	522 - MW Midland Alkalinity 66366 56729 calinity calinity clkalinity		Flag	Analytical Method: Date Analyzed: Sample Preparation:  RL Result <1.00 <1.00 138	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution 1 1	N/A AR AR RL 1.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk Carbonate Alk Bicarbonate A Total Alkalinit  Sample: 218 Laboratory:	Midland Alkalinity 66366 56729  calinity kalinity ty ty  Midland		Flag	Analytical Method: Date Analyzed: Sample Preparation:  RL Result <1.00 <1.00 138 138	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1	N/A AR AR 1.00 1.00 4.00 4.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Hydroxide Alk Carbonate Alk Bicarbonate A Total Alkalinit  Sample: 218 Laboratory: Analysis:	522 - MW Midland Alkalinity 66366 56729  calinity kalinity ty  522 - MW Midland BTEX		Flag	Analytical Method: Date Analyzed: Sample Preparation:  RL Result <1.00 <1.00 138 138 138  Analytical Method:	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3	Prep Method: Analyzed By: Prepared By:  Dilution  1 1 1 1 1 Prep Method: S	N/A AR AR 1.00 1.00 4.00 4.00
Sample: 218 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter Hydroxide Alk Carbonate Al Bicarbonate A Total Alkalinit  Sample: 218 Laboratory: Analysis: QC Batch:	Midland Alkalinity 66366 56729  calinity kalinity ty ty  Midland		Flag	Analytical Method: Date Analyzed: Sample Preparation:  RL Result <1.00 <1.00 138 138 138  Analytical Method: Date Analyzed:	SM 2320B 2009-12-30 2009-12-30 Units mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3 mg/L as CaCo3	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1	N/A AR AR 1.00 1.00 4.00 4.00 5030B G

114-6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 7 of 25 Chavez County, NM

		m RL			
Parameter	$\operatorname{Flag}$	Result	$\mathbf{Units}$	Dilution	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)		0.0736	mg/L	1	0.100	74	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0724	mg/L	1	0.100	72	57.1 - 118.8

Sample: 218522 - MW-2

Laboratory: Lubbock

Analysis: Cations Analytical Method: S 6010B Prep Method: S 3005A QC Batch: 66490 Date Analyzed: 2010-01-06 Analyzed By: RR Prep Batch: 56807 Sample Preparation: 2010-01-05 Prepared By: KV

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Calcium		1630	mg/L	10	1.00
Dissolved Potassium		18.0	mg/L	1	1.00
Dissolved Magnesium		379	mg/L	1	1.00
Dissolved Sodium		1360	mg/L	10	1.00

Sample: 218522 - MW-2

Laboratory: Midland

Analysis:Chloride (IC)Analytical Method:E 300.0Prep Method:N/AQC Batch:66392Date Analyzed:2009-12-30Analyzed By:ARPrep Batch:56732Sample Preparation:2009-12-30Prepared By:AR

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		5480	mg/L	500	0.500

Sample: 218522 - MW-2

Laboratory: Lubbock

Analysis:HardnessAnalytical Method:S 6010BPrep Method:N/AQC Batch:66490Date Analyzed:2010-01-06Analyzed By:RRPrep Batch:56807Sample Preparation:2010-01-05Prepared By:KV

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 8 of 25 Chavez County, NM

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		5630	mg eq CaCO3/L	1	0.00

Sample: 218522 - MW-2

Laboratory: Midland

Analysis: рH 66350 QC Batch: Prep Batch: 56717 Analytical Method: Date Analyzed:

SM 4500-H+ 2009-12-29 Sample Preparation: 2009-12-29

Prep Method: N/A AR Analyzed By:

Prepared By: AR

RL

Parameter Flag Result Units Dilution RLpΗ 7.30 s.u. 0.00

Sample: 218522 - MW-2

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 66392 Prep Batch: 56732

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2009-12-30 2009-12-30 Prep Method: N/A Analyzed By: ARPrepared By: AR

Dilution

5

RLResult Parameter Flag Sulfate 4.43

Units mg/L RL

0.500

RL

10.0

Sample: 218522 - MW-2

Laboratory:

Midland

Analysis: TDS QC Batch: 66452Prep Batch: 56731

Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C 2010-01-05 2009-12-30 Prep Method: N/A Analyzed By: ARPrepared By: AR

RLParameter Flag Result Units Dilution Total Dissolved Solids 14000 mg/L 20

Sample: 218523 - MW-3

Laboratory: Midland

Analysis: Alkalinity QC Batch: 66366 Prep Batch: 56729

SM 2320B Analytical Method: Date Analyzed: 2009-12-30 Sample Preparation: 2009-12-30

Prep Method: N/A Analyzed By: AR. Prepared By: AR

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 9 of 25 Chavez County, NM

		$\mathrm{RL}$			
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		106	mg/L as CaCo3	1	4.00
Total Alkalinity		106	mg/L as CaCo3	1	4.00

Sample: 218523 - MW-3

Laboratory: Midland

Analysis: **BTEX** QC Batch: 66515 Prep Batch: 56863

Analytical Method: S 8021B Date Analyzed: 2010-01-06 Sample Preparation: 2009-01-06 Prep Method: S 5030B Analyzed By:  $\mathbf{AG}$ Prepared By: AG

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	mg/L	1	0.00100
Xylene		< 0.00100	m mg/L	1	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0874	mg/L	1	0.100	87	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0818	mg/L	1	0.100	82	57.1 - 118.8

Sample: 218523 - MW-3

Laboratory: Lubbock

Analysis: Cations QC Batch: 66490 Prep Batch: 56807

Analytical Method: S 6010B Date Analyzed: 2010-01-06 Sample Preparation: 2010-01-05

Prep Method: S 3005A Analyzed By: RR Prepared By: ΚV

		$\mathrm{RL}$			
Parameter	Flag	Result	Units	Dilution	$\mathrm{RL}$
Dissolved Calcium		2120	mg/L	10	1.00
Dissolved Potassium		146	mg/L	1	1.00
Dissolved Magnesium		804	mg/L	10	1.00
Dissolved Sodium		12000	mg/L	100	1.00

114-0403129	403129 Celero/Tract 1 TB Chavez		Chavez Coun	ty, NM	
Sample: 21	8523 - MW-3				
Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method	l: E 300.0	Prep Method:	N/A
QC Batch:	66393	Date Analyzed:	2009-12-30	Analyzed By:	AR
Prep Batch:	56733	Sample Preparation		Prepared By:	AR
		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		22400	mg/L	500	0.500
Sample: 21	8523 - MW-3				
Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	66490	Date Analyzed:	2010-01-06	Analyzed By:	RR
Prep Batch:	56807	Sample Preparation:	2010-01-05	Prepared By:	KV
		RL			
Parameter	Flag	Result	Units	Dilution	RL
TT 1 /1	IOD)	2000			4: 6
Hardness (by	(ICP)	8600	mg eq CaCO3/L	1	0.00
Sample: 21 Laboratory: Analysis: QC Batch:	8523 - MW-3  Midland pH 66350 56717	Analytical Method: Date Analyzed: Sample Preparation:	mg eq CaCO3/L SM 4500-H+ 2009-12-29 2009-12-29	1 Prep Method: Analyzed By: Prepared By:	N/A AR AR
Sample: 21 Laboratory: Analysis: QC Batch:	8 <b>523 - MW-3</b> Midland pH 66350	Analytical Method: Date Analyzed:	SM 4500-H+ 2009-12-29	Prep Method: Analyzed By:	N/A AR
Sample: 21 Laboratory: Analysis:	8 <b>523 - MW-3</b> Midland pH 66350	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2009-12-29	Prep Method: Analyzed By:	AR
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch:	8 <b>523 - MW-3</b> Midland pH 66350 56717	Analytical Method: Date Analyzed: Sample Preparation: RL	SM 4500-H+ 2009-12-29 2009-12-29	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH	8 <b>523 - MW-3</b> Midland pH 66350 56717	Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 4500-H+ 2009-12-29 2009-12-29 Units	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RL
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 21	8523 - MW-3  Midland pH 66350 56717  Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 4500-H+ 2009-12-29 2009-12-29 Units	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RL
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH  Sample: 21: Laboratory:	8523 - MW-3  Midland pH 66350 56717  Flag  8523 - MW-3  Midland	Analytical Method: Date Analyzed: Sample Preparation: RL Result 6.77	SM 4500-H+ 2009-12-29 2009-12-29 Units s.u.	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RL 0.00
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH  Sample: 21 Laboratory: Analysis:	8523 - MW-3  Midland pH 66350 56717  Flag  8523 - MW-3  Midland SO4 (IC)	Analytical Method: Date Analyzed: Sample Preparation: RL Result 6.77  Analytical Method:	SM 4500-H+ 2009-12-29 2009-12-29  Units s.u.	Prep Method: Analyzed By: Prepared By: Dilution 1	N/A AR AR RL 0.00
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter pH  Sample: 21: Laboratory: Analysis: QC Batch:	8523 - MW-3  Midland pH 66350 56717  Flag  8523 - MW-3  Midland	Analytical Method: Date Analyzed: Sample Preparation: RL Result 6.77	SM 4500-H+ 2009-12-29 2009-12-29  Units s.u.  E 300.0 2009-12-30	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RL 0.00
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH	8523 - MW-3  Midland pH 66350 56717  Flag  8523 - MW-3  Midland SO4 (IC) 66393	Analytical Method: Date Analyzed: Sample Preparation: RL Result 6.77  Analytical Method: Date Analyzed:	SM 4500-H+ 2009-12-29 2009-12-29  Units s.u.  E 300.0 2009-12-30	Prep Method: Analyzed By: Prepared By:  Dilution  1  Prep Method: Analyzed By:	N/A AR AR RL 0.00
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter pH  Sample: 21 Laboratory: Analysis: QC Batch:	8523 - MW-3  Midland pH 66350 56717  Flag  8523 - MW-3  Midland SO4 (IC) 66393	Analytical Method: Date Analyzed: Sample Preparation: RL Result 6.77  Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2009-12-29 2009-12-29  Units s.u.  E 300.0 2009-12-30	Prep Method: Analyzed By: Prepared By:  Dilution  1  Prep Method: Analyzed By:	N/A AR AR RL 0.00

Work Order: 9122911

Page Number: 10 of 25

Report Date: January 7, 2010

Report Date: January 7, 2010 114-6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 11 of 25 Chavez County, NM

#### Sample: 218523 - MW-3

Laboratory: Midland

Analysis: TDS QC Batch: 66452 Prep Batch: 56731 Analytical Method: SM 2540C Date Analyzed: 2010-01-05 Sample Preparation: 2009-12-30

M 2540C Prep Method: N/A 10-01-05 Analyzed By: AR 09-12-30 Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		40700	m mg/L	100	10.0

### Sample: 218524 - MW-4

Laboratory: Midland

Analysis: Alkalinity QC Batch: 66366 Prep Batch: 56729 Analytical Method: SM 2320B Date Analyzed: 2009-12-30 Sample Preparation: 2009-12-30 Prep Method: N/A Analyzed By: AR 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		99.0	mg/L as CaCo3	1	4.00
Total Alkalinity		99.0	mg/L as CaCo3	1	4.00

#### Sample: 218524 - MW-4

Laboratory: Midland

Analysis: BTEX QC Batch: 66515 Prep Batch: 56863 Analytical Method: S 8021B
Date Analyzed: 2010-01-06
Sample Preparation: 2009-01-06

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

		m RL			
Parameter	Flag	Result	Units	Dilution	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
Xvlene		< 0.00100	mg/L	1	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.107	mg/L	1	0.100	107	70.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0997	mg/L	1	0.100	100	57.1 - 118.8

Report Date: January 7, 2010 Work Order: 9122911 Page Number: 12 of 25 114-6403129 Celero/Tract 1 TB Chavez County, NM

Sample: 218524 - MW-4

Laboratory: Lubbock

Analysis: Cations Analytical Method: S 6010B Prep Method: S 3005A QC Batch: 66490 Date Analyzed: 2010-01-06 Analyzed By: RR Prep Batch: 56807 Sample Preparation: 2010-01-05 Prepared By: KV

RLParameter Flag Result Units Dilution RLDissolved Calcium 1660 mg/L 10 1.00 Dissolved Potassium 14.1 mg/L 1 1.00 Dissolved Magnesium 349 10 mg/L 1.00 Dissolved Sodium 1020 mg/L 10 1.00

Sample: 218524 - MW-4

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 66393 Date Analyzed: 2009-12-30 Analyzed By: ARPrep Batch: 56733 Sample Preparation: 2009-12-30 Prepared By: AR

RL

Sample: 218524 - MW-4

Laboratory: Lubbock

Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 66490 Date Analyzed: 2010-01-06 Analyzed By: RR Prep Batch: 56807 Sample Preparation: 2010-01-05 Prepared By: KV

RL

Sample: 218524 - MW-4

Laboratory: Midland

Analysis: pН Analytical Method: SM 4500-H+Prep Method: N/A QC Batch: 66350 Date Analyzed: 2009-12-29 Analyzed By: AR Prep Batch: 56717 Sample Preparation: 2009-12-29 Prepared By: AR

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 13 of 25 Chavez County, NM

		RL		
Parameter	Flag	Result	Units	]

Dilution RL0.00 pН 7.51s.u.

Sample: 218524 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 66393 Prep Batch: 56733

Analytical Method: E 300.0 Date Analyzed: 2009-12-30 Sample Preparation: 2009-12-30

Prep Method: N/AAnalyzed By: ARPrepared By: AR

RLFlag RLParameter Result Dilution Units Sulfate 148 mg/L 5 0.500

Sample: 218524 - MW-4

Laboratory: Midland

TDS Analysis: QC Batch: 66452 Prep Batch: 56731 Analytical Method: SM 2540C Date Analyzed: 2010-01-05 Sample Preparation: 2009-12-30

Prep Method: N/A Analyzed By: ARPrepared By: AR

RL Parameter Flag Result Units Dilution RLTotal Dissolved Solids 9900  $\overline{20}$ 10.0 mg/L

2009-12-30

2009-12-30

Method Blank (1) QC Batch: 66366

QC Batch: 66366 Prep Batch: 56729 Date Analyzed: QC Preparation: Analyzed By: AR Prepared By:

MDL Flag Parameter RLResult Units Hydroxide Alkalinity mg/L as CaCo3 < 1.00 1 Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 Bicarbonate Alkalinity < 4.00mg/L as CaCo3 4 Total Alkalinity < 4.00mg/L as CaCo3 4

Method Blank (1) QC Batch: 66392

QC Batch: 66392 Date Analyzed: 2009-12-30 Analyzed By: AR Prep Batch: 56732 QC Preparation: 2009-12-30 Prepared By: AR Report Date: January 7, 2010 114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 14 of 25 Chavez County, NM

		MDL				
Parameter	Flag	Result	Units		RL	
Chloride		1.37	mg/L		0.5	
Method Blank (1)	QC Batch: 66392					
QC Batch: 66392 Prep Batch: 56732		Date Analyzed: 2009-12-30 QC Preparation: 2009-12-30		Analyzed By: Prepared By:	AR AR	
Parameter	Flag	$egin{array}{c}  ext{MDL} \  ext{Result} \end{array}$	Units		RL	
Sulfate	6	<0.217	mg/L		0.5	
Method Blank (1)	QC Batch: 66393					
QC Batch: 66393 Prep Batch: 56733		Date Analyzed: 2009-12-30 QC Preparation: 2009-12-30		Analyzed By: Prepared By:	AR AR	
<b>D</b>	771	MDL	<b></b>		DI	
Parameter Chloride	Flag	Result 1.06	Units mg/L		RL 0.5	
Method Blank (1)	QC Batch: 66393					
QC Batch: 66393 Prep Batch: 56733		Date Analyzed: 2009-12-30 QC Preparation: 2009-12-30		Analyzed By: Prepared By:	AR AR	
_	_	MDL				
Parameter Sulfate	Flag	Result <0.217	Units mg/L		$\frac{\text{RL}}{0.5}$	
	000	NO DEL	6/ =	, , , , , , , , , , , , , , , , , , , ,	5.5	
Method Blank (1)	QC Batch: 66452					
QC Batch: 66452 Prep Batch: 56731		Date Analyzed: 2010-01-05 QC Preparation: 2009-12-30		Analyzed By: Prepared By:	AR AR	
				continue	ed	

Report Date: January 7, 114-6403129	2010		ler: 9122911 Tract 1 TB	Р	Page Number: 15 of 25 Chavez County, NM		
method blank continued .							
Parameter	Fla	ıg	MDL Result	Units		RL	
			MDL				
Parameter	Fla	ıg	Result	Units		RL	
Total Dissolved Solids			<9.75	mg/L		10	
Method Blank (1)	QC Batch: 66490						
QC Batch: 66490		Date Analyzed:	2010-01-06		Analyzed By:	RR	
Prep Batch: 56807		QC Preparation:	2010-01-05		Prepared By:	KV	
Trop Bussin Good		<b>Q</b> o i roparacion.	2010 01 00		rioparoa 2j.	,	
D 4	DI		MDL	***		DI	
Parameter Dissolved Calcium	Flag	5	Result	Units		RL	
Dissolved Potassium			<0.117	mg/L mg/L		1 1	
Dissolved Magnesium			<0.172	mg/L		1	
Dissolved Magnesium Dissolved Sodium			< 0.100	mg/L		1	
<u>Janonico Scarani</u>							
Method Blank (1)	QC Batch: 66515						
QC Batch: 66515		Date Analyzed:	2010-01-06		Analyzed By:	AG	
Prep Batch: 56863		QC Preparation:	2010-01-06		Prepared By:		
			MDL				
Parameter	Flag	1	Result	Units		RL	
Benzene		< 0.0	00300	mg/L		0.001	
Toluene		< 0.0	00200	mg/L		0.001	
Ethylbenzene			00200	mg/L		0.001	
Xylene		<0.0	00900	mg/L		0.001	

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.110	mg/L	1	0.100	110	73.6 - 126.6
4-Bromofluorobenzene (4-BFB)		0.100	mg/L	1	0.100	100	70.6 - 117.5

Duplicates (1) Duplicated Sample: 218524

QC Batch: Date Analyzed: Analyzed By: AR 663502009-12-29 Prep Batch: 56717 QC Preparation: 2009-12-29 Prepared By: AR

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 16 of 25 Chavez County, NM

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	7.50	7.51	s.u.	1	0	1.5

Duplicates (1) Duplicated Sample: 218524

QC Batch: Prep Batch:

66366 56729 Date Analyzed: QC Preparation:

2009-12-30 2009-12-30 Analyzed By: AR

Prepared By:

Param	Duplicate Result	Sample Result	${ m Units}$	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	< 1.00	< 1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	107	99.0	mg/L as CaCo3	1	8	20
Total Alkalinity	107	99.0	mg/L as CaCo3	1	8	20

Duplicates (1) Duplicated Sample: 218524

QC Batch:

66452 Prep Batch: 56731

Date Analyzed: QC Preparation:

2010-01-05 2009-12-30 Analyzed By: AR

Prepared By: AR

Duplicate Sample **RPD** Param Result Result Units Dilution RPD Limit Total Dissolved Solids 9580 9900 20 3 mg/L 10

Laboratory Control Spike (LCS-1)

QC Batch:

66392 Prep Batch: 56732 Date Analyzed: QC Preparation:

2009-12-30 2009-12-30

Analyzed By: AR Prepared By: AR

LCSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 24.6 98 mg/L 25.0 < 0.475 90 - 110

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

	LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	24.7	mg/L	1	25.0	< 0.475	99	90 - 110	0	

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

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 17 of 25 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

66392

Date Analyzed:

2009-12-30

Analyzed By: AR Prepared By: AR

Prep Batch: 56732

QC Preparation: 2009-12-30

	LCS			Spike	Matrix		$\operatorname{Rec}$ .
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	23.9	mg/L	1	25.0	< 0.217	96	90 - 110

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

	LCSD			Spike	Matrix		${ m Rec.}$		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	23.7	mg/L	1	25.0	< 0.217	95	90 - 110	1	

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:

66393

Date Analyzed:

2009-12-30

Analyzed By: AR Prepared By: AR

Prep Batch: 56733

QC Preparation: 2009-12-30

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	25.6	mg/L	1	25.0	< 0.475	102	90 - 110

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	Limit
Chloride	25.5	mg/L	1	25.0	< 0.475	102	90 - 110	0	

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: 56733

66393

Date Analyzed:

2009-12-30 QC Preparation: 2009-12-30

Analyzed By: AR Prepared By: AR

LCS Spike Matrix Rec. Result Dil. Result Limit Param Units Amount Rec. < 0.21795 90 - 110 Sulfate 23.8 mg/L 25.0

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

	LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	23.9	mg/L	1	25.0	< 0.217	96	90 - 110	0	

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

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 18 of 25 Chavez County, NM

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

QC Batch:

66452 Prep Batch: 56731

Date Analyzed:

2010-01-05 QC Preparation: 2009-12-30 Analyzed By: AR

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1000	mg/L	1	1000	< 9.75	100	90 - 110

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	Limit
Total Dissolved Solids	973	mg/L	1	1000	< 9.75	97	90 - 110	3	10

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: 56807

66490

Date Analyzed: QC Preparation:

2010-01-06 2010-01-05

Analyzed By: RR

Prepared By: KV

Param	$\begin{array}{c}  ext{LCS} \\  ext{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	49.1	mg/L	1	50.0	< 0.117	98	85 - 115
Dissolved Potassium	46.1	mg/L	1	50.0	< 0.172	92	85 - 115
Dissolved Magnesium	47.9	mg/L	1	50.0	< 0.160	96	85 - 115
Dissolved Sodium	46.9	mg/L	1	50.0	< 0.0500	94	85 - 115

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	Limit
Dissolved Calcium	49.1	mg/L	1	50.0	< 0.117	98	85 - 115	0	20
Dissolved Potassium	46.5	mg/L	1	50.0	< 0.172	93	85 - 115	1	20
Dissolved Magnesium	47.9	mg/L	1	50.0	< 0.160	96	85 - 115	0	20
Dissolved Sodium	48.1	mg/L	1	50.0	< 0.0500	96	85 - 115	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:

66515 Prep Batch: 56863 Date Analyzed:

2010-01-06 QC Preparation: 2010-01-06 Analyzed By: AG Prepared By: AG

continued ...

