1R - 1595

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 Tract 11 Tank Battery, Located in Unit Letter G, Section 26, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1595).

Mr. Von Gonten:

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

FACILITY BACKGROUND

Pit Closure

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

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



subsoil would support a soil boring rig.

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

Groundwater Investigation

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

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

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

Gauging and Monitor Well Sampling

On May 25, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling was initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for all but the May 25, 2007 sampling event. The hydraulic gradient indicates a southeasterly direction. Groundwater gradient maps for the sampling events are included as Figures 4 through 8. Gauging data is summarized in Table 1.

TETRA TECH

During the sampling events, each of the wells was purged utilizing either a submersible pump or by hand bailing and subsequently sampled for BTEX utilizing method Sw8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+. The samples were properly preserved and submitted under proper chain-of-custody control to Trace Analysis Inc. of Lubbock, Texas. All water samples collected and analyzed were below the NMWQCC standard of 0.01 milligrams per liter (mg/L) of benzene. Chlorides for the sampling period ranged from 857 mg/L in monitor well MW-4 on July 13, 2010 to 122,000 mg/L in monitor well MW-1 on January 19, 2011. All the monitor wells during the sampling events exceeded the NMWQCC standard of 250 mg/L chlorides. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 9 through 14. Copies of the laboratory analyses are enclosed in Appendix C.

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

<u>CONCLUSIONS</u>

- 1. On May 25, 2007, initial sampling began at the site. In 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged, and sampled. The samples were preserved and delivered to Trace Analysis, Inc. of Midland, Texas for analysis of BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+.
- 2. The hydraulic gradient indicates a southeasterly direction.
- 3. All wells tested below the NMQQCC standards of 0.01 mg/L for benzene.
- Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells. The chloride concentrations at the site range from 857 mg/L in monitor well MW-4 on July 13, 2010 to 122,000 mg/L in monitor well MW-1 on January 19, 2011.

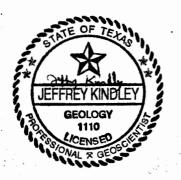
RECOMMENDATIONS

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



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

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



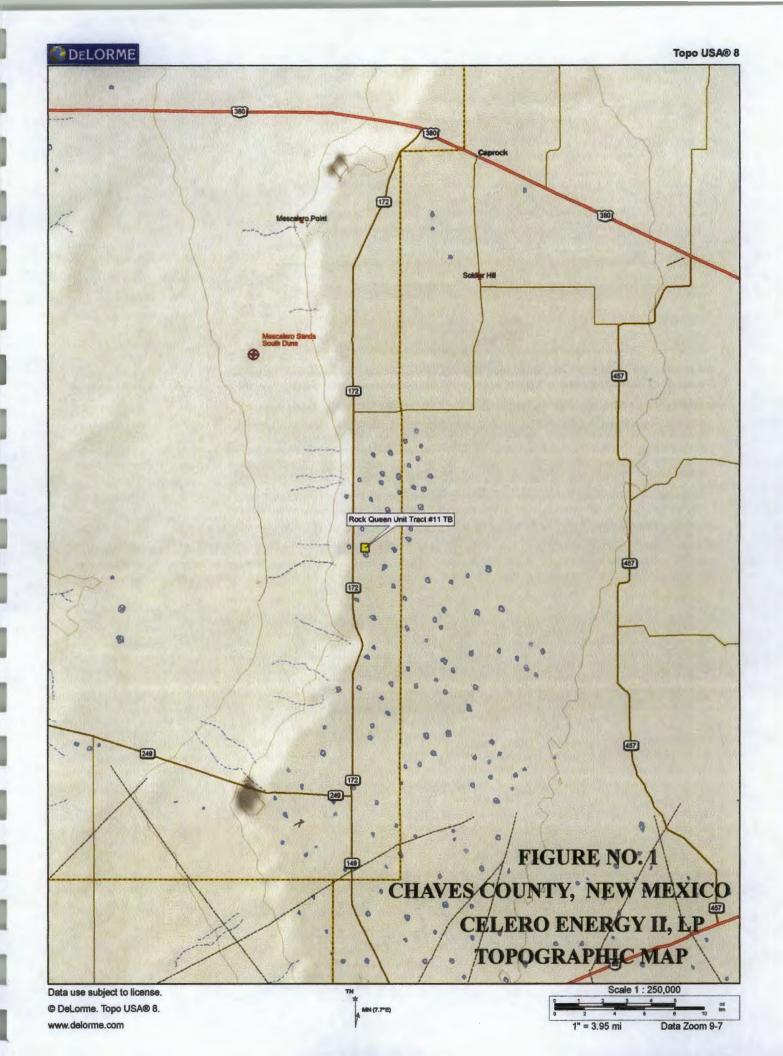
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