Work Order: 9122911

114-6403129

Celero/Tract 1 TB

Page Number: 19 of 25 Chavez County, NM

control spikes continued	
--------------------------	--

	LCS			$\mathbf{Spike}$	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
	LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.102	mg/L	1	0.100	< 0.000300	102	79.4 - 111.8
Toluene	0.103	mg/L	1	0.100	< 0.000200	103	79.3 - 110
Ethylbenzene	0.101	mg/L	1	0.100	< 0.000200	101	73.8 - 113.1
Xylene	0.307	mg/L	1	0.300	< 0.000900	102	73.9 - 113.6

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

	LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.0978	mg/L	1	0.100	< 0.000300	98	79.4 - 111.8	4	20
Toluene	0.0980	mg/L	1	0.100	< 0.000200	98	79.3 - 110	5	20
Ethylbenzene	0.0965	mg/L	1	0.100	< 0.000200	96	73.8 - 113.1	5	20
Xylene	0.292	mg/L	1	0.300	< 0.000900	97	73.9 - 113.6	5	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.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.0867	0.103	mg/L	1	0.100	87	103	76.2 - 129.6
4-Bromofluorobenzene (4-BFB)	0.0872	0.104	mg/L	1	0.100	87	104	77.9 - 119.8

Matrix Spike (MS-1)

Spiked Sample: 218522

QC Batch: Prep Batch: 56732 Date Analyzed: QC Preparation: 2009-12-30

2009-12-30

Analyzed By: AR Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	$_{ m Units}$	Dil.	Amount	Result	Rec.	Limit
Chloride	1	8340	mg/L	50	1380	5910	177	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		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	2	8350	mg/L	50	1380	5910	177	90 - 110	0	

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

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

²MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

114-6403129

Work Order: 9122911 Celero/Tract 1 TB

Page Number: 20 of 25 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 218522

QC Batch: Prep Batch:

66392 56732 Date Analyzed: QC Preparation:

Units

mg/L

2009-12-30

2009-12-30

Analyzed By: AR

Prepared By: AR

MS Result 1350

Spike Dil. Amount 50 1380

Matrix Result <10.8

Rec. Limit 90 - 110

Sulfate

Param

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

Param
Sulfato

MSD Result 1330

Spike Units Dil. Amount mg/L 1380

Matrix Result Rec. <10.8

Rec. RPD Limit 90 - 110

Rec.

98

RPD Limit

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

Matrix Spike (MS-1)

Spiked Sample: 218524

QC Batch:

66393

Date Analyzed:

2009-12-30

Analyzed By: AR

Prep Batch:

56733

2009-12-30 QC Preparation:

Prepared By: AR

Param

MS Result Units 8100 mg/L

Spike Matrix Amount Result

Matrix

Result

6445

Spike

Amount

1380

Rec.

120

Chloride

50 1380 6445 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Dil.

		MSD
Param		Result
Chloride	4	8080

Spike Units Dil. Amount 50 1380 mg/L

Rec. Rec. Limit 119 90 - 110

Matrix

Result

148

**RPD** RPD Limit

Rec.

Limit

90 - 110

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

Matrix Spike (MS-1)

Spiked Sample: 218524

QC Batch:

66393

Date Analyzed:

2009-12-30

Analyzed By: AR

0

Prep Batch: 56733

QC Preparation:

2009-12-30

Prepared By: AR

Param

MS Result

Dil.

50

Rec.

92

Rec.

Limit

90 - 110

Sulfate

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

1410

Units

mg/L

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

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

114 - 6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 21 of 25 Chavez County, NM

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	1400	mg/L	50	1380	148	91	90 - 110	1	

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

Matrix Spike (MS-1) Spiked Sample: 218384

QC Batch: 66490 Prep Batch: 56807 Date Analyzed: 2010-01-06 QC Preparation: 2010-01-05 Analyzed By: RR Prepared By: KV

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	167	mg/L	1	50.0	121	92	75 - 125
Dissolved Potassium	50.6	mg/L	1	50.0	3.36	94	75 - 125
Dissolved Magnesium	59.9	$_{ m mg/L}$	1	50.0	12.7	94	75 - 125
Dissolved Sodium	92.8	mg/L	1	50.0	45.5	95	75 - 125

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Calcium	171	mg/L	1	50.0	121	100	75 - 125	2	20
Dissolved Potassium	51.4	mg/L	1	50.0	3.36	96	75 - 125	2	20
Dissolved Magnesium	60.9	mg/L	1	50.0	12.7	96	75 - 125	2	20
Dissolved Sodium	94.7	mg/L	1	50.0	45.5	98	75 - 125	2	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: 218565

QC Batch: 66515 Prep Batch: 56863 Date Analyzed: 2010-01-06 QC Preparation: 2010-01-06

Analyzed By: AG Prepared By: AG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.102	mg/L	1	0.100	< 0.000300	102	77.3 - 117.4
Toluene	0.101	mg/L	1	0.100	< 0.000200	101	75 - 111.8
Ethylbenzene	0.101	mg/L	1	0.100	< 0.000200	101	78.8 - 106.6
Xylene	0.303	mg/L	11	0.300	< 0.000900	101	68.9 - 114

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.104	mg/L	1	0.100	< 0.000300	104	77.3 - 117.4	2	20
Toluene	0.104	mg/L	1	0.100	< 0.000200	104	75 - 111.8	3	20
Ethylbenzene	0.103	mg/L	1	0.100	< 0.000200	103	78.8 - 106.6	<b>2</b>	20

continued ...

Report Date: January 7, 2010 114-6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 22 of 25 Chavez County, NM

matrix spikes continued		
-------------------------	--	--

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	$\mathbf{Units}$	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Xylene	0.310	mg/L	1	0.300	< 0.000900	103	68.9 - 114	2	20

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

	MS	MSD			Spike	MS	MSD	$\mathrm{Rec.}$
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.102	0.0869	mg/L	1	0.1	102	87	76.3 - 129.8
4-Bromofluorobenzene (4-BFB)	0.105	0.0899	mg/L	1	0.1	105	90	75.2 - 112.8

# Standard (ICV-1)

QC Batch: 66350

Date Analyzed: 2009-12-29

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2009-12-29

# Standard (CCV-1)

QC Batch: 66350

Date Analyzed: 2009-12-29

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			$\mathbf{True}$	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	6.87	98	98 - 102	2009-12-29

# Standard (ICV-1)

QC Batch: 66366

Date Analyzed: 2009-12-30

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			$\mathbf{True}$	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2009-12-30
Carbonate Alkalinity		mg/L as CaCo3	0.00	238		0 - 200	2009-12-30
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	19.0		0 - 200	2009-12-30
Total Alkalinity		mg/L as CaCo3	250	257	103	90 - 110	2009-12-30

# Standard (CCV-1)

QC Batch: 66366

Date Analyzed: 2009-12-30

Analyzed By: AR

Report Date: January 7, 2010 114-6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 23 of 25 Chavez County, NM

			$rac{ ext{CCVs}}{ ext{True}}$	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2009-12-30
Carbonate Alkalinity		mg/L as CaCo3	0.00	180		0 - 200	2009-12-30
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	73.0		0 - 200	2009-12-30
Total Alkalinity		mg/L as CaCo3	250	253	101	90 - 110	2009-12-30

# Standard (ICV-1)

QC Batch: 66392

Date Analyzed: 2009-12-30

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.6	94	90 - 110	2009-12-30

# Standard (ICV-1)

QC Batch: 66392

Date Analyzed: 2009-12-30

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.1	96	90 - 110	2009-12-30

# Standard (CCV-1)

QC Batch: 66392

Date Analyzed: 2009-12-30

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.2	97	90 - 110	2009-12-30

# Standard (CCV-1)

QC Batch: 66392

Date Analyzed: 2009-12-30

Analyzed By: AR

			CCVs	$\operatorname{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.4	98	90 - 110	2009-12-30

Work Order: 9122911 Page Number: 24 of 25 Report Date: January 7, 2010 Celero/Tract 1 TB Chavez County, NM 114-6403129 Standard (ICV-1) Analyzed By: AR QC Batch: 66393 Date Analyzed: 2009-12-30 **ICVs ICVs ICVs** Percent True Found Percent Recovery Date Flag Analyzed Param Units Conc. Conc. Recovery Limits 24.290 - 110 2009-12-30 mg/L 25.0 97 Chloride Standard (ICV-1) QC Batch: 66393 Date Analyzed: 2009-12-30 Analyzed By: AR **ICVs ICVs ICVs** Percent True Found Percent Recovery Date Units Limits Analyzed Param Flag Conc. Conc. Recovery 90 - 110 2009-12-30 Sulfate mg/L 25.0 24.4 98 Standard (CCV-1) QC Batch: 66393 Date Analyzed: 2009-12-30 Analyzed By: AR **CCVs** CCVsCCVs Percent True Found Percent Recovery Date Analyzed Param Flag Units Conc. Conc. Recovery Limits 2009-12-30 Chloride mg/L 25.0 24.297 90 - 110 Standard (CCV-1) QC Batch: 66393 Date Analyzed: 2009-12-30 Analyzed By: AR **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Limits Analyzed Param Flag Units Conc. Conc. Recovery 25.0 97 90 - 110 2009-12-30 Sulfate mg/L 24.2 Standard (ICV-1)

	771	<b>T</b> T 1.	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	53.0	106	90 - 110	2010-01-06
Dissolved Potassium		${ m mg/L}$	50.0	49.6	99	90 - 110	2010-01-06
							agentimesad

Date Analyzed: 2010-01-06

QC Batch: 66490

 $continued \dots$ 

Analyzed By: RR

Report Date: January 7, 2010 114-6403129

Work Order: 9122911 Celero/Tract 1 TB Page Number: 25 of 25 Chavez County, NM

standard	continued		

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Magnesium		mg/L	50.0	52.9	106	90 - 110	2010-01-06
Dissolved Sodium		mg/L	50.0	50.2	100	90 - 110	2010-01-06

# Standard (CCV-1)

QC Batch: 66490

Date Analyzed: 2010-01-06

Analyzed By: RR

			$rac{ ext{CCVs}}{ ext{True}}$	$\operatorname{CCVs}$ Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	52.3	105	90 - 110	2010-01-06
Dissolved Potassium		mg/L	50.0	49.4	99	90 - 110	2010-01-06
Dissolved Magnesium		mg/L	50.0	52.3	105	90 - 110	2010-01-06
Dissolved Sodium		mg/L	50.0	51.2	102	90 - 110	2010-01-06

# Standard (CCV-1)

QC Batch: 66515

Date Analyzed: 2010-01-06

Analyzed By: AG

			$\mathbf{CCVs}$	CCVs	CCVs	Percent	
			$\mathbf{True}$	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0995	100	80 - 120	2010-01-06
Toluene		mg/L	0.100	0.0993	99	80 - 120	2010-01-06
Ethylbenzene		mg/L	0.100	0.0967	97	80 - 120	2010-01-06
Xylene		mg/L	0.300	0.293	98	80 - 120	2010-01-06

# Standard (CCV-2)

QC Batch: 66515

Date Analyzed: 2010-01-06

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.100	100	80 - 120	2010-01-06
Toluene		mg/L	0.100	0.100	100	80 - 120	2010-01-06
Ethylbenzene		mg/L	0.100	0.0975	98	80 - 120	2010-01-06
Xylene		mg/L	0.300	0.295	98	80 - 120	2010-01-06

Order #: 9122911

An	alvs	sis F	<u></u> {e	a	u	est of Cha	in of Cust	odv	R	6	CC	r	4									PA	GE:		1		OF	:	[	
			7	7		7													(6		ANA! le or						)			
			ľ		<b>F</b>	1910 N. Big S Midland, Texa (432) 682-4559	pring St.								ı	5 (Ext. to C35)	Cr Pb Hg	d Vr Pd Hg Se										Sol		
CLIENT NAM	Me de la constantia					SITE MANAGER	Kindley		EEE	T		SER	VATIV	/E		TX1005	Ba Cd	1 20			30/624	8270/625								
PROJECT N	O.:		PR		ECT	NAME:			CONTAIN	2	Τ	Ī				8015 MOD.	s Ag As	A Ag As	Se	olatiles	240/826	Vol. 82	808		,	£i.)	(SO	Cation		
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	Chara Z CO SAMPLE	E IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	HN03	ICE	NONE	Á	~ 1	TPH 8015	RCRA Metals Ag As E	TCLP Metals Ag As	TCLP Volatiles	TCLP Semi Volatiles	GC.MS Vol. 8240/8260/624	GC.MS Semi	PCB's 8080/	Pest. 808/60	Gamma Spec.	Alpha Beta (	PLM (Asbestos)	Major Anions		
218521	17/28	1526	CHI		Х	ا در) إنخ		Y	1	رار	4	×			X									- 1	X		1	X		
522		13 AU				pq 20 - 7					- T- 1-12													Í						
523		1600			>	الأ المهاجع						$\mathbb{I}$			1										$\setminus$					
5214	*	14170	<b>6</b> %		×	ુબા રૂપી જ 60			P	9 0	6				V							L		×	V	$\perp$		₹	$\downarrow \downarrow$	
									$\downarrow$	1	_		_				_	$\perp$			_	$\perp$			_	L		1	$\coprod$	$\perp$
			$\perp$	_					$\downarrow$	1	_	1	_				$\downarrow$	$\perp$			$\perp$	_			1	-		_	$\downarrow \downarrow$	1
									1	$\downarrow$	_	1	_				1	$\perp$			_	1			1	_		4	$\downarrow \downarrow$	$\perp$
									_	$\perp$	_	_	1				$\perp$	$oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{ol}}}}}}}}}}}}}}$			_	$\downarrow$			4	_		_	$\downarrow \downarrow$	_
		1							4	$\downarrow$	_	1					$\perp$	1			_	$\downarrow$	-		1	1	$\perp$	$\perp$	$\perp \downarrow$	_
RELINQUISHED	BY: (Signatu	ure)		_		Date: 12/34/01	RECEIVED 57: (Signa) (re)			$\perp$	Date	, 1,	12	910	9		SAME	PLED	BY: (	Print 6	& Initis	al),	Ĺ		$\perp$	1	Date:	1		
MELINGUISHE	BY: (Signatu	CKIL	4	1		Date: 12/201	RECEIVED BY: (Signature)				Time Date Time	9;	12.	٥٥			SAMF	PLE S	HIPP	ED B	y: (Cin B	cle) US	7			AIR	BILL			
BELINOWISHE	BY: (Signatu	ıre)				Date: Time:	RECEIVED BY: (Signature)				Date	e:									CT PE		N:			OTI	HER:	ults by	/ <del>.</del>	
RECEIVING LAI ADDRESS: CITY:		STATE		77.	HON	ZIP:	RECEIVED BY: (Signature)		TIM	IE:						- ]		J.	11	ļ	Liv	<i>}},</i>	Y				Aut	H Chi horize Yes	d:	No
SAMPLE COND	whach	•				REMARKS:  Ni Al O M  Laboratory retains Yellow	d-Btex,U	Noid	٩	1	- Pri	On	S	D}-	rei	Tains	S	k co	<u>g</u>			ntin	( -	Ceiv	at es c	)O(	i S	ho	rdn	res:

# **Cation-Anion Balance Sheet**

DATE:	1/7/2010											
Sample #	Calcium	Magnesium	Sodium	Potassium	Alkalinity	Sulfate	Chloride	Nitrate	Fluoride	Bromide	TDS	EC
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	μMHOs/cm
218521	2520	4370	64600	2490	0	2230	164000				244000	
218522	1630	379	1360	18	138	4.43	5480				14000	
218523	2120	804	12000	146	106	661	22400				40700	
218524	1660	349	1020	14.1	99	148	5070				9900	

Sample #	Calcium	Magnesium	Sodium	Potassium	Alkalinity	Sulfate	Chloride	Nitrate	Fluoride	Bromide	Cations	Anions
	in meg/L	in meq/L	in meq/L	in meq/L	in meq/L	in meg/L	in meq/L					
218521	125.75	359.61	2810.10	63.69	0.00	46.43	4626.44	0	0	0	3359.15	4672.87
218522	81.34	31.19	59.16	0.46	2.76	0.09	154.59	0	0	0	172.15	157.44
218523	105.79	66.16	522.00	3.73	2.12	13.76	631.90	0	0	0	697.68	647.79
218524	82.83	28.72	44.37	0.36	1.98	3.08	143.02	0	0	0	156.28	148.09

	Percentage
	Error
Г	32.7120552
Г	8.92162356
Г	7.41715908
Γ	5.38675257

	EC/Cation	EC/Anion			
218521	335914.95	467286.86	range	0	to
218522	17214.535	15744.3033	range	0	to
218523	69768.384	64778.602	range	0	to
218524	15628.3888	14808.606	range	0	to

TDS/EC	TDS/Cat	TDS/Anion	
#DIV/Q!	0.73	0.52	needs to be 0.55-0.77
#DIV/0!	0.81	0.89	needs to be 0.55-0.77
#DIV/0!	0.58	0.63	needs to be 0.55-0.77
#DIV/0!	0.63	0.67	needs to be 0.55-0.77



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

800 • 378 • 1296 888 • 588 • 3443

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

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

817 • 201 • 5260

FAX 432 • 689 • 6313

E-Mail lab@traceanalysis.com

# Certifications

**WBENC:** 237019

HUB:

1752439743100-86536

**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: July 27, 2010

Work Order:

10071408

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen #1 TB

Project Number:

115-6403129

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

			Date	${f Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
237445	MW-1	water	2010-07-13	14:05	2010-07-14
237446	MW-2	water	2010-07-13	14:10	2010 - 07 - 14
237447	MW-3	water	2010-07-13	14:00	2010-07-14
237448	MW-4	water	2010-07-13	14:15	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 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

# Standard Flags

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

# Case Narrative

Samples for project Celero/Rock Queen #1 TB were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071408. Samples for work order 10071408 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)	$\to 300.0$	61481	2010-07-15 at 09:53	71928	2010-07-15 at 18:26
SO4 (IC)	E 300.0	61481	2010-07-15 at 09:53	71928	2010-07-15 at 18:26
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 10071408 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: July 27, 2010 Work Order: 10071408 Page Number: 4 of 14 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

# **Analytical Report**

Sample: 237445 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 71724 Prep Batch: 61451

Analytical Method: S 8021B Date Analyzed: 2010-07-14 Sample Preparation: 2010-07-14

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RL

		1011			
Parameter	Flag	Result	Units	Dilution	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	${f Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	1	0.0651	mg/L	1	0.100	65	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0549	mg/L	1	0.100	55	51.1 - 128

Sample: 237445 - MW-1

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 71928Prep Batch: 61481

Analytical Method: E 300.0 Date Analyzed: 2010-07-15 Sample Preparation: 2010-07-15

Prep Method: N/A Analyzed By: AR Prepared By: AR

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		49900	mg/L	5000	2.50

Sample: 237445 - MW-1

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 71928 Prep Batch: 61481

Analytical Method: E 300.0 Date Analyzed: 2010-07-15 Sample Preparation: 2010-07-15

Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Parameter	Flag	Result	$\mathbf{Units}$	Dilution	RL
Sulfate		1720	mg/L	50	2.50

¹SPECIAL-TFT is out of control limits due to an unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

Report Date: July 27, 2010 115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 5 of 14 Chavez County, NM

Sample: 237445 - MW-1

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C QC Batch: 72039 Date Analyzed: 2010-07-26 Prep Batch: 61516 Sample Preparation: 2010-07-16 Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Sample: 237446 - MW-2

Laboratory: Midland

Prep Method: S 5030B S 8021B Analysis: **BTEX** Analytical Method: Analyzed By:  $\mathbf{AG}$ QC Batch: 71724 Date Analyzed: 2010-07-14 Prepared By: AG Prep Batch: 61451 Sample Preparation: 2010-07-14

RLRLParameter Flag Result Units Dilution 0.00100 Benzene < 0.00100 mg/L 1 0.00100Toluene < 0.00100 mg/L 1 1 0.00100Ethylbenzene < 0.00100 mg/L 0.00100 Xylene < 0.00100 mg/L 1

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.109	mg/L	1	0.100	109	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0885	m mg/L	1	0.100	88	51.1 - 128

Sample: 237446 - MW-2

Laboratory: Midland

Analytical Method: Analysis: Chloride (IC) E 300.0 Prep Method: N/A QC Batch: 71928 Date Analyzed: 2010-07-15 Analyzed By: ARPrepared By: AR Prep Batch: 61481 Sample Preparation: 2010-07-15

 Report Date: July 27, 2010 115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 6 of 14 Chavez County, NM

Sample: 237446 - MW-2

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 71928 Prep Batch: 61481

Analytical Method: Date Analyzed:

E 300.0 2010-07-15 Sample Preparation: 2010-07-15 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Dilution Result RLParameter Units Flag Sulfate 47.8 mg/L 2.50

Sample: 237446 - MW-2

Laboratory: Midland

Analysis: TDS QC Batch: 72039 Prep Batch: 61516

Analytical Method: SM 2540C Date Analyzed: 2010-07-26 Sample Preparation: 2010-07-16 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Flag Parameter Result Units Dilution RL14100 Total Dissolved Solids 100 10.0 mg/L

Sample: 237447 - MW-3

Laboratory: Midland

Analysis: **BTEX** QC Batch: 71724 Prep Batch: 61451

Analytical Method: S 8021B Date Analyzed: 2010-07-14 Sample Preparation: 2010-07-14

Prep Method: S 5030B Analyzed By: AG

AG

Prepared By:

RL

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	m 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)		0.0852	mg/L	1	0.100	85	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0750	$_{ m mg/L}$	1	0.100	75	51.1 - 128

Report Date	Report Date: July 27, 2010 Work Order: 1007140 15-6403129 Celero/Rock Queen #1					•			
Sample: 23	7447 - MW-	3							
Laboratory:	Midland								
Analysis:	Chloride (IC	)		Analytical Metho	d: E 300.0	Prep Method	i: N/A		
QC Batch:	71928	,		Date Analyzed:	2010-07-15	Analyzed By			
Prep Batch:	61481			Sample Preparati	on: 2010-07-15	Prepared By	: AR		
				RL					
Parameter		Flag		Result	Units	Dilution	RL		
Chloride				133000	mg/L	5000	2.50		
Sample: 23	7447 - MW-	3							
Laboratory:	Midland								
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method	i: N/A		
QC Batch:	71928			Date Analyzed:	2010-07-15	Analyzed By			
Prep Batch:	61481			Sample Preparation		Prepared By			
•									
ъ.				RL					
Parameter Sulfate		Flag		Result 1970	Units mg/L	Dilution 50	$\frac{\mathrm{RL}}{2.50}$		
Sample: 23	7447 - MW-	3							
_	Midland	•							
Laboratory:	TDS			A = 1 4 ! 1 N.S = 4 ! 4 .	GM OF 40C	Down Mathe	1. NT / A		
Analysis: QC Batch:	72039			Analytical Method:	SM 2540C	Prep Method	•		
Prep Batch:	61516			Date Analyzed: Sample Preparation:	2010-07-26 2010-07-16	Analyzed By Prepared By			
Trep Daten.	01010			Sample I Teparation.	2010-07-10	1 repared by	. AIL		
ъ.			<b>.</b>	RL	**	Total vi	D.		
Parameter District	- 1 C-1: 1-		Flag	Result	Units	Dilution	RL		
Total Dissolv	ed Solids			237000	mg/L	100	10.0		
Sample: 23	7448 - MW-	4							
Laboratory:	Midland								
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method:	S 5030B		
QC Batch:	71724			Date Analyzed:	2010-07-14	Analyzed By:	$\mathbf{AG}$		
Prep Batch:	61451			Sample Preparation:	2010-07-14	Prepared By:	AG		
				RL					
Parameter		Flag		Result	Units	Dilution	RL		
Benzene				< 0.00100	mg/L	1	0.00100		
Toluene				< 0.00100	mg/L	1	0.00100		
						continued			

Report Date: July 27, 2010 115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 8 of 14 Chavez County, NM

sample 237448 continued ...

			RI	,				
Parameter	Flag		Result	t	Units	Dil	ution	RL
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)			0.113	mg/L	1	0.100	113	67.8 - 126
4-Bromofluorobenzene (4-BF	$^{\circ}\mathrm{B})$		0.0908	mg/L	1	0.100	91	51.1 - 128

#### Sample: 237448 - MW-4

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 71928 Prep Batch: 61481 Analytical Method: E 300.0
Date Analyzed: 2010-07-15
Sample Preparation: 2010-07-15

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

#### Sample: 237448 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 71928 Prep Batch: 61481 Analytical Method: E 300.0 Date Analyzed: 2010-07-15 Sample Preparation: 2010-07-15

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

### Sample: 237448 - MW-4

Laboratory: Midland

Analysis: TDS QC Batch: 72039 Prep Batch: 61516 Analytical Method: SM 2540C Date Analyzed: 2010-07-26 Sample Preparation: 2010-07-16

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Report Date: July 27, 115-6403129	2010	Work Order: 10071408 Celero/Rock Queen #1 TB					Page Number: 9 of 1 Chavez County, NM		
Method Blank (1)	QC Batch: 71724								
QC Batch: 71724		Date Analys		2010-07-14				AG	
Prep Batch: 61451		QC Prepara	ation:	2010-07-14		Prepare	ed By:	AG	
				MDL					
Parameter	Flag			tesult	Unit	S		RL	
Benzene				00600	mg/I		Analyzed By: Prepared By: ercent Recovery Li 97 70.2		
Toluene			< 0.00		mg/I			0.001 $0.001$	
Ethylbenzene		<0.000800 <0.000767			mg/I	g/L   g/L   g/L   g/L   g/L   g/L   g/L   g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/L     g/			
Xylene			<0.00	00767	mg/I			0.001	
					Spike	Percent		overy	
Surrogate	Flag	Result	Units		Amount			mits	
Trifluorotoluene (TFT)		0.0973	mg/L		0.100			- 118	
4-Bromofluorobenzene	(4-BFB)	0.0848	mg/L	1	0.100	85	47.3	- 116	
Method Blank (1)	QC Batch: 71928								
QC Batch: 71928	<b>4</b> 5	Date Analy	nod.	2010-07-15		Analua	od Dw	ΑD	
Prep Batch: 61481		QC Prepara		2010-07-15				AR AR	
Trep Batch. 01401		QC 1 Tepare				Trepare	cu by.	AIL	
Parameter	Flag		MI Resi		Units			RL	
Chloride	- 100		0.4		mg/I			2.5	
Method Blank (1)	QC Batch: 71928								
QC Batch: 71928		Date Analy:	zed:	2010-07-15		Analyz	ed By:	AR	
Prep Batch: 61481		QC Prepara	tion:	2010-07-15		Prepare	ed By:	AR	
			M	DL					
Parameter	Flag		Res		Units			RL	
Sulfate			< 0.1	177	mg/I			2.5	
Method Blank (1)	QC Batch: 72039								
` '	QC Daten. 72039			2010 05					
QC Batch: 72039		Date Analys		2010-07-26				AR	
Prep Batch: 61516		QC Prepara	tion:	2010-07-15		Prepare	ed By:	AR	
_				MDL					
Parameter	Fla	ag		Result		nits		RL	
Total Dissolved Solids				10.0	m	g/L		10	

Report Date: July 27, 2010 115-6403129 Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 10 of 14 Chavez County, NM

**Duplicates (2)** Duplicated Sample: 237468

QC Batch: 72039 Prep Batch: 61516 Date Analyzed: 2010-07-26 QC Preparation: 2010-07-15 Analyzed By: AR Prepared By: AR

	Duplicate	Sample				RPD
Param	Result	$\mathbf{Result}$	Units	Dilution	RPD	Limit
Total Dissolved Solids	109000	5910	mg/L	100	7	10
Total Dissolved Solids	109000	102000	mg/L	100	7	10

# Laboratory Control Spike (LCS-1)

QC Batch: 71724 Prep Batch: 61451 Date Analyzed: 2010-07-14 QC Preparation: 2010-07-14 Analyzed By: AG Prepared By: AG

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.100	mg/L	1	0.100	< 0.000600	100	82.9 - 108
Toluene	0.0992	mg/L	1	0.100	< 0.000600	99	82.7 - 107
Ethylbenzene	0.0949	mg/L	1	0.100	< 0.000800	95	78.8 - 106
Xylene	0.287	mg/L	1	0.300	< 0.000767	96	79.3 - 106

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	Limit
Benzene	0.101	mg/L	1	0.100	< 0.000600	101	82.9 - 108	1	20
Toluene	0.101	mg/L	1	0.100	< 0.000600	101	82.7 - 107	2	20
Ethylbenzene	0.0967	mg/L	1	0.100	< 0.000800	97	78.8 - 106	2	20
Xylene	0.292	mg/L	1	0.300	< 0.000767	97	79.3 - 106	2	20

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

	LCS	LCSD			$\mathbf{Spike}$	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.103	0.0996	mg/L	1	0.100	103	100	67.3 - 113
4-Bromofluorobenzene (4-BFB)	0.0966	0.0941	mg/L	1	0.100	97	94	68.2 - 124

# Laboratory Control Spike (LCS-1)

QC Batch: 71928 Prep Batch: 61481 Date Analyzed: 2010-07-15 QC Preparation: 2010-07-15 Analyzed By: AR Prepared By: AR

	LCS			$_{ m Spike}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	25.0	mg/L	1	25.0	< 0.265	100	90 - 110

Report Date: July 27, 2010

115 - 6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 11 of 14 Chavez County, NM

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	Limit
Chloride	25.1	mg/L	1	25.0	< 0.265	100	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: 71928 Prep Batch: 61481 Date Analyzed: 2010-07-15 QC Preparation: 2010-07-15

Analyzed By: AR Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	22.8	mg/L	1	25.0	< 0.177	91	90 - 110

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	Limit
Sulfate	23.0	mg/L	1	25.0	< 0.177	92	90 - 110	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: 72039 Prep Batch: 61516 Date Analyzed: 2010-07-26 QC Preparation: 2010-07-15

Analyzed By: AR Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1030	mg/L	1	1000	< 9.75	103	90 - 110

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

	$_{ m LCSD}$			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	RPD	Limit
Total Dissolved Solids	1040	mg/L	1	1000	<9.75	104	90 - 110	1	10

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

Matrix Spike (MS-1) Spiked Sample: 237430

QC Batch: 71724 Prep Batch: 61451 Date Analyzed: 2010-07-14 QC Preparation: 2010-07-14

Analyzed By: AG Prepared By: AG Report Date: July 27, 2010

115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB

Param		$rac{MS}{Result}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		0.100	mg/L	1	0.100	0.0031	97	77.9 - 114
Toluene		0.0800	mg/L	1	0.100	< 0.000600	80	78.3 - 111
Ethylbenzene	2	0.0695	mg/L	1	0.100	< 0.000800	70	75.3 - 110
Xylene	3	0.211	mg/L	1	0.300	< 0.000767	70	75.7 - 109

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		0.0908	mg/L	1	0.100	0.0031	88	77.9 - 114	10	20
Toluene	4	0.0719	mg/L	1	0.100	< 0.000600	72	78.3 - 111	11	20
Ethylbenzene	5	0.0623	mg/L	1	0.100	< 0.000800	62	75.3 - 110	11	20
Xylene	6	0.189	mg/L	1	0.300	< 0.000767	63	75.7 - 109	11	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		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	7 8	0.0434	0.0551	mg/L	1	0.1	43	55	68.3 - 107
4-Bromofluorobenzene (4-BFB)	9 10	0.0418	0.0525	mg/L	1	0.1	42	52	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 237448

QC Batch: 71928 Prep Batch: 61481 Date Analyzed: 2010-07-15 QC Preparation: 2010-07-15 Analyzed By: AR Prepared By: AR

Page Number: 12 of 14

Chavez County, NM

	MS			$\mathbf{Spike}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	2430	mg/L	50	1380	1140	94	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	2450	mg/L	50	1380	1140	95	90 - 110	1	20

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

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

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

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

⁵MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occurred properly.

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

 $^{^7\}mathrm{Surrogate}$  TFT out due to matrix interference. Sample was not reran due to lack of sample.

 $^{^8\}mathrm{Surrogate}$  TFT out due to matrix interference. Sample was not reran due to lack of sample.

⁹Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample. ¹⁰Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.

Report Date: July 27, 2010

115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 13 of 14 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 237448

QC Batch: Prep Batch: 61481

71928

Date Analyzed:

2010-07-15 QC Preparation: 2010-07-15 Analyzed By: AR

Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	- 11	1210	mg/L	50	1380	70.8	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		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	12	1180	mg/L	50	1380	70.8	81	90 - 110	2	20

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

#### Standard (CCV-2)

QC Batch: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

			$rac{ ext{CCVs}}{ ext{True}}$	CCVs Found	$egin{array}{c}  ext{CCVs} \  ext{Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0999	100	80 - 120	2010-07-14
Toluene		$_{ m mg/L}$	0.100	0.100	100	80 - 120	2010-07-14
Ethylbenzene		$_{ m mg/L}$	0.100	0.0966	97	80 - 120	2010-07-14
Xylene		mg/L	0.300	0.292	97	80 - 120	2010-07-14

#### Standard (CCV-3)

QC Batch: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			$\mathbf{True}$	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0992	99	80 - 120	2010-07-14
Toluene		m mg/L	0.100	0.0982	98	80 - 120	2010-07-14
Ethylbenzene		m mg/L	0.100	0.0938	94	80 - 120	2010-07-14
Xylene		$_{ m mg/L}$	0.300	0.283	94	80 - 120	2010-07-14

#### Standard (ICV-1)

QC Batch: 71928

Date Analyzed: 2010-07-15

Analyzed By: AR

¹¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

¹²MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occurred properly.

Report Date: July 27, 2010

115-6403129

Work Order: 10071408 Celero/Rock Queen #1 TB Page Number: 14 of 14 Chavez County, NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride	Tag	mg/L	25.0	26.8	107	90 - 110	2010-07-15

Standard (ICV-1)

QC Batch: 71928

Date Analyzed: 2010-07-15

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	26.2	105	90 - 110	2010-07-15

Standard (CCV-1)

QC Batch: 71928

Date Analyzed: 2010-07-15

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	27.3	109	90 - 110	2010-07-15

Standard (CCV-1)

QC Batch: 71928

Date Analyzed: 2010-07-15

Analyzed By: AR

			$\mathrm{CCVs}$	$\operatorname{CCVs}$	$\mathrm{CCVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	23.9	96	90 - 110	2010-07-15

Analysis Request of Chain of Custody Record PAGE: OF: **ANALYSIS REQUEST** (Circle or Specify Method No.) TETRA TECH Cd Cr Pb Hg Se Cd Vr Pd Hg Se (Ext. to C35) 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 TX1005 CLIENT NAME: SITE MANAGER: **PRESERVATIVE** ER OF CONTAINERS Celero Jeff Kindley METHOD PROJECT NO .: PROJECT NAME: Pak Queen *1 TB Celero 115-6403124 Charte Co, NM TCLP Meta MATRIX COMP. GRAB LAB I.D. DATE TIME HACK HACK SAMPLE IDENTIFICATION NUMBER 2010 237445 7113 40 1405 MW-1 446 MW-Z 1410 447 1-100 MW-3 448 1415 MW-4 SAMPLED BY: (Print & Initial) RELINQUISHED BY: (Signature) Date: 7/14/3010 SAMPLE SHIPPED BY: (Circle) RELINQUISHED BY: (Signature) Thme: HAND DELIVERED OTHER: RELINQUISHED BY: (Signature) RECEIVED BY: (Signature) TETRA TECH CONTACT PERSON: Results by: RECEIVING LABORATORY: RECEIVED BY: (Signature) Jeff Kindley ADDRESS: RUSH Charges Authorized: CITY: Midland STATE: TA

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

TIME:

No

CONTACT:

SAMPLE CONDITION WHEN RECEIVED:

PHONE:

REMARKS:



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 800 • 378 • 1296 888 • 588 • 3443 806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

817 • 201 • 5260

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

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

E-Mail: lab@traceanalysis.com

# Certifications

**WBENC:** 237019

HUB:

1752439743100-86536

**DBE:** VN 20657

Report Date: November 30, 2010

10101405

Work Order:

NCTRCA WFWB38444Y0909

# **NELAP Certifications**

T104704219-08-TX Lubbock:

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

Project Location: Chavez County, NM

Celero/Rock Queen #1 TB Project Name:

115-6403129 Project Number:

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

			Date	Time	$\mathbf{Date}$
Sample	Description	Matrix	Taken	Taken	Received
247501	MW-1	water	2010-10-12	14:45	2010-10-13
247502	MW-2	water	2010-10-12	14:35	2010-10-13
247503	MW-3	water	2010-10-12	14:55	2010-10-13
247504	MW-4	water	2010-10-12	14:25	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 21 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael 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 #1 TB were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101405. Samples for work order 10101405 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	$\operatorname{Prep}$	$\mathbf{QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	63840	2010-10-14 at 13:40	74557	2010-10-14 at 18:04
BTEX	S 8021B	63988	2010-10-19 at 16:30	74590	2010-10-20 at 10:10
Chloride (IC)	E 300.0	64180	2010-10-26 at 14:38	74818	2010-10-26 at 17:25
Chloride (IC)	E 300.0	64185	2010-10-26 at 12:00	74823	2010-10-26 at 22:53
Chloride (IC)	E 300.0	64963	2010-11-29 at 15:22	75734	2010-11-29 at 17:05
SO4 (IC)	E 300.0	64528	2010-11-09 at 10:35	75227	2010-11-09 at 18:09
SO4 (IC)	$\to 300.0$	64638	2010-11-12 at 12:49	75341	2010-11-12 at 17:36
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 10101405 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.

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 4 of 21 Chavez County, NM

# **Analytical Report**

Sample: 247501 - MW-1

Laboratory:

Midland

Analysis:

**BTEX** 74590

Analytical Method:

S 8021B

Prep Method:

S 5030B AG

QC Batch: Prep Batch: 63988

Date Analyzed:

2010-10-20 Sample Preparation: 2010-10-19 Analyzed By: Prepared By: AG

RL

	1011			
Flag	Result	Units	Dilution	RL
	< 0.00100	mg/L	1	0.00100
	< 0.00100	mg/L	1	0.00100
	< 0.00100	mg/L	1	0.00100
	< 0.00100	mg/L	1	0.00100
	Flag	Flag Result	$\begin{array}{c cccc} Flag & Result & Units \\ & < 0.00100 & mg/L \\ < 0.00100 & mg/L \\ < 0.00100 & mg/L \\ \end{array}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

					Spike	Percent	Recovery
Surrogate	Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	1	0.0554	mg/L	1	0.100	55	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0474	mg/L	1	0.100	47	39 - 138

Sample: 247501 - MW-1

Laboratory:

Analysis: QC Batch: Lubbock Chloride (IC)

74818 Prep Batch: 64180 Analytical Method:

Date Analyzed:

E 300.0 2010-10-26 Prep Method: N/A

Analyzed By: PGPrepared By: ss

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		133000	mg/L	10000	2.50

Sample Preparation: 2010-10-26

Sample: 247501 - MW-1

Laboratory: Lubbock

Analysis: QC Batch:

Prep Batch:

SO4 (IC) 75341 64638

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0

2010-11-12 2010-11-12 Prep Method: N/A

Analyzed By: PG Prepared By: PG

RL

RLParameter Flag Result Units Dilution Sulfate 1870 mg/L 50 2.50

¹SPECIAL - TFT is out of control limits due to unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 5 of 21 Chavez County, NM

Sample: 247501 - MW-1

Laboratory: Midland

Analysis: TDS QC Batch: 74622 Prep Batch: 63873

Analytical Method: Date Analyzed:

SM 2540C 2010-10-21 Sample Preparation: 2010-10-15 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Parameter Flag Result Units Dilution RLTotal Dissolved Solids 260000 mg/L 100 10.0

Sample: 247502 - MW-2

Laboratory: Midland

Analysis: BTEX QC Batch: 74557 Prep Batch: 63840

Analytical Method: S 8021B Date Analyzed: 2010-10-14 Sample Preparation: 2010-10-14

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

		m RL			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene		< 0.00100	mg/L	1	0.00100
Xylene		< 0.00100	mg/L	1	0.00100

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0924	mg/L	1	0.100	92	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0801	mg/L	1	0.100	80	39 - 138

Sample: 247502 - MW-2

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 75734 Prep Batch: 64963

Analytical Method: E 300.0 Date Analyzed: 2010-11-29 Sample Preparation: 2010-11-29

Prep Method: N/A Analyzed By: PG Prepared By: PG

RLUnits Dilution RLParameter Flag Result Chloride 6580 mg/L 500 2.50 Report Date: November 30, 2010 Work Order: 10101405 Page Number: 6 of 21 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

Sample: 247502 - MW-2

Laboratory: Lubbock

Analytical Method: E 300.0 Prep Method: N/A Analysis: SO4 (IC) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG Prep Batch: 64528 Sample Preparation: 2010-11-09 Prepared By: PG

RL

Sample: 247502 - MW-2

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 74622 Date Analyzed: AR 2010-10-21 Analyzed By: Sample Preparation: Prep Batch: 63873 2010-10-15 Prepared By: AR

RL

Sample: 247503 - MW-3

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 74557 Date Analyzed: 2010-10-14 Analyzed By: AG Prep Batch: 63840 Sample Preparation: 2010-10-14 Prepared By: AG

RLParameter Flag Result Units Dilution RL0.00100 Benzene < 0.00100 mg/L 1 Toluene < 0.00100 mg/L 0.00100 1 Ethylbenzene 1 < 0.00100 mg/L 0.00100Xylene < 0.00100 1 0.00100mg/L

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0742	mg/L	1	0.100	74	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0468	mg/L	1	0.100	47	39 - 138

Report Date 115-6403129		30, 2010			der: 10101405 k Queen #1 TB	Page Number: Chavez Coun	
Sample: 24	17503 - MW	V-3					
Laboratory:	Lubbock						
Analysis:	Chloride (1	(C)		Analytical Metho	od: E 300.0	Prep Method:	N/A
QC Batch:	74823			Date Analyzed:	2010-10-26	Analyzed By:	$\overrightarrow{PG}$
Prep Batch:	64185			Sample Preparat	ion: 2010-10-26	Prepared By:	SS
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Chloride				57300	mg/L	10000	2.50
Sample: 24	7503 - MW	<b>7-3</b>					
Laboratory:	Lubbock						
Analysis:	SO4 (IC)			Analytical Method	E 300.0	Prep Method:	N/A
QC Batch:	75341 ´			Date Analyzed:	2010-11-12	Analyzed By:	$\overrightarrow{PG}$
Prep Batch:	64638			Sample Preparation	n: 2010-11-12	Prepared By:	PG
						•	
Donomoton		DI		RL	TT :	Dilati	DI
Parameter Sulfate		Flag		Result 1630	Units mg/L	Dilution 50	$\frac{\mathrm{RL}}{2.50}$
Sample: 24	7209 NASS	7.9					
Sample: 24		-3					
Laboratory:	Midland				G2 5 2 2 4 2 G		
Analysis:	TDS			Analytical Method:		Prep Method:	N/A
QC Batch:	74622			Date Analyzed:	2010-10-21	Analyzed By:	AR
Prep Batch:	63873			Sample Preparation	: 2010-10-15	Prepared By:	AR
D			T31	RL	**	muti	
Parameter Total Dissolv	od Colida		Flag	Result	Units	Dilution	RL
Total Dissolv	ed Solids			110000	mg/L	100	10.0
Sample: 24	7504 - MW	-4					
Laboratory:	Midland						
Analysis:	BTEX			Analytical Method:	S 8021 $B$	•	5030B
QC Batch:	74557			Date Analyzed:	2010-10-14	Analyzed By: A	
Prep Batch:	63840			Sample Preparation:	2010-10-14	Prepared By: A	G
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Benzene				< 0.00100	mg/L		.00100
Toluene				< 0.00100	mg/L		.00100
						$continued \dots$	

Report Date: November 30, 2010 Work Order: 10101405 Page Number: 8 of 21
115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

sample 247504 continued ...

			RI					
Parameter	Flag		Result	t	Units	Dil	ution	RL
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)			0.101	mg/L	1	0.100	101	66.2 - 107
4-Bromofluorobenzene (4-Bl	FB)		0.0836	mg/L	11	0.100	84	39 - 138

#### Sample: 247504 - MW-4

Laboratory: Lubbock Analysis: Chloride (IC)

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 74823 Date Analyzed: 2010-10-26 Analyzed By: PG Prep Batch: 64185 Sample Preparation: 2010-10-26 Prepared By: SS

#### Sample: 247504 - MW-4

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 75341 PGDate Analyzed: 2010-11-12 Analyzed By: Prep Batch: 64638 Sample Preparation: 2010-11-12 Prepared By: PG

#### Sample: 247504 - MW-4

Laboratory: Midland

Analytical Method: SM 2540C Analysis: TDS Prep Method: N/A QC Batch: 74622 Date Analyzed: 2010-10-21 Analyzed By: ARPrep Batch: 63873 Sample Preparation: 2010-10-15 Prepared By: AR

Report Date: November 30, 2010 Work Order: 10101405 Page Number: 9 of 21 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM Method Blank (1) QC Batch: 74557 QC Batch: 74557 Date Analyzed: 2010-10-14 Analyzed By: AG Prep Batch: Prepared By: AG 63840 QC Preparation: 2010-10-14 MDL Flag Parameter Result RLUnits Benzene < 0.000400 mg/L 0.001 Toluene < 0.000800 mg/L 0.001Ethylbenzene 0.001 < 0.000400 mg/L 0.001Xylene < 0.000400 mg/L Spike Percent Recovery Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 61.8 - 106 0.0893 1 0.100 89 mg/L 4-Bromofluorobenzene (4-BFB) 0.0784mg/L 0.10078 48.5 - 129 1 Method Blank (1) QC Batch: 74590 QC Batch: 74590 Date Analyzed: 2010-10-20 Analyzed By: AG 2010-10-19 Prep Batch: 63988 Prepared By: QC Preparation: AG MDL Flag RLParameter Result Units 0.001 Benzene < 0.000400 mg/L Toluene < 0.000800 mg/L 0.001

Ethylbenzene Xylene		<0.0004 <0.0004		mg/	0.001 0.001		
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0970	mg/L	1	0.100	97	61.8 - 106

mg/L

0.0870

87

48.5 - 129

0.100

4-Bromofluorobenzene (4-BFB)

#### Method Blank (1) QC Batch: 74622 Analyzed By: QC Batch: 74622 Date Analyzed: 2010-10-21 AR Prep Batch: 63873 QC Preparation: 2010-10-15 Prepared By: ARMDL Parameter Flag Result Units RLTotal Dissolved Solids 11.010 mg/L

000 1 7/010	ate: November 30, 2010 Work Order: 10101405 Page Number: 10 of 21 Celero/Rock Queen #1 TB Chavez County, NM				
QC Batch: 74818					
	Date Analyzed:	2010-10-26		Analyzed By:	PG
	QC Preparation:	2010-10-26		Prepared By:	PG
	N	MDL			
Flag			Units		RL
	<0.0	0350	mg/L		2.5
QC Batch: 74823					
	Date Analyzed:	2010-10-26		Analyzed By:	PG
	QC Preparation:	2010-10-26		Prepared By:	PG
	N	ИDL			
Flag					RL
	<0.0	0350	mg/L		2.5
QC Batch: 75227	Date Analyzed: QC Preparation:	2010-11-09 2010-11-09		Analyzed By: Prepared By:	PG PG
	M	IDL			
Flag					RL
	<0.	.596	mg/L		2.5
QC Batch: 75341					
	Date Analyzed:	2010-11-12		Analyzed By:	PG
	QC Preparation:	2010-11-12		Prepared By:	PG
					D.
Flag					$\frac{\mathrm{RL}}{2.5}$
	<0.	.590	mg/L		2.0
QC Batch: 75734					
	Date Analyzed:	2010-11-29		Analyzed By:	PG
	QC Preparation:	2010-11-29		Prepared By:	PG
	QC Batch: 74823  Flag  QC Batch: 75227  Flag  Plag  Flag	Flag  Plag  Record (20.4)  QC Batch: 74823  Date Analyzed: QC Preparation:  Plag  Plag  Date Analyzed: QC Preparation:  Market (20.4)  QC Batch: 75227  Date Analyzed: QC Preparation:  Plag  Plag  Record (20.4)  QC Batch: 75341  Date Analyzed: QC Preparation:  Market (20.4)  QC Batch: 75341  Date Analyzed: QC Preparation:	QC Preparation: 2010-10-26   MDL   Result	QC Preparation: 2010-10-26   MDL   Units   <0.0350   mg/L	Prepared By:   MDL   Result   Units

115 - 6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 11 of 21 Chavez County, NM

		MDL		
Parameter	Flag	Result	Units	RL
Chloride		< 0.0350	mg/L	2.5

Duplicates (2) Duplicated Sample: 247533

QC Batch: 74622 Prep Batch: 63873 Date Analyzed: 2010-10-21 QC Preparation: 2010-10-15

Analyzed By: AR Prepared By: AR

	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: 74557 Prep Batch: 63840 Date Analyzed: 2010-10-14 QC Preparation: 2010-10-14 Analyzed By: AG Prepared By: AG

Param	$egin{array}{c}  ext{LCS} \  ext{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	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			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.0950	mg/L	1	0.100	< 0.000400	95	80.7 - 117	1	20
Toluene	0.0975	$_{ m mg/L}$	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	2	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.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	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

Laboratory Control Spike (LCS-1)

QC Batch: 74590 Date Analyzed: 2010-10-20 Analyzed By: AG Prep Batch: 63988 QC Preparation: 2010-10-19 Prepared By: AG

115-6403129

Param

Benzene

Toluene

Xylene

Ethylbenzene

Work Order: 10101405 Celero/Rock Queen #1 TB

1

1

1

LCS Spike Matrix Rec. Result Units Dil. Amount Result Rec. Limit 0.0942 94 80.7 - 117 mg/L0.100 < 0.000400 1 0.0972 < 0.000800 97 80.5 - 117

0.100

0.100

0.300

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

0.0975

0.285

mg/L

mg/L

mg/L

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.0982	mg/L	1	0.100	< 0.000400	98	80.7 - 117	4	20
Toluene	0.0965	mg/L	1	0.100	< 0.000800	96	80.5 - 117	1	20
Ethylbenzene	0.0915	mg/L	1	0.100	< 0.000400	92	79.2 - 117	6	20
Xylene	0.281	mg/L	1	0.300	< 0.000400	94	74.1 - 120	1	20

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

	$_{ m LCS}$	LCSD			$\mathbf{Spike}$	LCS	$_{ m LCSD}$	$\operatorname{Rec.}$
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0955	0.0926	mg/L	1	0.100	96	93	72.5 - 126
4-Bromofluorobenzene (4-BFB)	0.0860	0.0911	mg/L	1	0.100	86	91	48.3 - 135

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

QC Batch: 74622 Prep Batch: 63873 Date Analyzed: 2010-10-21 QC Preparation: 2010-10-15

Analyzed By: AR Prepared By: AR

Page Number: 12 of 21

98

95

< 0.000400

< 0.000400

Chavez County, NM

79.2 - 117

74.1 - 120

	$_{ m LCS}$			$\mathbf{Spike}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	979	mg/L	1	1000	< 9.75	98	90 - 110

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	Limit
Total Dissolved Solids	994	mg/L	1	1000	< 9.75	99	90 - 110	2	10

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

#### Laboratory Control Spike (LCS-2)

QC Batch: 74622 Prep Batch: 63873 Date Analyzed: 2010-10-21 QC Preparation: 2010-10-15 Analyzed By: AR Prepared By: AR

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 13 of 21 Chavez County, NM

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1020	mg/L	1	1000	< 9.75	102	90 - 110

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

	LCSD			$\mathbf{Spike}$	Matrix		$\mathrm{Rec}.$		$\operatorname{RPD}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1010	mg/L	1	1000	< 9.75	101	90 - 110	1	10

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: 74818 Date Analyzed:

2010-10-26

Analyzed By: PG

Prep Batch: 64180

QC Preparation: 2010-10-26

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	24.0	mg/L	1	25.0	< 0.0350	96	90 - 110

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

	LCSD			$\mathbf{Spike}$	Matrix		$\operatorname{Rec}$ .		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	23.9	mg/L	1	25.0	< 0.0350	96	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: 74823 Prep Batch: 64185 Date Analyzed: QC Preparation: 2010-10-26

2010-10-26

Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.8	mg/L	1	25.0	< 0.0350	95	90 - 110

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	Limit
Chloride	23.8	mg/L	1	25.0	< 0.0350	95	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: 75227 Prep Batch: 64528 Date Analyzed: 2010-11-09 QC Preparation: 2010-11-09

Analyzed By: PG Prepared By: PG

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 14 of 21 Chavez County, NM

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	25.6	mg/L	1	25.0	< 0.596	102	90 - 110

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	Limit
Sulfate	25.2	mg/L	1	25.0	< 0.596	101	90 - 110	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: 75341

64638

Date Analyzed: QC Preparation:

2010-11-12 2010-11-12 Analyzed By: PG

Prepared By: PG

	LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.8	mg/L	1	25.0	< 0.596	99	90 - 110

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	Limit
Sulfate	25.8	mg/L	1	25.0	< 0.596	103	90 - 110	4	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:

75734

Prep Batch: 64963

Date Analyzed:

2010-11-29

Spike

Amount

25.0

Dil.

Analyzed By: PG Prepared By: PG

Param

Chloride

QC Preparation: 2010-11-29

Units

mg/L

Matrix Rec. Limit Result Rec. < 0.0350 95 90 - 110

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

LCS

Result

23.7

	LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	23.9	mg/L	1	25.0	< 0.0350	96	90 - 110	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: 247532

QC Batch: 74557 Prep Batch: 63840 Date Analyzed:

2010-10-14 QC Preparation:

Analyzed By: AG

2010-10-14

Prepared By: AG

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 15 of 21 Chavez County, NM

Param	$rac{ ext{MS}}{ ext{Result}}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.107	mg/L	1	0.100	0.0048	102	60.9 - 132
Toluene	0.0929	mg/L	1	0.100	< 0.000800	93	65.7 - 129
Ethylbenzene	0.0881	mg/L	1	0.100	< 0.000400	88	51.5 - 134
Xylene	0.332	mg/L	1	0.300	< 0.000400	111	62.6 - 124

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	2	0.0817	mg/L	1	0.100	0.0048	77	60.9 - 132	27	20
Toluene	3	0.0712	mg/L	1	0.100	< 0.000800	71	65.7 - 129	26	20
Ethylbenzene	4	0.0645	mg/L	1	0.100	< 0.000400	64	51.5 - 134	31	20
Xylene		0.283	mg/L	1	0.300	< 0.000400	94	62.6 - 124	16	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		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT) 5	6	0.317	0.331	mg/L	1	0.1	317	331	75.1 - 117
4-Bromofluorobenzene (4-BFB)		0.0577	0.0585	mg/L	1	0.1	58	58	31.3 - 143

Matrix Spike (MS-1) Spiked Sample: 247916

63988

QC Batch: 74590

Prep Batch:

Date Analyzed: 2010-10-20 QC Preparation: 2010-10-19

Analyzed By: AG Prepared By: AG

Param	$rac{ ext{MS}}{ ext{Result}}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.102	mg/L	1	0.100	< 0.000400	102	60.9 - 132
Toluene	0.0988	mg/L	1	0.100	< 0.000800	99	65.7 - 129
Ethylbenzene	0.0951	mg/L	1	0.100	< 0.000400	95	51.5 - 134
Xylene	0.290	mg/L	1	0.300	< 0.000400	97	62.6 - 124

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.104	mg/L	1	0.100	< 0.000400	104	60.9 - 132	2	20
Toluene	0.101	mg/L	1	0.100	< 0.000800	101	65.7 - 129	2	20
Ethylbenzene	0.0999	mg/L	1	0.100	< 0.000400	100	51.5 - 134	5	20
Xylene	0.295	mg/L	1	0.300	< 0.000400	98	62.6 - 124	2	20

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

²MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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

⁴MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

⁵High surrogate recovery due to peak interference.

⁶High surrogate recovery due to peak interference.

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 16 of 21 Chavez County, NM

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0986	0.0931	mg/L	1	0.1	99	93	75.1 - 117
4-Bromofluorobenzene (4-BFB)	0.0840	0.0861	mg/L	1	0.1	84	86	31.3 - 143

Matrix Spike (MS-1) Spiked Sample: 247502

QC Batch:

74818

Date Analyzed:

2010-10-26

Analyzed By: PG

Prep Batch:

64180

QC Preparation:

2010-10-26

Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	244000	mg/L	10000	250000	16700	91	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	248000	mg/L	10000	250000	16700	92	90 - 110	2	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: 248233

QC Batch:

74823

Date Analyzed:

2010-10-26

Analyzed By: PG

Prep Batch: 64185

QC Preparation: 2010-10-26 Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	208	mg/L	5	125	75.8	106	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	207	mg/L	5	125	75.8	105	90 - 110	0	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: 247504

QC Batch:

75227

Date Analyzed:

2010-11-09

Analyzed By: PG

Prep Batch: 64528

QC Preparation: 2010-11-09

Prepared By: PG

continued ...

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 17 of 21 Chavez County, NM

matrix spikes continued . . .

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	7	493	mg/L	5	125	< 2.98	394	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		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	8	484	mg/L	5	125	< 2.98	387	90 - 110	2	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: 250076

QC Batch: 75341 Date Analyzed: 2010-11-12 Analyzed By: PG

Prep Batch: 64638

QC Preparation: 2010-11-12

Prepared By: PG

		MS			$\mathbf{Spike}$	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	9	274	mg/L	5	125	< 2.98	219	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		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	10	278	mg/L	5	125	< 2.98	222	90 - 110	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: 247502

QC Batch:

75734 Prep Batch: 64963 Date Analyzed:

2010-11-29

QC Preparation:

2010-11-29

Analyzed By: PG Prepared By: PG

	MS			$\operatorname{Spike}$	Matrix		$\mathrm{Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	19500	mg/L	500	12500	6580	103	90 - 110

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

⁷matrix spikes run with batch but spiked sample was reported in another run •

 $^{^8}$ matrix spikes run with batch but spiked sample was reported in another run ullet

⁹matrix spikes run with batch but spiked sample was reported in another run •

 $^{^{10}\}mathrm{matrix}$  spikes run with batch but spiked sample was reported in another run ullet

115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 18 of 21 Chavez County, NM

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	19500	mg/L	500	12500	6580	103	90 - 110	0	20

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

#### Standard (CCV-1)

QC Batch: 74557

Date Analyzed: 2010-10-14

Analyzed By: AG

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0953	95	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.0980	98	80 - 120	2010-10-14
Ethylbenzene		mg/L	0.100	0.0945	94	80 - 120	2010-10-14
$\mathbf{X}$ ylene		mg/L	0.300	0.280	93	80 - 120	2010-10-14

#### Standard (CCV-2)

QC Batch: 74557

 $Date\ Analyzed:\ \ 2010\text{-}10\text{-}14$ 

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			$\operatorname{True}$	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0941	94	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.0958	96	80 - 120	2010-10-14
Ethylbenzene		mg/L	0.100	0.0935	94	80 - 120	2010-10-14
Xylene		mg/L	0.300	0.275	92	80 - 120	2010-10-14

### Standard (CCV-3)

QC Batch: 74557

Date Analyzed: 2010-10-14

Analyzed By: AG

			$rac{ ext{CCVs}}{ ext{True}}$	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0998	100	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.100	100	80 - 120	2010-10-14
Ethylbenzene		mg/L	0.100	0.0964	96	80 - 120	2010-10-14
Xylene		mg/L	0.300	0.288	96	80 - 120	2010-10-14

#### Standard (CCV-1)

QC Batch: 74590

Date Analyzed: 2010-10-20

Analyzed By: AG

Report Date: November 30, 2010 115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 19 of 21 Chavez County, NM

			CCVs True	CCVs Found	$rac{ ext{CCVs}}{ ext{Percent}}$	Percent Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0914	91	80 - 120	2010-10-20
Toluene		${ m mg/L}$	0.100	0.0954	95	80 - 120	2010-10-20
Ethylbenzene		$_{ m mg/L}$	0.100	0.0987	99	80 - 120	2010-10-20
Xylene		mg/L	0.300	0.287	96	80 - 120	2010-10-20

#### Standard (CCV-2)

QC Batch: 74590

Date Analyzed: 2010-10-20

Analyzed By: AG

			CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0981	98	80 - 120	2010-10-20
Toluene		$\mathrm{mg/L}$	0.100	0.0985	98	80 - 120	2010-10-20
Ethylbenzene		mg/L	0.100	0.0963	96	80 - 120	2010-10-20
Xylene		mg/L	0.300	0.280	93	80 - 120	2010-10-20

#### Standard (CCV-1)

QC Batch: 74818

Date Analyzed: 2010-10-26

Analyzed By: PG

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.2	97	90 - 110	2010-10-26

#### Standard (CCV-2)

QC Batch: 74818

Date Analyzed: 2010-10-26

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.6	94	90 - 110	2010-10-26

## Standard (CCV-1)

QC Batch: 74823

Date Analyzed: 2010-10-26

Analyzed By: PG

Report Date: November 30, 2010 Work Order: 10101405 Page Number: 20 of 21
115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

CCVs CCVs CCVs Percent
True Found Percent Recovery Date

	Date
Chloride ng/L 25.0 23.6 94 90 - 110 20	nalyzed
20.0 20.0 20.0 20.0	0-10-26

### Standard (CCV-2)

QC Batch: 74823 Date Analyzed: 2010-10-26 Analyzed By: PG

			CCVs	CCVs	$\operatorname{CCVs}$	Percent	
			$\operatorname{True}$	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.5	94	90 - 110	2010-10-26

#### Standard (CCV-1)

QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			$\operatorname{True}$	Found	${f Percent}$	Recovery	$\operatorname{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.9	100	90 - 110	2010-11-09

#### Standard (CCV-2)

QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG

			$\operatorname{CCVs}$	$\operatorname{CCVs}$	$\operatorname{CCVs}$	Percent	
			$\mathbf{True}$	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	23.7	95	90 - 110	2010-11-09

#### Standard (CCV-1)

QC Batch: 75341 Date Analyzed: 2010-11-12 Analyzed By: PG

			$\mathrm{CCVs}$	$\operatorname{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-11-12

#### Standard (CCV-2)

QC Batch: 75341 Date Analyzed: 2010-11-12 Analyzed By: PG

Report Date: November 30, 2010 115-6403129

Work Order: 10101405 Celero/Rock Queen #1 TB Page Number: 21 of 21 Chavez County, NM

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	25.8	103	90 - 110	2010-11-12

#### Standard (CCV-1)

QC Batch: 75734

Date Analyzed: 2010-11-29

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.3	93	90 - 110	2010-11-29

#### Standard (CCV-2)

QC Batch: 75734

Date Analyzed: 2010-11-29

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.9	96	90 - 110	2010-11-29

COS	#.	1010	11465	يسر ا

An	Analysis Request of Chain of Custody Record										L	PAGE: / OF: J ANALYSIS REQUEST											OF:	,												
			<u></u>			7_	<del></del>							<u>~,</u>						***	_		<b>-</b>	<del>                                     </del>	(C			YSIS Speci				lo.)	<del></del>		—- _T	
			l		R		ET: 910 N lidland 32) 682	. Big d, Te	Spri xas	ing 5 7970	St. 05	3 <b>94</b> 6										5 (Ext. to C35)	Cr Pb Hg										SO			
CLIENT NAM							SITE M								82	T				ΠVE	1	1X1005	20 5	3			1824	7825					pH TOS	١		
Cala.			1			1	7-11	· 14.	udler,						3	L		MET	HOL	3	1	11	8	8	١,	, l	8	22					Ş.			
PROJECT N				,	IEC I	NAME:	к С.		, "g.,i	Æ					NO	Σ						Ğ QQ	8		Veletitee		ğ	ቜ 2	8 _			E 3	. 3			
LAB I.D. NUMBER	DATE	TIME	MATRIX	Г	П		Secre	t. A	_e cr⊶,		FICATIO	ON			NUMBER OF CONTAINERS	HELENED (T/N)	HACK H		NOW.		BITEX 8021B	8	A Metals	TCLP Metata	TCLP Voletile	30	MS Vol. 8	GC.MS Semi. Vol. 8270/625	of 808/608	Horide	orena Spec	pha Beta (A M (Asbest	Major Anions/Cati	5.4.10		
	20,160		2	Ø	Ö						<del></del>				ž	13	╀	1	2   3	<u>-</u>	┯	E	E	븨	먇	· K	Ĕ	8 3	ا م	10		₹   <u>द</u>			$\dashv$	+
वेपन501	16/12	14013	12	_	×	Majer									4	زاد	<u> 1</u>	1	ا لِـٰ	_	X	Ц	1	Ш	4	1	Ц		$\perp$	Х	Ц	$\bot$	X	4		_
-) \bar{\bar{\bar{\bar{\bar{\bar{\bar{	-	144.35	$\coprod$			<i>p</i> ~	2.				<del></del>		-		4			1	$^{\prime}$	1	$\mathbb{I}$	Ц			$\perp$											
5/23		14.30			$\prod$	P.S.	3									M			$\setminus \setminus$		$\prod$												$\left  \cdot \right $			
<u> 564</u>	*	1-125	6		+	Mw	-1								¥		1	1	7		V	Ц								*			*	*		
				L				······································					*************			1		╧		$\perp$	L	Ц	$\perp$	Ц		$oldsymbol{\perp}$	Ц		1			$\perp$	L		$\perp$	
			1	L												1					L	Ц	$\perp$	Ш		$oldsymbol{\perp}$	Ц				Ц	_	_			
	<u> </u>			L			<del> </del>	<del> </del>											_		L		$\perp$	Ц	1	$oldsymbol{\perp}$	Ш		$\downarrow$		Ц	$\perp$	_			$\perp$
																1	$oldsymbol{\perp}$		$\downarrow$	_		Ц	$\perp$	Ц	1	$\perp$					Ц					
		<u> </u>					<del></del>			***						$\downarrow$	$\perp$	$\perp$	$\perp$	$\perp$	L	Ц	_	Ц			Ц				Ц	$\perp$				
RELINQUISHED	BV Minus			L	.,,,,	Dale:	الالم	<del></del>	(de/	CENER	BY: (Sign						Dark		<u></u>	,	Ţ	Щ	SAMP		¥ /13				$\perp$			Derte			<u>, , , , , , , , , , , , , , , , , , , </u>	
RELINCUMENCO		Alla.		_		Time: Date:	.(**5 \$ (!\\),	μ.	4	2	BV 100				<b>1-760</b>		Tim	<b>2</b> 1	2	15-	O		SAMP	LE SI	IPPEI	BY:	1Circle	100				Time		7:1.	· ·	٠
RELINGUISHED	SV. (Signatu	<b>J</b>		<del></del>		Time: Date: Time:	- 10-1	<u> </u>			BY: (Sign	$\overline{u}$	271-	1/	<del></del>		Plens Date Time	e	7.	50	HN				IVER	ED)	BUS UPS	3				THER				
RECEIVING LAS ADDRESS: CITY: /**cff.		7/m. v.		77.	HON	ZIP:	Annual Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the		PECE DATE:		Y: (Signa	dure)			TIM	 	,.					-		μ	k	He	7					A	USH (	harg		
SAMPLE COND	in t	RECEIVED:	12	11.	3:	P RE	MARKS:	Netto	1:1	u	- V	ار Orgina	χ \	C C			P	olec	J. Ma	· ( · ·	l	taine	Pini	J.	<u> 1</u>	rlt	OUD.	ting			Gal	d 50	7500		· ·	<b>Yo</b>



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

enue, Suite 9
oad, Suite E
Suite A1
Lubbock, Texas 79424
El Paso, Texas 79922
Midland, Texas 79703

800 • 378 • 1296 806 • 794 • 1296 888 • 588 • 3443 915 • 585 • 3443 432 • 689 • 6301 FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817 • 201 • 5260

E-Mail: lab@traceanalysis.com

# Certifications

**WBENC:** 237019 **HUB:** 

1752439743100-86536

**DBE:** VN 20657

NCTRCA WFWB38444Y0909

## **NELAP Certifications**

**Lubbock:** T104704219-08-TX

El Paso: T104704221-08-TX

Midland: T104704392-08-TX

LELAP-02003 Kansas E-10317 LELAP-02002

# Analytical and Quality Control Report

Jeff Kindley Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705 Report Date: February 8, 2011

Work Order: 11012511

Project Location: Chavez County, NM

Project Name: Celero/Rock Queen #1 TB

Project Number: 115-6403129

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
256095	MW-1	water	2011-01-24	16:55	2011-01-25
256096	MW-2	water	2011-01-24	16:45	2011-01-25
256097	MW-3	water	2011-01-24	17:10	2011-01-25
256098	MW-4	water	2011-01-24	16:15	2011-01-25
256099	MW-5	water	2011-01-24	16:32	2011-01-25
256100	MW-6	water	2011-01-24	17:05	2011-01-25
256101	MW-7	water	2011-01-24	17:18	2011-01-25

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 22 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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 #1 TB were received by TraceAnalysis, Inc. on 2011-01-25 and assigned to work order 11012511. Samples for work order 11012511 were received intact without headspace and at a temperature of 1.6 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	66196	2011-01-25 at 10:00	77170	2011-01-25 at 14:57
Chloride (IC)	E 300.0	66402	2011-02-04 at 11:18	77415	2011-02-04 at 15:32
Chloride (IC)	$\to 300.0$	66403	2011-02-04 at 11:36	77416	2011-02-04 at 20:18
SO4 (IC)	E 300.0	66403	2011-02-04 at 11:36	77416	2011-02-04 at 20:18
SO4 (IC)	E 300.0	66414	2011-02-06 at 10:00	77427	2011-02-07 at 11:31
SO4 (IC)	E 300.0	66439	2011-02-07 at 15:00	77456	2011-02-07 at 16:41
TDS	SM 2540C	66190	2011-01-26 at 13:45	77318	2011-02-01 at 15:05

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 11012511 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 8, 2011

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 4 of 22 Chavez County, NM

# **Analytical Report**

Sample: 256095 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 77170 Prep Batch: 66196

Analytical Method: S 8021B Date Analyzed: 2011-01-25 Sample Preparation: 2011-01-25

Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RL

		ILL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.00100	mg/L	1	0.00100
Toluene		< 0.00100	mg/L	1	0.00100
Ethylbenzene		< 0.00100	m mg/L	1	0.00100
Xylene		< 0.00100	$\mathrm{mg/L}$	1	0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	1	0.0539	mg/L	1	0.100	54	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0537	mg/L	1	0.100	54	78.6 - 122.8

Sample: 256095 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77415 Prep Batch: 66402 Analytical Method: E 300.0
Date Analyzed: 2011-02-04
Sample Preparation: 2011-02-04

Prep Method: N/A
Analyzed By: PG
Prepared By: PG

RL

Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
Chloride		144000	mg/L	10000	2.50

Sample: 256095 - MW-1

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77427 Prep Batch: 66414 Analytical Method: E 300.0
Date Analyzed: 2011-02-07
Sample Preparation: 2011-02-06

Prep Method: N/A
Analyzed By: PG
Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		2560	mg/L	100	2.50

¹SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

Report Date: February 8, 2011 115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 5 of 22 Chavez County, NM

Sample:	256095	- MW-1
---------	--------	--------

Laboratory: Midland

Analysis: TDS QC Batch: 77318 Prep Batch: 66190 Analytical Method: SM 2540C Date Analyzed: 2011-02-01 Sample Preparation: 2011-01-26

Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		258000	mg/L	100	10.0

#### Sample: 256096 - MW-2

Laboratory: Midland

Analysis: **BTEX** QC Batch: 77170 Prep Batch: 66196

Analytical Method: S 8021B Date Analyzed: 2011-01-25 Sample Preparation: 2011-01-25 Prep Method: S 5030B Analyzed By: AGPrepared By: AG

0.00100

RLParameter Flag Result Dilution Units RLBenzene < 0.00100 0.00100 mg/L Toluene < 0.00100 mg/L 1 0.00100Ethylbenzene < 0.00100 mg/L 1 0.00100Xylene < 0.00100 1

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.113	mg/L	1	0.100	113	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0976	mg/L	1	0.100	98	78.6 - 122.8

mg/L

#### Sample: 256096 - MW-2

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77415 Prep Batch: 66402

Analytical Method: E 300.0 Date Analyzed: 2011-02-04 Sample Preparation: 2011-02-04

Prep Method: N/A Analyzed By: PGPrepared By: PG

Parameter	Flag	Result	Units	Dilution	RL
Chloride		7310	mg/L	500	2.50

RL

Report Date: February 8, 2011 Work Order: 11012511 Page Number: 6 of 22 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

Sample: 256096 - MW-2

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 77427 Date Analyzed: 2011-02-07 Analyzed By: PG Prep Batch: 66414 Sample Preparation: 2011-02-06 Prepared By: PG

RL

Sample: 256096 - MW-2

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A 77318 Date Analyzed: 2011-02-01 Analyzed By: ARQC Batch: Prepared By: Prep Batch: 66190 Sample Preparation: 2011-01-26 AR

RL

Sample: 256097 - MW-3

Laboratory: Midland

Prep Method: S 5030B Analytical Method: S 8021B Analysis: **BTEX** Analyzed By:  $\mathbf{AG}$ QC Batch: 77170 Date Analyzed: 2011-01-25 Sample Preparation: 2011-01-25 Prepared By: AGPrep Batch: 66196

RL

Parameter	$\operatorname{Flag}$	Result	$\mathbf{Units}$	Dilution	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

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0754	mg/L	1	0.100	75	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0702	mg/L	1	0.100	70	78.6 - 122.8

115-6403129				Celero/Rock	Queen #1 TB	Chavez Cour	nty, NM
Sample: 256	6097 - MW	-3					
Laboratory:	Lubbock						
Analysis:	Chloride (IC	C)		Analytical Metho	d: E 300.0	Prep Method:	N/A
QC Batch:	77415	•		Date Analyzed:	2011-02-04	Analyzed By:	•
Prep Batch:	66402			Sample Preparati		Prepared By:	PG
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Chloride				51900	mg/L	10000	2.50
Sample: 256	6097 - MW-	-3					
•	Lubbock						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77427			Date Analyzed:	2011-02-07	Analyzed By:	PG
Prep Batch:	66414			Sample Preparation	: 2011-02-06	Prepared By:	PG
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Sulfate				2280	mg/L	100	2.50
Sample: 256	6097 - MW-	3					
•	Midland						
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77318			Date Analyzed:	2011-02-01	Analyzed By:	AR
Prep Batch:	66190			Sample Preparation:	2011-01-26	Prepared By:	AR
				RL			
Parameter			Flag	Result	Units	Dilution	RL
Total Dissolve	ed Solids			95300	mg/L	100	10.0
Sample: 256	6098 - MW-	4					
Laboratory:	Midland						
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method: S	5030B
QC Batch:	77170			Date Analyzed:	2011-01-25	Analyzed By: A	.G
Prep Batch:	66196			Sample Preparation:	2011-01-25		ı.G
_				RL			
Parameter		Flag		Result	Units	Dilution	RL
Benzene				< 0.00100	mg/L		0.00100
Toluene				< 0.00100	m mg/L	1	0.00100

continued ...

Work Order: 11012511

Page Number: 7 of 22

Report Date: February 8, 2011

Report Date: February 8, 2011

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 8 of 22 Chavez County, NM

			R.	L					
Parameter	Flag		Resul		Units		Dilution		RI
Ethylbenzene	2		< 0.0010		mg/L		1		.00100
Xylene	West Control		< 0.0010	0	mg/L		1	0	.00100
						Spike	Percent	Reco	overy
Surrogate		Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery		$_{ m nits}$
Trifluorotolu	ene (TFT)		0.112	mg/L	1	0.100	112	75.4 -	119.4
4-Bromofluor	robenzene (4-BFB)		0.0948	$\mathrm{mg/L}$	1	0.100	95	78.6 -	122.8
Laboratory: Analysis:	Lubbock Chloride (IC)			cal Method:	E 300.0		_	Method:	N/A
QC Batch:	77416			nalyzed:	2011-02-04		_	zed By:	$\mathbf{PG}$
Prep Batch:	66403		Sample	Preparation:	2011-02-04		Prepa	red By:	PG
			RL						
Parameter	Flag		Result		Units		Dilution		RL
Chloride			6230		mg/L		500		2.50

Laboratory:	Lubbock
Analysis:	SO4 (IC)
QC Batch:	77456
Prep Batch:	66439

Analytical Method:  $\to 300.0$ Date Analyzed: 2011-02-07 Sample Preparation: 2011-02-07

Prep Method: N/A Analyzed By: PG Prepared By: PG

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		180	mg/L	5	2.50

#### Sample: 256098 - MW-4

Laboratory:	Midland
Analysis:	TDS
QC Batch:	77318
Prep Batch:	66190

Analytical Method: SM 2540C Date Analyzed: 2011-02-01 Sample Preparation: 2011-01-26

Prep Method: N/A Analyzed By: AR Prepared By: AR

		$\mathrm{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		12400	mg/L	20	10.0

Report Date: February 8, 2011 Work Order: 11012511 Page Number: 9 of 22 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

Sample: 256099 - MW-5

Laboratory: Midland

Prep Method: S 5030B Analysis: BTEX Analytical Method: S 8021B Analyzed By: AG QC Batch: 77170 Date Analyzed: 2011-01-25 Prepared By: AG Prep Batch: 66196 Sample Preparation: 2011-01-25

		m RL			
Parameter	Flag	Result	Units	Dilution	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	$\mathbf{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.109	mg/L	1	0.100	109	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0941	mg/L	1	0.100	94	78.6 - 122.8

Sample: 256099 - MW-5

Laboratory: Lubbock

Analysis: Analytical Method: Prep Method: N/A Chloride (IC)  $\to 300.0$ PG QC Batch: 77416 Date Analyzed: 2011-02-04 Analyzed By: Prep Batch: 66403 Sample Preparation: 2011-02-04 Prepared By: PG

Sample: 256099 - MW-5

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0Prep Method: N/A77416 Analyzed By: PGQC Batch: Date Analyzed: 2011-02-04 PG Prep Batch: 66403 Sample Preparation: 2011-02-04 Prepared By:

Report Date: February 8, 2011 115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 10 of 22 Chavez County, NM

Sample: 256099 - MW-5

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 77318 Date Analyzed: 2011-02-01 Analyzed By: ARPrep Batch: 66190 Sample Preparation: 2011-01-26 Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		518	mg/L	1	10.0

Sample: 256100 - MW-6

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021B Prep Method: S 5030B QC Batch: Date Analyzed: 2011-01-25 Analyzed By: AG 77170 AG Prep Batch: 66196 Sample Preparation: 2011-01-25 Prepared By:

RLParameter Flag Result Units < 0.00100

Dilution RLBenzene 0.00100 mg/L Toluene < 0.00100 mg/L 1 0.00100Ethylbenzene < 0.00100 mg/L 1 0.00100**Xylene** < 0.00100 1 0.00100 mg/L

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	2	0.0519	mg/L	1	0.100	52	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0518	mg/L	1	0.100	52	78.6 - 122.8

Sample: 256100 - MW-6

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 77416 Date Analyzed: 2011-02-04 Analyzed By: PG2011-02-04 Prep Batch: 66403 Sample Preparation: Prepared By: PG

RLParameter Flag Result Units Dilution RL88900 10000 Chloride mg/L 2.50

²SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

Report Date: February 8, 2011 115-6403129				Order: 1 lock Que	1012511 en #1 TB			mber: 11 e ez County,		
Sample: 25	6100 - MW	7-6								
Laboratory:	Lubbock									
Analysis:	SO4 (IC)			Analytical Met		$\Xi$ 300.0		Prep M		N/A
QC Batch:	77427			Date Analyzed		2011-02-07		Analyz		PG
Prep Batch:	66414			Sample Prepar	ation: 2	2011-02-06		Prepar	ed By:	PG
				RL						
Parameter		Flag		Result		Units		Dilution		RL
Sulfate				2850		mg/L		100		2.50
Sample: 250		7-6								
Laboratory:	Midland			Analytical Moti	had. O	N 25 40C		Duon 1	Tothod.	NT / A
Analysis: QC Batch:	TDS 77318			Analytical Method Date Analyzed:		M 2540C 011-02-01		Prep M Analyz		N/A AR
Prep Batch:	66190			Sample Prepara		011-02-01		Prepar	-	AR
Trep Daten.	00130			Sample 1 Tepara	au1011. <i>2</i>	011-01-20		1 Tepar	ed Dy.	AIL.
Danamatan			T21 o m		RL	T7	_	Dilution		RL
Parameter Total Dissolv	ed Solide		Flag	Resu 16100		Unit mg/l		100		$\frac{\kappa L}{10.0}$
	ou bond			10100						
Sample: 25	6101 - MW	/- <b>7</b>								
	<b>6101 - MW</b> Midland	/- <b>7</b>								
Sample: 250		/- <b>7</b>		Analytical Metho	od: S 8	8021B		Prep Meth	od: S 50	)30B
Sample: 256 Laboratory:	Midland BTEX 77170	/ <b>-7</b>		Analytical Metho	201	11-01-25		Analyzed	By: AG	)30B
Sample: 256 Laboratory: Analysis:	Midland BTEX	/- <b>7</b>		-	201				By: AG	)30B
Sample: 256 Laboratory: Analysis: QC Batch:	Midland BTEX 77170	/- <b>7</b>		Date Analyzed: Sample Preparati	201	11-01-25		Analyzed	By: AG	)30B
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 77170			Date Analyzed: Sample Preparati	201	11-01-25 11-01-25		Analyzed I Prepared I	By: AG	
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 77170	/- <b>7</b> Flag		Date Analyzed: Sample Preparati RL Result	201	11-01-25 11-01-25 Units		Analyzed I Prepared I Dilution	By: AG By: AG	RL
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 77170			Date Analyzed: Sample Preparation RL Result <0.00100	201	11-01-25 11-01-25 Units mg/L		Analyzed I Prepared I Dilution	By: AG By: AG	RL 0100
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter Benzene	Midland BTEX 77170 66196			Date Analyzed: Sample Preparati RL Result	201	11-01-25 11-01-25 Units mg/L mg/L		Analyzed I Prepared I Dilution	By: AG By: AG 0.00 0.00	RL
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter Benzene Toluene	Midland BTEX 77170 66196			Date Analyzed: Sample Preparation RL Result <0.00100 <0.00100	201	11-01-25 11-01-25 Units mg/L		Analyzed I Prepared I  Dilution  1 1	By: AG By: AG 0.00 0.00	RL 0100 0100
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:  Parameter Benzene Toluene Ethylbenzene	Midland BTEX 77170 66196			Date Analyzed: Sample Preparati  RL  Result  <0.00100 <0.00100 <0.00100 <0.00100	201	11-01-25 11-01-25 Units mg/L mg/L mg/L	Spike	Analyzed I Prepared I  Dilution  1 1 1	By: AG By: AG 0.00 0.00 0.00 Recov	RL 0100 0100 0100 0100
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	Midland BTEX 77170 66196		Flag	Name	201 ion: 201	Units mg/L mg/L mg/L mg/L	Amount	Analyzed I Prepared I  Dilution  1 1 1 Percent Recovery	By: AG By: AG 0.00 0.00 0.00 Recov Limi	RL 0100 0100 0100 0100
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	Midland BTEX 77170 66196	Flag	Flag	Name	201 ion: 201	Units mg/L mg/L mg/L mg/L	-	Analyzed I Prepared I  Dilution  1 1 1 1 Percent	By: AG By: AG 0.00 0.00 0.00 Recov	RL 0100 0100 0100 0100 ery ts

³SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

115-6403129		J, 2011	Celero/Rock Q	ock Queen #1 TB Chavez Cour		
Sample: 25	6101 - MV	V-7				
Laboratory:	Lubbock					
Analysis:	Chloride (	IC)	Analytical Method	: E 300.0	Prep Method:	N/A
QC Batch:	77416	- /	Date Analyzed:	2011-02-04	Analyzed By:	PG
Prep Batch:	66403		Sample Preparation		Prepared By:	PG
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Chloride			92400	mg/L	10000	2.50
Sample: 25	6101 - MV	V- <b>7</b>				
Laboratory:	Lubbock	•				
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77427		Date Analyzed:	2011-02-07	Analyzed By:	PG
Prep Batch:	66414		Sample Preparation:	2011-02-06	Prepared By:	PG
			DI			
Parameter		Flor	$\operatorname{RL}$ Result	Units	Dilution	RL
Sulfate		Flag	2580	mg/L	100	$\frac{\kappa_{\rm L}}{2.50}$
Sample: 25	6101 - MW	J_ <b>7</b>				
-		,-,				
Laboratory:	Midland		A1- 4'1 NC 41 - 1	CM OF 10C	D - M (I - I	BT / A
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	
QC Batch: Prep Batch:	77318 66190		Date Analyzed: Sample Preparation:	2011-02-01 2011-01-26	Analyzed By: Prepared By:	$rac{AR}{AR}$
Trop Batem.	00100		-	2011 01 20	Troparoa 2j.	1110
<b>D</b>		T-1	RL	**	D11 - 4	Dr
Parameter	- J. C - 1: 1-	Flag	Result	Units	Dilution	RL
Total Dissolv	ed Solids		179000	mg/L	100	10.0
Method Bla	ank (1)	QC Batch: 77170				
QC Batch:	77170		Date Analyzed: 20	011-01-25	Analyzed By:	$\mathbf{AG}$
Prep Batch:	66196		v	011-01-25	Prepared By:	
			M	DL		
Parameter		Flag	Res		Units	RL
Benzene			< 0.000		mg/L	0.001
Toluene			<0.0003 <0.0003		mg/L mg/L	$0.001 \\ 0.001$
Ethylbenzene						

Work Order: 11012511

Page Number: 12 of 22

 $continued \dots$ 

Report Date: February 8, 2011

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 13 of 22 Chavez County, NM

method	blank	continued	
шешои	UEGLIER	COMMINGER	

			M	IDL			
Parameter	Flag		Re	sult	Un	RL	
Xylene			< 0.000	333	mg	0.001	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.111	mg/L	1	0.100	111	70.8 - 117.4
4-Bromofluorobenzene (4-BFB)		0.0994	mg/L	1	0.100	99	79 - 113.4

Method Blank (1)

QC Batch: 77318

QC Batch: 77318 Date Analyzed: 2011-02-01 Analyzed By: AR

Prep Batch: 66190

QC Preparation: 2011-01-26

Prepared By: AR

Parameter	Flag	Result	Units	RL
Total Dissolved Solids		10.0	mg/L	10

Method Blank (1)

QC Batch: 77415

QC Batch: 77415 Prep Batch: 66402

Chloride

Chloride

Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04

Analyzed By: PG Prepared By: PG

MDL Parameter Flag

Result RLUnits < 0.0142mg/L 2.5

Method Blank (1)

QC Batch: 77416

QC Batch: 77416 Prep Batch: 66403 Date Analyzed: QC Preparation: 2011-02-04

2011-02-04 Analyzed By: PG Prepared By: PG

mg/L

Parameter Flag

MDL Units RLResult

Method Blank (1)

QC Batch: 77416

QC Batch: 77416 Prep Batch: 66403 Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04

< 0.0142

Analyzed By: PG Prepared By: PG

2.5

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 14 of 22 Chavez County, NM

		MDL		
Parameter	Flag	Result	Units	RL
Sulfate		< 0.126	mg/L	2.5

Method Blank (1)

QC Batch: 77427

QC Batch: 77427 Prep Batch: 66414

2011-02-07 Date Analyzed: QC Preparation: 2011-02-06 Analyzed By: PG Prepared By: PG

MDL RLParameter Flag Result Units Sulfate < 0.126mg/L 2.5

Method Blank (1)

QC Batch: 77456

QC Batch: 77456 Prep Batch: 66439

Date Analyzed: 2011-02-07 QC Preparation: 2011-02-07 Analyzed By: PG Prepared By: PG

MDL Parameter Flag Result Units RL< 0.126 Sulfate mg/L2.5

Duplicates (1)

Duplicated Sample: 256101

QC Batch: 77318 Prep Batch: 66190 Date Analyzed: QC Preparation: 2011-01-26

2011-02-01

Analyzed By: AR Prepared By: AR

RPD **Duplicate** Sample Result Result Dilution RPD Limit Param Units Total Dissolved Solids 178000 179000 mg/L 100 10

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 66196 Date Analyzed: 2011-01-25 QC Preparation: 2011-01-25

Analyzed By: AG Prepared By: AG

LCS Matrix Rec. Spike Result Limit Param Result Units Dil. Rec. Amount Benzene 0.100 < 0.000400 89 76.8 - 110.3 0.0891 mg/L 1 81 - 108.2 Toluene 0.103 mg/L 1 0.100< 0.000300 103 Ethylbenzene 0.108 0.100< 0.000300 108 78.8 - 111 mg/L 1

continued ...

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 15 of 22 Chavez County, NM

control	spikes	continued		

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Xylene	0.328	m mg/L	1	0.300	< 0.000333	109	80.3 - 111.4

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.	$\mathbf{Limit}$	RPD	Limit
Benzene	0.0843	mg/L	1	0.100	< 0.000400	84	76.8 - 110.3	6	20
Toluene	0.0988	mg/L	1	0.100	< 0.000300	99	81 - 108.2	4	20
Ethylbenzene	0.103	mg/L	1	0.100	< 0.000300	103	78.8 - 111	5	20
Xylene	0.312	mg/L	1	0.300	< 0.000333	104	80.3 - 111.4	5	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.	${ m Rec.}$	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.112	0.111	ıng/L	1	0.100	112	111	66.6 - 114.5
4-Bromofluorobenzene (4-BFB)	0.108	0.106	mg/L	1	0.100	108	106	77.1 - 114.4

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

QC Batch: Prep Batch:

77318 66190 Date Analyzed: QC Preparation:

2011-02-01 2011-01-26 Analyzed By: AR Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1080	mg/L	1	1000	< 9.75	108	90 - 110

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	Limit
Total Dissolved Solids	1000	mg/L	1	1000	< 9.75	100	90 - 110	8	10

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: 66402

Date Analyzed:

2011-02-04 QC Preparation: 2011-02-04 Analyzed By: PG Prepared By: PG

LCS Spike Matrix Rec. Result Amount Param Units Dil. Result Limit Rec. Chloride 23.6 25.0< 0.014294 90 - 110 mg/L

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 16 of 22 Chavez County, NM

D.	LCSD	TT	ъ.,	Spike	Matrix	D	Rec.	DDD	RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	23.7	mg/L	1	25.0	< 0.0142	95	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: Prep Batch: 66403

77416

Date Analyzed:

2011-02-04 QC Preparation: 2011-02-04 Analyzed By: PG

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.6	mg/L	1	25.0	< 0.0142	94	90 - 110

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	Limit
Chloride	23.6	mg/L	1	25.0	< 0.0142	94	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: Prep Batch:

77416 66403

Date Analyzed:

2011-02-04 QC Preparation: 2011-02-04

Analyzed By: PG

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.0	mg/L	1	25.0	< 0.126	96	90 - 110

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	24.1	mg/L	1	25.0	< 0.126	96	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: Prep Batch: 66414

77427

Date Analyzed: QC Preparation: 2011-02-06

2011-02-07

Analyzed By: PG

Prepared By: PG

continued ...

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 17 of 22 Chavez County, NM

		time.ad	
COTILTOL	svikes	continued	

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.7	mg/L	1	25.0	< 0.126	99	90 - 110

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	Limit
Sulfate	24.6	mg/L	1	25.0	< 0.126	98	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: Prep Batch: 66439

77456

Date Analyzed:

2011-02-07 QC Preparation: 2011-02-07 Analyzed By: PG Prepared By: PG

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 25.3 mg/L 25.0< 0.126 101 90 - 110 1

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	Limit
Sulfate	25.1	mg/L	1	25.0	< 0.126	100	90 - 110	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: 256101

QC Batch: Prep Batch: 66196

77170

Date Analyzed:

2011-01-25 QC Preparation: 2011-01-25

Analyzed By: AG Prepared By: AG

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		0.0827	mg/L	1	0.100	< 0.000400	83	68.2 - 119.3
Toluene		0.0851	mg/L	1	0.100	< 0.000300	85	74.6 - 110.8
Ethylbenzene		0.0786	mg/L	1	0.100	< 0.000300	79	71.6 - 111.9
Xylene	4	0.204	mg/L	1	0.300	< 0.000333	68	71.3 - 113.4

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

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 18 of 22 Chavez County, NM

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		0.0777	mg/L	1	0.100	< 0.000400	78	68.2 - 119.3	6	20
Toluene		0.0814	mg/L	1	0.100	< 0.000300	81	74.6 - 110.8	4	20
Ethylbenzene	5	0.0750	mg/L	1	0.100	< 0.000300	75	71.6 - 111.9	5	20
Xylene	6	0.193	mg/L	1	0.300	< 0.000333	64	71.3 - 113.4	6	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	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0829	0.0831	mg/L	1	0.1	83	83	68.2 - 110.1
4-Bromofluorobenzene (4-BFB)	0.0830	0.0816	mg/L	1	0.1	83	82	78.7 - 116.2

Matrix Spike (MS-1)

Spiked Sample: 256097

QC Batch:

77415

Date Analyzed:

2011-02-04

Analyzed By: PG

Prep Batch: 66402

QC Preparation: 2011-02-04

Prepared By: PG

	MS			Spike	Matrix		$\operatorname{Rec}$ .
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	300000	mg/L	10000	250000	51900	99	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	299000	mg/L	10000	250000	51900	99	90 - 110	0	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: 256357

QC Batch:

77416

Date Analyzed:

2011-02-04

Prep Batch: 66403

QC Preparation: 2011-02-04

Analyzed By: PG Prepared By: PG

	MS			Spike	Matrix		${ m Rec.}$
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	13400	mg/L	500	12500	1430	96	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	13400	mg/L	500	12500	1430	96	90 - 110	0	20

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

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

Report Date: February 8, 2011 Work Order: 11012511 Page Number: 19 of 22 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM

Matrix Spike (MS-1) Spiked Sample: 256357

QC Batch: 77416 Date Analyzed: 2011-02-04 Analyzed By: PG
Prep Batch: 66403 QC Preparation: 2011-02-04 Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 14000 500 12500 1870 97 90 - 110 mg/L

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

**MSD RPD** Spike Matrix Rec. Dil. Param Result Units Amount Result Rec. Limit RPD Limit Sulfate 14000 mg/L 12500 1870 90 - 110 500 97 0 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: 256101

QC Batch: 77427 Date Analyzed: 2011-02-07 Analyzed By: PG
Prep Batch: 66414 QC Preparation: 2011-02-06 Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 5290 mg/L 100 2500 2580 108 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 Result Units Dil. Amount Result Limit RPD Rec. Limit Sulfate 5280 mg/L 100 2500 2580 108 90 - 110  $\overline{20}$ 

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

Matrix Spike (MS-1) Spiked Sample: 256847

QC Batch: 77456 Date Analyzed: 2011-02-07 Analyzed By: PG
Prep Batch: 66439 QC Preparation: 2011-02-07 Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 9210 50 1250 19.4 735 90 - 110 mg/L

⁷Matrix spikes ran with batch but spiked sample was not reported in batch. Use LCS/LCSD to show analysis is under control •

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 20 of 22 Chavez County, NM

matrix	spikes	continued		

•		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
		MSD			Spike	Matrix		$\operatorname{Rec}$ .		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	8	9140	mg/L	50	1250	19.4	731	90 - 110	1	20

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

## Standard (CCV-1)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0857	86	80 - 120	2011-01-25
Toluene		mg/L	0.100	0.100	100	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.104	104	80 - 120	2011-01-25
Xylene		mg/L	0.300	0.314	105	80 - 120	2011-01-25

## Standard (CCV-2)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	$\operatorname{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		$_{ m mg/L}$	0.100	0.0873	87	80 - 120	2011-01-25
Toluene		mg/L	0.100	0.101	101	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.105	105	80 - 120	2011-01-25
Xylene		mg/L	0.300	0.315	105	80 - 120	2011-01-25

## Standard (CCV-3)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			$\operatorname{True}$	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0844	84	80 - 120	2011-01-25
Toluene		mg/L	0.100	0.0988	99	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.103	103	80 - 120	2011-01-25
Xylene		mg/L	0.300	0.310	103	80 - 120	2011-01-25

⁸Matrix spikes ran with batch but spiked sample was not reported in batch. Use LCS/LCSD to show analysis is under control •

Report Da 115-640312	te: February 8	, 2011		Vork Order: 110 ero/Rock Queer	Page Number: 21 of 22 Chavez County, NM		
Standard	(CCV-1)						
QC Batch:	77415		Date Ana	alyzed: 2011-0	2-04	Ana	lyzed 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	2011-02-04
Standard	(CCV-2)						
QC Batch:	77415		Date Ana	alyzed: 2011-0	2-04	Ana	lyzed By: PG
			CCVs	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	2011-02-04
Standard	(CCV-1)						
QC Batch:	77416		Date An	alyzed: 2011-0	2-04	Ana	lyzed By: PG
			CCVs	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	2011-02-04
Standard	(CCV-1)						
QC Batch:	,		Date An	alyzed: 2011-0	2-04	Ana	lyzed By: PG
			aav	CON	CCT	Dayses	
			CCVs	CCVs	CCVs	Percent	Data
Dorom	Flag	Units	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
Param Sulfate	rag	mg/L	25.0	24.0	96	90 - 110	2011-02-04
Standard	(CCV-2)	mg/L	25.0	24.0	96	90 - 110	2011-02-04

Date Analyzed: 2011-02-04

 $\operatorname{CCVs}$ 

Found

Conc.

23.6

CCVs

Percent

Recovery

94

 $\operatorname{CCVs}$ 

True

Conc.

25.0

QC Batch: 77416

Flag

Units

mg/L

Param

Chloride

Analyzed By: PG

Date Analyzed

2011-02-04

Percent

Recovery

Limits

90 - 110

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 22 of 22 Chavez County, NM

Standard	(CCVI)
Standard	[ U U V - Z .

QC Batch: 77416

Date Analyzed: 2011-02-04

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.1	96	90 - 110	2011-02-04

## Standard (CCV-1)

QC Batch: 77427

Date Analyzed: 2011-02-07

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.7	99	90 - 110	2011-02-07

## Standard (CCV-2)

QC Batch: 77427

Date Analyzed: 2011-02-07

Analyzed 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	2011-02-07

## Standard (CCV-1)

QC Batch: 77456

Date Analyzed: 2011-02-07

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	25.5	102	90 - 110	2011-02-07

## Standard (CCV-2)

QC Batch: 77456

Date Analyzed: 2011-02-07

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	25.5	102	90 - 110	2011-02-07

XWO #: 11012511

Analysis F	Reau	est of Chain of Custod	PAGE: OF: ANALYSIS REQUEST					
				1		ANALYSIS REQUEST le or Specify Method		
	Tŧ	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		)5 (Ext. to C35)	d Cr Pb Hg Se		TDS)	
CLIENT NAME:		SITE MANAGER:	PRESERVATIVE METHOD	TX1005	s Ba Cd	8270/625	ns, pH	
PROJECT NO.:	PROJECT		AIN		Ag As Ag As signation		(atio	
115-6403129	Rock	C 201 #1 73	&   &	8021B 8015 MOD.	als A	mi. V 0/60 508	astos Salos (Air	
LAB I.D. DATE TIME	MATRIX COMP. GRAB	Charez Co WiM SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS FILTERED (Y/N) HCL HNO3 ICE NONE	BTEX 8021B) TPH 8015	PAH 8270 RCRA Metals Ag As TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles	HCI GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/62 PCB's 8080/608 Pest. 808/608 Chloridg:	Alpha Beta (Air) PLM (Asbestos) Major Anions/Cations, ph(TDS	
2510095 1/24 16/55	LL X	Mw-1	ANNX	X		X	x X	
096 / 1645		Mic - Z	///////////////////////////////////////	A				
097 ( 17:10		mw - 3						
098 \ 1615		mw · d		$\mathbb{H}$				
on \ 16:32		Mw:5						
100 mos	141	mw-is	111/11/4_1					
101 \$ 17:18	\$ V	mu-7		4			<b>           </b>	
	$\bot \bot \bot$							
RELINQUISHED BIJ (Signature)	<u> </u>	Date: /~25-1/ RECEIVED MY: (Signature)	Date: 1/25/		SAMPLED BY: (Print		Date:	
RELINCUISHED BY: (Signature)		Date: 1/25 // RECEVED BY: (Signature)	Time:	<u> </u>	SAMPLE SHIPPED B		Time:	
71/		Time: 10:00	Time:		HAND DELIVERED	DUS UPS	OTHER:	
REI NQUISHED BY: (Signature)		Time:	Time:		TETRA TECH CONTA		Results by:	
ADDRESS STATE	: Ty	ZIP: DATE: D	LS ZK95" 11ME: 925	1723	7 th K	indlay	RUSH Charges Authorized: Yes No	
SAMPLE CONDITION WHEN RECEIVED		AMidland-BTEX, TOS		— И-	- Ohla	ides, 5004	<u></u>	



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

## Certifications

#### WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Jeff Kindley Report Date: May 4, 2011

Tetra Tech 1910 N. Big Spring Street Work Order: 11041530 Midland, TX, 79705

Project Location: Chavez County, NM Project Name: Celero/Rock Queen #1 TB

Project Number: 114-6403129

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
263909	MW-1	water	2011-04-13	10:30	2011-04-15
263910	MW-2	water	2011-04-13	11:00	2011-04-15
263911	MW-3	water	2011-04-13	11:05	2011-04-15
263912	MW-4	water	2011-04-13	10:50	2011-04-15
263913	MW-5	water	2011-04-13	10:40	2011-04-15
263914	MW-6	water	2011-04-13	11:30	2011-04-15
263915	MW-7	water	2011-04-13	11:20	2011-04-15
263916	RW-1	water	2011-04-13	10:40	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 31 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

# Report Contents

Case Narrative	5
Analytical Report	ť
Sample 263909 (MW-1)	6
Sample 263910 (MW-2)	7
Sample 263911 (MW-3)	8
Sample 263912 (MW-4)	ç
Sample 263913 (MW-5)	11
Sample 263914 (MW-6)	12
Sample 263915 (MW-7)	13
Sample 263916 (RW-1)	1
Method Blanks	17
QC Batch 80470 - Method Blank (1)	17
QC Batch 80666 - Method Blank (1)	17
QC Batch 80666 - Method Blank (1)	17
QC Batch 80692 - Method Blank (1)	17
QC Batch 80692 - Method Blank (1)	18
QC Batch 80693 - Method Blank (1)	18
QC Batch 80693 - Method Blank (1)	18
QC Batch 80869 - Method Blank (1)	18
QC Batch 80871 - Method Blank (1)	19
QC Batch 80869 - Duplicate (1)	19
QC Batch 80871 - Duplicate (1)	19
Laboratory Control Spikes	<b>2</b> 0
QC Batch 80470 - LCS (1)	20
QC Batch 80666 - LCS (1)	20
QC Batch 80666 - LCS (1)	21
QC Batch 80692 - LCS (1)	21
QC Batch 80692 - LCS (1)	21
QC Batch 80693 - LCS (1)	22
QC Batch 80693 - LCS (1)	22
QC Batch 80869 - LCS (1)	23
QC Batch 80871 - LCS (1)	23
QC Batch 80666 - MS (1)	23
QC Batch 80666 - MS (1)	24
QC Batch 80692 - MS (1)	24
QC Batch 80692 - MS (1)	24
QC Batch 80693 - MS (1)	25
QC Batch 80693 - MS (1)	25
Calibration Standards	e.
Calibration Standards	27
QC Batch 80470 - CCV (1)	
QC Batch 80470 - CCV (2)	27
QC Batch 80666 - ICV (1)	27

QC Batch 80666 -	ICV (1	)	 	 		 		, .					 	 				
QC Batch 80666 -	•	,																
QC Batch 80666 -																		
QC Batch 80692 -																		
QC Batch 80692 -																		
QC Batch 80692 -																		
QC Batch 80692 -																		
QC Batch 80693 -																		
QC Batch 80693 -																		
QC Batch 80693 -																		
QC Batch 80693 -																		
Appendix																		
Laboratory Certifi	cations		 	 									 	 				
Standard Flags .																		
A 1																		

## Case Narrative

Samples for project Celero/Rock Queen #1 TB were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041530. Samples for work order 11041530 were received intact without headspace and at a temperature of 0.6 C.

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

		$\operatorname{Prep}$	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	68300	2011-04-19 at 09:52	80470	2011-04-20 at 01:20
Chloride (IC)	E 300.0	68439	2011-04-25 at 14:24	80666	2011-04-26 at 15:33
Chloride (IC)	E 300.0	68477	2011-04-26 at 12:02	80692	2011-04-27 at 10:03
Chloride (IC)	E 300.0	68478	2011-04-26 at 13:03	80693	2011-04-27 at 10:06
SO4 (IC)	E 300.0	68439	2011-04-25 at 14:24	80666	2011-04-26 at 15:33
SO4 (IC)	E 300.0	68477	2011-04-26 at 12:02	80692	2011-04-27 at 10:03
SO4 (IC)	E 300.0	68478	2011-04-26 at 13:03	80693	2011-04-27 at 10:06
TDS	SM 2540C	68433	2011-04-25 at 12:18	80869	2011-05-02 at 09:35
TDS	SM 2540C	68476	2011-04-26 at 12:00	80871	2011-05-02 at 09:55

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 11041530 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: May 4, 2011 Work Order: 11041530 114-6403129 Celero/Rock Queen #1 TB

## **Analytical Report**

Sample: 263909 - MW-1

Laboratory: Midland

S 5030B Analysis: BTEX Analytical Method: S 8021B Prep Method: QC Batch: 80470 Date Analyzed: 2011-04-20 Analyzed By: ME Prep Batch: 68300 Sample Preparation: 2011-04-19 Prepared By: ME

Page Number: 6 of 31

Chavez County, NM

RLFlag Parameter Cert Result Units Dilution RL0.00100 Benzene 0.00600 mg/L1 Toluene 1 0.00100< 0.00100 mg/L Ethylbenzene 1 0.00100< 0.00100 mg/Lmg/LXylene < 0.00100 1 0.00100

						$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0528	mg/L	1	0.100	53	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0654	mg/L	1	0.100	65	51.1 - 128

Sample: 263909 - MW-1

Laboratory: Midland

Chloride (IC) Prep Method: N/A Analysis: Analytical Method:  $\to 300.0$ QC Batch: Analyzed By: AR 80666 Date Analyzed: 2011-04-26 Prepared By: AR Prep Batch: 68439 Sample Preparation: 2011-04-25

Sample: 263909 - MW-1

Laboratory: Midland

Analytical Method: E 300.0 Prep Method: N/A Analysis: SO4 (IC) QC Batch: 80666 Date Analyzed: 2011-04-26 Analyzed By: AR Prep Batch: 68439 Sample Preparation: 2011-04-25 Prepared By: AR

			RL			
Parameter	$\operatorname{Flag}$	Cert	Result	Units	Dilution	RL
Sulfate		1	2210	m mg/L	50	2.50

Report Date: May 4, 2011 114-6403129		Work Order Celero/Rock (	Page Number: 7 of 31 Chavez County, NM			
Sample: 263909 - MW-1						
Laboratory: Midland						
Analysis: TDS	Anal	ytical Method	: SM 2540C		Prep Method:	N/A
QC Batch: 80869	Date	Analyzed:	2011-05-02		Analyzed By:	AR
Prep Batch: 68433	Samp	ple Preparation	n: 2011-04-26		Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		3	250000	mg/L	100	10.0

## Sample: 263910 - MW-2

La	bor	atory:	Midland
	-		

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 80470 Date Analyzed: 2011-04-20 Analyzed By: ME Prep Batch: 68300 Sample Preparation: 2011-04-19 Prepared By: ME

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.00100	mg/L	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/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		i	0.0966	mg/L	1	0.100	97	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.104	mg/L	1	0.100	104	51.1 - 128

## Sample: 263910 - MW-2

Laboratory: Midland

Analysis:Chloride (IC)Analytical Method:E 300.0Prep Method:N/AQC Batch:80666Date Analyzed:2011-04-26Analyzed By:ARPrep Batch:68439Sample Preparation:2011-04-25Prepared By:AR

			KL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	8270	mg/L	100	2.50

Report Date: May 4, 2011 Work Order: 11041530 Page Number: 8 of 31 114-6403129 Celero/Rock Queen #1 TB Chavez County, NM Sample: 263910 - MW-2 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80666 Date Analyzed: 2011-04-26 Analyzed By: Prep Batch: 68439 Sample Preparation: 2011-04-25 Prepared By: RLCert Parameter Flag Result Units Dilution Sulfate 125 mg/L 1 Sample: 263910 - MW-2 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540CPrep Method: N/A QC Batch: 80869 Date Analyzed: 2011-05-02 Analyzed By: Prep Batch: 68433 Sample Preparation: 2011-04-26 Prepared By: RLParameter Flag Cert Result Units Dilution

AR

AR.

RL

2.50

AR

AR

RL

10.0

100

#### Sample: 263911 - MW-3

Laboratory:	Midland	1
-------------	---------	---

Total Dissolved Solids

Analysis: **BTEX** Analytical Method: Prep Method: S 5030B S 8021BQC Batch: 80470 Date Analyzed: 2011-04-20 Analyzed By: ME Prep Batch: 68300 Sample Preparation: Prepared By: ME 2011-04-19

1

29800

mg/L

			RL			
Parameter	Flag	$\operatorname{Cert}$	Result	Units	Dilution	RL
Benzene		1	< 0.00100	ıng/L	1	0.00100
Toluene		1	< 0.00100	m mg/L	1	0.00100
Ethylbenzene		1	< 0.00100	mg/L	1	0.00100
Xylene		1	< 0.00100	mg/L	11	0.00100

						$\mathbf{Spike}$	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Triffuorotoluene (TFT)		1	0.0759	mg/L	1	0.100	76	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0874	mg/L	1	0.100	87	51.1 - 128

E 300.0 2011-04-27 2011-04-26 RL ult	Units mg/L Units	Prep Method: Analyzed By: Prepared By:  Dilution 5000  Prep Method: Analyzed By: Prepared By:	N/A AR AR 2.50 N/A AR AR
2011-04-27 2011-04-26 RL ult 1000 1 E 300.0 2011-04-27 2011-04-26 RL ult 1	mg/L Units	Analyzed By: Prepared By: Dilution 5000  Prep Method: Analyzed By: Prepared By:	AR AR RL 2.50
E 300.0 2011-04-27 2011-04-26 RL ult	mg/L Units	Dilution 5000  Prep Method: Analyzed By: Prepared By:	RL 2.50 N/A AR
E 300.0 2011-04-27 2011-04-26 RL ult	mg/L Units	5000  Prep Method: Analyzed By: Prepared By:	2.50 N/A AR
E 300.0 2011-04-27 2011-04-26 RL ult	mg/L Units	5000  Prep Method: Analyzed By: Prepared By:	2.50 N/A AR
2011-04-27 2011-04-26 RL ult		Analyzed By: Prepared By:	AR
2011-04-27 2011-04-26 RL ult		Analyzed By: Prepared By:	AR
ult I		DA	
			DI
1.	mg/L	Dilution 50	$\frac{\text{RL}}{2.50}$
2011-05-02		Prep Method: Analyzed By: Prepared By:	N/A AR AR
RL Result	Units	Dilution	m RL
103000	mg/L	100	10.0
	Result	2011-05-02 2011-04-26 RL Result Units	2011-05-02 Analyzed By: 2011-04-26 Prepared By: RL Result Units Dilution

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 10 of 31 Chavez County, NM

sample 263912 continued ...

					RL				
Parameter	Flag		Cert		Result	Unit	s	Dilution	RL
					RL				
Parameter	Flag		Cert		Result	Unit	S	Dilution	RL
Benzene			1	<	0.00100	mg/	L	1	0.00100
Toluene			ı	<	0.00100	mg/	L	1	0.00100
Ethylbenzene			1	<	0.00100	mg/		1	0.00100
Xylene			1	<	0.00100	mg/		11	0.00100
							Spike	Percent	Recovery
Surrogate	F	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1	0.0928	mg/L	1	0.100	93	67.8 - 129
4-Bromofluorobenzene (4-BFB)			1	0.102	mg/L	1	0.100	102	51.1 - 128

#### Sample: 263912 - MW-4

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80692 Date Analyzed: 2011-04-27 Analyzed By: AR Prep Batch: 68477 Sample Preparation: 2011-04-26 Prepared By: AR

#### Sample: 263912 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) Analytical Method: Prep Method: N/A E 300.080692 QC Batch: Date Analyzed: 2011-04-27 Analyzed By: ARPrep Batch: 68477 Sample Preparation: 2011-04-26 Prepared By: AR

Report Date: May 4, 2011 114-6403129	(	Work Order: : Selero/Rock Qu			Page Number: 11 of 31 Chavez County, NM			
Sample: 263912 - MW-4								
Laboratory: Midland								
Analysis: TDS	Analy	tical Method:	SM 2540C		Prep Method:	N/A		
QC Batch: 80869	Date	Analyzed:	2011-05-02		Analyzed By:	m AR		
Prep Batch: 68433	Sample Preparation:		2011-04-26		Prepared By:	AR		
			RL					
Parameter	Flag	Cert	Result	Units	Dilution	RL		
Total Dissolved Solids		1	18500	nıg/L	100	10.0		

Sample: 263913 - MW-5									
Laboratory: Midland Analysis: BTEX QC Batch: 80470 Prep Batch: 68300		Da	ate Anal	Method: yzed: eparation:	S 8021I 2011-04 2011-04	-20		Prep Method Analyzed By: Prepared By:	ME
					RL				
Parameter	Flag		$\operatorname{Cert}$		Result	Units	3	Dilution	RL
Benzene			1	<	0.00100	mg/I	,	1	0.00100
Toluene			1	<	0.00100	$_{ m mg/I}$	ı	1	0.00100
Ethylbenzene			1	<	0.00100	mg/I	ı	1	0.00100
Xylene			1	<	0.00100	ıng/I	,	1	0.00100
							Spike	Percent	Recovery
Surrogate		Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Triffuorotoluene (TFT)			ı	0.0927	mg/L	1	0.100	93	67.8 - 129
4-Bromofluorobenzene (4-BFB)			1	0.0941	mg/L	1	0.100	94	51.1 - 128

Laboratory: Analysis: QC Batch: Prep Batch:	nalysis: Chloride (IC) QC Batch: 80692		Analytical Date Analy Sample Pre	zed:	E 300.0 2011-04-2 2011-04-2	=	Prep Method: Analyzed By: Prepared By:	ΑR
Parameter		Flag	Cert	R Resu	L lt	Units	Dilution	RL
Chloride		- 100	1	62		nıg/L	5	2.50

Sample: 263913 - MW-5

Report Date 114-6403129	e: May 4, 2011		Work Order: 11041530 Celero/Rock Queen #1 TB				Page Number: 1 Chavez Coun	
Sample: 26	3913 - MW-5							
Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 80692 68477		Date	ytical Method Analyzed: ple Preparation	2011-04-27		Prep Method: Analyzed By: Prepared By:	N/A AR AR
D		T)			RL	TT 14	Dilati	DI
Parameter Sulfate		Flag	C	ert	Result 126	Units mg/L	Dilution 5	$\frac{RL}{2.50}$
Sample: 26 Laboratory: Analysis: QC Batch:	3913 - MW-5 Midland TDS 80869			ytical Method: Analyzed:	SM 2540C 2011-05-02		Prep Method: Analyzed By:	N/A AR
Prep Batch:	68433		Samp	ole Preparation	: 2011-04-26 RL		Prepared By:	AR
Parameter Total Dissolv	J Colida		Flag	Cert	Result 458	Units mg/L	Dilution 2	RL 10.0
	3914 - MW-6 Midland BTEX 80470 68300		Date A	ical Method: nalyzed: Preparation:	S 8021B 2011-04-20 2011-04-19			5030B E

		•	•	.0000	****B/	_	-	0.00
Toluene		1	0	.00620	mg/	L	1	0.00100
Ethylbenzene		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
Trifluorotoluene (TFT)		1	0.0610	mg/L	1	0.100	61	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0759	mg/L	1	0.100	76	51.1 - 128

 $\operatorname{Cert}$ 

Flag

Parameter

Benzene

RL

Units

mg/L

 ${\bf Dilution}$ 

1

RL

0.00100

Result

0.00630

Report Date 114-6403129	e: May 4, 2011		(	Work Order: Celero/Rock Q			Page Number: 1 Chavez Coun	
Sample: 26	63914 - MW-6							
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 80692 68477		Da	nalytical Metho ate Analyzed: .mple Preparat	2011-04-2		Prep Method: Analyzed By: Prepared By:	N/A AR AR
_					RL			
Parameter		Flag	C		Result	Units	Dilution	RL
Chloride				1	92900	mg/L	5000	2.50
Sample: 26	33914 - MW-6							
Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 80692 68477		Date	lytical Method: Analyzed: ple Preparation	2011-04-27		Prep Method: Analyzed By: Prepared By:	N/A AR AR
Description		E)			RL	<b></b>	T. 1.	
Parameter		Flag			Result	Units	Dilution	RL
Sulfate			A LANGE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR	1	2310	mg/L	50	2.50
Sample: 26	3914 - MW-6							
Laboratory:	Midland							
Analysis:	TDS		Anal	ytical Method:	SM 2540C		Prep Method:	N/A
QC Batch:	80869		Date	Analyzed:	2011-05-02		Analyzed By:	AR.
Prep Batch:	68433		Samp	ole Preparation	: 2011-04-26		Prepared By:	AR
_					RL			
Parameter	1011		Flag	Cert	Result	Units	Dilution	RL
Total Dissolv	red Solids			1	146000	mg/L	100	10.0
Sample: 26	3915 - MW-7							
Laboratory:	Midland							
Analysis:	BTEX			ical Method:	S 8021B			5030B
QC Batch:	80470			nalyzed:	2011-04-20		Analyzed By: M	E
Prep Batch:	68300		Sample	Preparation:	2011-04-19		Prepared By: M	E
						cont	inued	W18.17 W

y 4, 2011 Work Order: 11041530 Celero/Rock Queen #1 TB

114-6403129 Celero/Rock Queen #1 7

sample	263915	continued			
--------	--------	-----------	--	--	--

_		~		RL			<b>7.1</b>	
Parameter	Flag	Cert		Result	Unit	ts	Dilution	RL
				RL				
Parameter	Flag	Cert		Result	Unit	ts	Dilution	RL
Benzene		1	<	0.00100	mg/	L	1	0.00100
Toluene		1	<	0.00100	mg/	$\mathbf{L}$	1	0.00100
Ethylbenzene		1	<	0.00100	mg/	$\mathbf{L}$	1	0.00100
Xylene		1	<	0.00100	mg/	L	1	0.00100
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0610	mg/L	1	0.100	61	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0744	mg/L	1	0.100	74	51.1 - 128

Page Number: 14 of 31

Prep Method: N/A

AR

AR

Analyzed By:

Prepared By:

Chavez County, NM

#### Sample: 263915 - MW-7

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 QC Batch: 80693 Date Analyzed: 2011-04-27 Prep Batch: 68478 Sample Preparation: 2011-04-26

RL Parameter Flag Cert Result Units Dilution RL

#### Sample: 263915 - MW-7

Laboratory: Midland

Prep Method: N/A Analysis: SO4 (IC) Analytical Method: E 300.0 80693 Analyzed By: QC Batch: Date Analyzed: 2011-04-27 ARPrep Batch: 68478 Sample Preparation: 2011-04-26 Prepared By: AR

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 15 of 31 Chavez County, NM

Sample: 263915 - MW-7

Laboratory: Midland

Analysis: TDS Analytical Method: Prep Method: N/A SM 2540C QC Batch: 80871 Analyzed By: ARDate Analyzed: 2011-05-02 Prep Batch: 68476 Prepared By: Sample Preparation: 2011-04-28 AR

RL

Parameter Flag Cert Result Units Dilution RL Total Dissolved Solids 1 177000 mg/L 100 10.0

#### Sample: 263916 - RW-1

Laboratory: Midland

Analysis: BTEX Analytical Method: Prep Method: S 5030B S 8021B QC Batch: 80470 Date Analyzed: Analyzed By: 2011-04-20 MEPrep Batch: 68300 Sample Preparation: Prepared By: ME2011-04-19

			$\mathrm{RL}$			
Parameter	$\mathbf{Flag}$	Cert	Result	Units	Dilution	RL
Benzene		ı	0.0133	mg/L	1	0.00100
Toluene		1	< 0.00100	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene		1	< 0.00100	$_{ m ing/L}$	1	0.00100
Xylene		1	< 0.00100	mg/L	1	0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0589	mg/L	1	0.100	59	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0765	$\mathrm{mg/L}$	1	0.100	76	51.1 - 128

#### Sample: 263916 - RW-1

Laboratory: Midland

Analysis: Chloride (IC)

Analytical Method: E 300.0

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

Prep Batch: 68478

Sample Preparation: 2011-04-26

Prep Method: N/A

Analyzed By: AR

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	139000	mg/L	5000	2.50

Report Date: May 4, 2011 114-6403129		Work ( Celero/R	Order: 1 ock Que		Page Number: 16 of 3 Chavez County, NN		
Sample: 263916 - RW-1							
Laboratory: Midland							
Analysis: SO4 (IC)		Analytical M	lethod:	E 300.0		Prep Method:	N/A
QC Batch: 80693		Date Analyz	ed:	2011-04-27		Analyzed By:	AR
Prep Batch: 68478		Sample Prep	aration:	2011-04-26		Prepared By:	AR
				RL			
Parameter	Flag	Cert	Re	esult	Units	Dilution	RL
Sulfate		1	2	680	mg/L	50	2.50
G 1 000010 PW							
Sample: 263916 - RW-1							
Laboratory: Midland							
Analysis: TDS		Analytical M	ethod:	SM 2540C		Prep Method:	N/A
QC Batch: 80871		Date Analyze	ed:	2011-05-02		Analyzed By:	m AR
Prep Batch: 68476		Sample Prepa	aration:	2011-04-28		Prepared By:	AR
				RL			
Parameter	Fla	g Cer	t.	Result	Units	Dilution	RL
Total Dissolved Solids		1		222000	mg/L	100	10.0

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 17 of 31 Chavez County, NM

## Method Blanks

Method Blank (1)

QC Batch: 80470

QC Batch: 80470 Prep Batch: 68300 Date Analyzed: 2011-04-20 QC Preparation: 2011-04-19 Analyzed By: ME Prepared By: ME

			MDL		
Parameter	$\operatorname{Flag}$	Cert	Result	Units	RL
Benzene		1	< 0.000400	mg/L	0.001
Toluene		1	< 0.000300	m mg/L	0.001
Ethylbenzene		1	< 0.000300	m mg/L	0.001
Xylene		1	< 0.000333	mg/L	0.001

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0880	mg/L	1	0.100	88	70.2 - 118
4-Bromofluorobenzene (4-BFB)		1	0.0959	mg/L	1	0.100	96	47.3 - 116

Method Blank (1)

QC Batch: 80666

QC Batch: 80666 Prep Batch: 68439 Date Analyzed: 2011-04-26 QC Preparation: 2011-04-25 Analyzed By: AR Prepared By: AR

Method Blank (1)

QC Batch: 80666

QC Batch: 80666 Prep Batch: 68439 Date Analyzed: 2011-04-26 QC Preparation: 2011-04-25

Analyzed By: AR Prepared By: AR

			MDL		
Parameter	$\operatorname{Flag}$	Cert	Result	Units	RL
Sulfate		1	< 0.177	mg/L	2.5

Report Date: May 4, 114-6403129	2011	Work Order Celero/Rock (		Page Number: 18 Chavez County		
Method Blank (1)	QC Batch: 80692					
QC Batch: 80692 Prep Batch: 68477		Date Analyzed: QC Preparation:	2011-04-27 2011-04-26		Analyzed By: Prepared By:	AR AR
_				MDL	**	
Parameter	Flag	Cert		Result	Units	RL
Chloride		j		0.571	${ m mg/L}$	2.5
Method Blank (1)	QC Batch: 80692					
QC Batch: 80692		Date Analyzed:	2011-04-27		Analyzed By:	AR
Prep Batch: 68477		QC Preparation:	2011-04-26		Prepared By:	AR
				MDI		
Parameter	Flag	Cert		$rac{ ext{MDL}}{ ext{Result}}$	Units	RL
Sulfate	Trag	1		< 0.177	mg/L	2.5
Method Blank (1)  QC Batch: 80693	QC Batch: 80693	Date Analyzed:	2011-04-27		Analyzed By:	AR
Prep Batch: 68478		QC Preparation:	2011-04-26		Prepared By:	AR
				MDL		
Parameter	Flag	Cert		Result	Units	RL
Chloride		1	. 44	0.691	mg/L	2.5
Method Blank (1)	QC Batch: 80693					
QC Batch: 80693		Date Analyzed:	2011-04-27		Analyzed By:	AR
Prep Batch: 68478		QC Preparation:	2011-04-26		Prepared By:	AR
Parameter	Flag	Cert		MDL Result	Units	RL
Sulfate	ı tag	l Cert		<0.177	nig/L	2.5
					-0/-	

Report Date: May 4, 2011 114-6403129	Work Order Celero/Rock O	Page Number: 19 of 31 Chavez County, NM				
Method Blank (1) QC Batch: 80869						
QC Batch: 80869 Prep Batch: 68433	Date Analyzed: QC Preparation:	2011-05-02 2011-04-25			Analyzed By: Prepared By:	
		_	MDL			
Parameter Total Dissolved Solids	Flag	Cert	Result <9.75		Units	$\frac{RL}{10}$
Total Dissolved Solids		1	<9.10		mg/L	10
Method Blank (1) QC Batch: 80871						
QC Batch: 80871	Date Analyzed:	2011-05-02			Analyzed By:	
Prep Batch: 68476	QC Preparation:	2011-04-26			Prepared By:	AR
	771	<b>a</b>	MDL		••	
Parameter Total Dissolved Solids	Flag	Cert	Result 10.0		Units mg/L	$\frac{RL}{10}$
	11/20171	1	20.0	AMILY .		10
Duplicates (1) Duplicated Sample: 2639	914					
QC Batch: 80869	Date Analyzed:	2011-05-02			Analyzed By:	AR
Prep Batch: 68433	QC Preparation:	2011-04-25			Prepared By:	AR
	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids 1	151000	146000	ıng/L	100	3	10
Duplicates (1) Duplicated Sample: 2639	016					
		0011 07 00			A L. D.	A.D.
QC Batch: 80871 Prep Batch: 68476	Date Analyzed: QC Preparation:	2011-05-02 2011-04-26			Analyzed By: Prepared By:	AR AR
- 1-1 ₂ - 2-000-00-00-00-00-00-00-00-00-00-00-00-0	- Lepatonini				rroported by.	
	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids 1	228000	222000	mg/L	100	3	10

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 20 of 31 Chavez County, NM

## **Laboratory Control Spikes**

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

QC Batch: 80470 Prep Batch: 68300 Date Analyzed: 2011-04-20 QC Preparation: 2011-04-19 Analyzed By: ME Prepared By: ME

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	0.0942	mg/L	1	0.100	< 0.000400	94	76.8 - 110
Toluene		1	0.101	mg/L	1	0.100	< 0.000300	101	81 - 108
Ethylbenzene		1	0.101	mg/L	1	0.100	< 0.000300	101	78.8 - 118
Xylene		1	0.304	mg/L	1	0.300	< 0.000333	101	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	0.0870	mg/L	1	0.100	< 0.000400	87	76.8 - 110	8	20
Toluene		1	0.0940	mg/L	1	0.100	< 0.000300	94	81 - 108	7	20
Ethylbenzene		1	0.0934	mg/L	1	0.100	< 0.000300	93	78.8 - 118	8	20
Xylene		1	0.284	mg/L	1	0.300	< 0.000333	95	80.3 - 119	7	20

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

		LCS	LCSD			Spike	LCS	LCSD	${f Rec}.$
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1	0.0920	0.0856	mg/L	1	0.100	92	86	66.6 - 114
4-Bromofluorobenzene (4-BFB)	1	0.108	0.0993	mg/L	1	0.100	108	99	68.2 - 124

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

QC Batch: 80666 Prep Batch: 68439 Date Analyzed: 2011-04-26 QC Preparation: 2011-04-25 Analyzed By: AR Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	27.3	mg/L	1	25.0	< 0.265	109	90 - 110

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

 $continued \dots$ 

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 21 of 31 Chavez County, NM

control spikes continued

common spines communica			LCSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$	RPD	Limit
Chloride			27.4			25.0	< 0.265	110	90 - 110		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:

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68439

QC Preparation: 2011-04-25

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	25.8	mg/L	1	25.0	< 0.177	103	90 - 110

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

			LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$	RPD	Limit
Sulfate		1	25.6	mg/L	1	25.0	< 0.177	102	90 - 110	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:

80692

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch: 68477

QC Preparation: 2011-04-26

Prepared By: AR

			LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$
Chloride		1	27.5	mg/L	1	25.0	< 0.265	110	90 - 110

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
Chloride		1	27.5	mg/L	1	25.0	< 0.265	110	90 - 110	0	20

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 22 of 31 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

80692

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch: 68477 QC Preparation: 2011-04-26

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	27.3	mg/L	1	25.0	< 0.177	109	90 - 110

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
Sulfate		1	27.1	mg/L	1	25.0	< 0.177	108	90 - 110	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:

80693

Prep Batch: 68478

Date Analyzed:

2011-04-27 QC Preparation: 2011-04-26 Analyzed By: AR

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Chloride		1	26.4	mg/L	1	25.0	< 0.265	106	90 - 110

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
Chloride		1	26.4	mg/L	1	25.0	< 0.265	106	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: Prep Batch: 68478 Date Analyzed:

2011-04-27 QC Preparation: 2011-04-26 Analyzed By: AR Prepared By: AR

LCS Spike Rec. Matrix  $\mathbf{C}$ Param Result Units Dil. Amount Result Rec. Limit Sulfate 24.7 mg/L 25.0 < 0.17799 90 - 110 1

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 23 of 31 Chavez County, NM

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	24.6	mg/L	1	25.0	< 0.177	98	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: 80869 Date Analyzed:

2011-05-02

Analyzed By: AR Prepared By: AR

Prep Batch: 68433

QC Preparation: 2011-04-25

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1030	mg/L	1	1000	<9.75	103	90 - 110

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	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	990	mg/L	1	1000	< 9.75	99	90 - 110	4	10

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: 80871 Prep Batch: 68476

2011-05-02 Date Analyzed: QC Preparation: 2011-04-26

Analyzed By: AR. Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	${f Limit}$
Total Dissolved Solids		1	1040	mg/L	1	1000	< 9.75	104	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1070	mg/L	1	1000	< 9.75	107	90 - 110	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 Sample: 263910

Analyzed By: AR. QC Batch: 80666 Date Analyzed: 2011-04-26 Prepared By: AR Prep Batch: 68439 QC Preparation: 2011-04-25

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 24 of 31 Chavez County, NM

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	10400	m mg/L	100	2750	8280	77	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	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	10400	mg/L	100	2750	8280	77	90 - 110	0	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: 263910

QC Batch:

80666

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68439

QC Preparation: 2011-04-25

Prepared By: AR

			MS			$\mathbf{Spike}$	Matrix		Rec.
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	2470	mg/L	100	2750	167	84	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	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	2490	mg/L	100	2750	167	84	90 - 110	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: 263913

QC Batch:

80692

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch: 68477

QC Preparation: 2011-04-26

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	338	nıg/L	10	275	62.2	100	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	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	339	nıg/L	10	275	62.2	101	90 - 110	0	20

Work Order: 11041530

Page Number: 25 of 31

114-6403129

Celero/Rock Queen #1 TB

Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 263913

QC Batch: 80692 Prep Batch: 68477 Date Analyzed: 2011-04-27 QC Preparation: 2011-04-26 Analyzed By: AR Prepared By: AR

MS Spike Param  $\mathbf{F}$  $\mathbf{C}$ Result Units Dil. Amount Matrix Rec. Result Rec. Limit

90 - 110

90

124

275 373 mg/L 10 Sulfate Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dił.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	373	mg/L	10	275	124	90	90 - 110	0	20

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

Spiked Sample: 263916 Matrix Spike (MS-1)

QC Batch: 80693 Prep Batch: 68478 Date Analyzed: 2011-04-27 QC Preparation: 2011-04-26

Analyzed By: AR Prepared By: AR

MS Spike Matrix Rec. F Result Limit Param Result Units Dil. Amount Rec. 1380 132000 800 90 - 110 Chloride 143000 mg/L 50

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

			MSD			Spike	Matrix		Rec.		RPD	
Param	$\mathbf{F}$	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit	
Chloride		,	143000	mg/L	50	1380	132000	800	90 - 110	0	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: 263916

Date Analyzed: 2011-04-27 QC Batch: 80693 Prep Batch: 68478 QC Preparation: 2011-04-26

Analyzed By: AR. Prepared By: AR

			MS			$\mathbf{Spike}$	Matrix		$\mathrm{Rec.}$
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	3590	mg/L	50	1380	2680	66	90 - 110

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 26 of 31 Chavez County, NM

			MSD			Spike	Matrix		Rec.		RPD
Param	F	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Sulfate		1	3570	mg/L	50	1380	2680	65	90 - 110	1	20

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 27 of 31 Chavez County, NM

## Calibration Standards

Standard (CCV-1)

QC Batch: 80470

Date Analyzed: 2011-04-20

Analyzed By: ME

				$rac{ ext{CCVs}}{ ext{True}}$	$\begin{array}{c} { m CCVs} \\ { m Found} \end{array}$	CCVs	Percent	Dodo
					round	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\operatorname{Cert}$	$\mathbf{Units}$	Conc.	Conc.	${f Recovery}$	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0916	92	80 - 120	2011-04-20
Toluene		1	mg/L	0.100	0.0996	100	80 - 120	2011-04-20
Ethylbenzene		1	mg/L	0.100	0.0983	98	80 - 120	2011-04-20
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-20

Standard (CCV-2)

QC Batch: 80470

Date Analyzed: 2011-04-20

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		)	mg/L	0.100	0.0907	91	80 - 120	2011-04-20
Toluene		1	$_{ m mg/L}$	0.100	0.0978	98	80 - 120	2011-04-20
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.0964	96	80 - 120	2011-04-20
Xylene		1	$_{ m mg/L}$	0.300	0.290	97	80 - 120	2011-04-20

Standard (ICV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				${f True}$	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	23.1	92	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80666 Date Analyzed: 2011-04-26 Analyzed By: AR

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 28 of 31 Chavez County, NM

				ICVs True	ICVs Found	ICVs Deposit	Percent	Data
				rue	round	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.2	97	90 - 110	2011-04-26

## Standard (CCV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

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	23.1	92	90 - 110	2011-04-26

## Standard (CCV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

Analyzed 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	24.0	96	90 - 110	2011-04-26

## Standard (ICV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed 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	23.1	92	90 - 110	2011-04-27

## Standard (ICV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 29 of 31 Chavez County, NM

				ICVs	ICVs	ICVs	Percent	_
				True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-27

## Standard (CCV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\operatorname{Flag}$	Cert	Units	Conc.	Conc.	Recovery	Limits	
	riag	Cert	Onics	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	$_{ m mg/L}$	25.0	23.8	95	90 - 110	2011-04-27

## Standard (CCV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

				CCVs True	${ m CCVs} \ { m Found}$	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.3	97	90 - 110	2011-04-27

## Standard (ICV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	m mg/L	25.0	23.8	95	90 - 110	2011-04-27

## Standard (ICV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 30 of 31 Chavez County, NM

				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.3	97	90 - 110	2011-04-27

## Standard (CCV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

				CCVs True	${ m CCVs}$ Found	CCVs Percent	Percent Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		,	mg/L	25.0	23.1	92	90 - 110	2011-04-27

## Standard (CCV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				$\operatorname{True}$	Found	Percent	Recovery	$\mathbf{Date}$
Param	$\operatorname{Flag}$	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2011-04-27

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 31 of 31 Chavez County, 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.

X11041530

TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 882-4559 * Fax (432) 682-3946  CLIENT HAME  CLIENT HAME  CLIENT HAME  SITE MANAGER   Analysis Request of Chain of Custody Record							PAGE: OF: /																									
1910 N. Big Spring St.										-		_	_		_						(								)			
1030		1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946														5	וخ									011						
1030	C.	ler	o,		SITE MANAGER: Kindley PRESERVATIVE METHOD									VE		- 1	a	æ		s	260/624	270/625					Hu	12, 12,				
1030			129	ìì						ATNO		2						MOD	₽		98	Volatile	8240/8	i. Vol. 8	809	١	ė	Air)	tos)	<b>[</b> ]3		
1030		i .		TIME	MATRIX	COMP	GRAB	SAMPL	E IDENTIFICATION	N MARKA	בוו דבסבה ה		HNO3	ICE	NONE		21	TPH 8015	RCRA Metal	TCLP Meta	TCLP Volati	TCLP Semi	GC.MS Vol.	GC.MS Serr	PCB's 8080/	Pest. 606/60	Gamma Spe	Alpha Beta	PLM (Asbes	10 11 N		
910	2હ્યુવન	4/13	}	1030	W		×	mw-1		2	11	, X		X	Х		χ									1	$\overline{\mathbf{I}}$					
913 1040 mw-5 914 1136 mw-6 915 1120 mw-7 916 41/13 1040 mw-7 916		ς		1100				mw-2		(	K	K		1	K												1		(			
913 / 1040 / mw-5 914 1130 / mw-6 915 1120 / mw-7 916 4/13 1040 / X Rw-1  RELINQUISHED BY/Signature) Date: ### Time:	911	\		1105	S			mw-3						1)	)															$\  \ $		
PRELINQUISHED BY (Signature)  Date: Time:	912			1050	$ \rangle $			mwy				$\mathbb{R}^{2}$		K			$\setminus$										)		7			
914 1130 mw-6 915 1120 mw-7 916 4/13 1040 mx-7 916	913	1		1040	$ \rangle $		)	mw-s		1/				1	$\prod$		5		T								T	П		$\mathbb{I}$		
RELINQUISHED BY (Signature)  Date: 413 1940 W X RW - 415-11 RECEIVED BY: (Signature)  RELINQUISHED BY (Signature)  Date: 13-50  SAMPLE BY: (Print & Initial)  Time: 13-50  SAMPLE BY: (Signature)  Time: 13-50  SAMPLE CONTACT: 13-50  SAMPLE CONTACT: 13-50  SAMPLE CONTACT: 13-50  Time: 13-50  SAMPLE CONTACT: 13-50  SAMPLE CONTACT: 13-50  Time: 13-50  SAMPLE CONTACT: 13-50  SAMPLE SAMPLE CONTACT: 13-50  SAMPLE CONTACT: 13-50  SAMPLE SAMPLE CONTACT: 13-50  SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPLE SAMPL	914	)		1130	Л						1			$\prod$	17		$\prod$	T		П		T						П	$\ $	$\mathbb{I}$		
RELINQUISHED BY/Sig/sture)  Date: 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W X RW - 4/1/3 1040 W	_	1		1120	$\rangle$		(	mw-7				1		1	)		1	T								$\rceil \rangle$	T	П	7	7	Π	
RELINQUISHED BY/Sig/deture)  Date: 4-15-11 RECEIVED BY: (Signature)  Date: 13-51 Firmes SAMPLED BY: (Pright & Initial)  FRECINQUISHED BY/Signature)  Date: 13-51 Firmes SAMPLED BY: (Pright & Initial)  FRECINGUISHED BY/Signature)  Date: 13-51 Firmes SAMPLED BY: (Pright & Initial)  FRECINGUISHED BY/Signature)  Date: 13-51 Firmes SAMPLED BY: (Signature)  Date: 13-51 Firmes SAMPLED BY: (Signature)  PEELX BUS OTHER: 15-11 FIRMES	916	4/19	3	1040	w					4	//^	/\x		X	×		X									χ			X	X		
Time:  RELINQUISHED BY: (Signature)  Date: Time:  Time:  Date: Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Terra Tech Contact Person:  Results by:  Results by:  Results by:  Terra Tech Contact Person:  Terra Tech Contact Person:  Results by:  Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Te																																
Time:  RELINQUISHED BY: (Signature)  Date: Time:  Time:  Date: Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Time:  Terra Tech Contact Person:  Results by:  Results by:  Results by:  Terra Tech Contact Person:  Terra Tech Contact Person:  Results by:  Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Tech Contact Person:  Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Terra Te			2												1/4		,															
RELINQUISHED BY/(Signature)  Date: Time: Time: SAMPLE SHIPPED BY: (Circle) FEDEX BUS OTHER: UPS OTHER: Time:	RELINQUISHED	BY/Sig	ylature	"_FK	a	1		-	RECEIVED BY: (Signature)					7		6''		_   S	35	.ED E	3Y: (P) 5 /	rijet & i <i>Jep j</i>	Initial 10 d		9		Z			<u> </u>	3 -11	
RECEIVED BY: (Signature)  Date: Time: Time: Tetra TECH CONTACT PERSON: Results by:  RECEIVED BY: (Signature)  Date: Time: Tetra TECH CONTACT PERSON: Results by:  RECEIVED BY: (Signature)  TETRA TECH CONTACT PERSON: Results by:  RECEIVED BY: (Signature)  TETRA TECH CONTACT PERSON: Results by:  TETRA TECH CONTACT PERSON: Resul	RELINQUISHED	BY Sig	nature	e)	Date:				RECEIVED SY. (Signature)					_			_	_ s	AMPL	E SH	IIPPE	D BY:	(Circl	e)								1
RECEIVING LABORATORY: Trace RECEIVED BY: (Signature)  ADDRESS: CITY: Matang STATE: ZIP: DATE: TIME: TIME: THE YES No  SAMPLE CONDITION WHEN RECEIVED: REMARKS: LESTS-MIDLAND  O. 6 CINTACT XXIII LESTS-MIDLAND	RELINQUISHED	UISHED BY: (Signature) Date:				RECEIVED BY: (Signature)				Date:						HAN	DE					l:					s by:		=			
CONTACT: PHONE: DATE: TIME: Yes NO  SAMPLE CONDITION WHEN RECEIVED: REMARKS: LESTS Midland	RECEIVING LAB	ORATO	RY:	Trav	e				I RECEIVED BY: (Signature)	1711.111			IIme:				The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s															
SAMPLE CONDITION WHEN RECEIVED: REMARKS: LESTS-Midland	CITY: // rate	ng		STATE:		PL	ONE		DATE:	т	IME:							-   -	Je	**	. 1	מני	a ie	7					Autho	rized:		<b>,</b>
U.b cintact 1 XUUL tests Midland	SAMPLE CONDI	TION W	HEN F	RECEIVED:				REMARKS:	1		·	_						_ !														
Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.	0.6 ر	3.6 cintact XUU tests Midland																														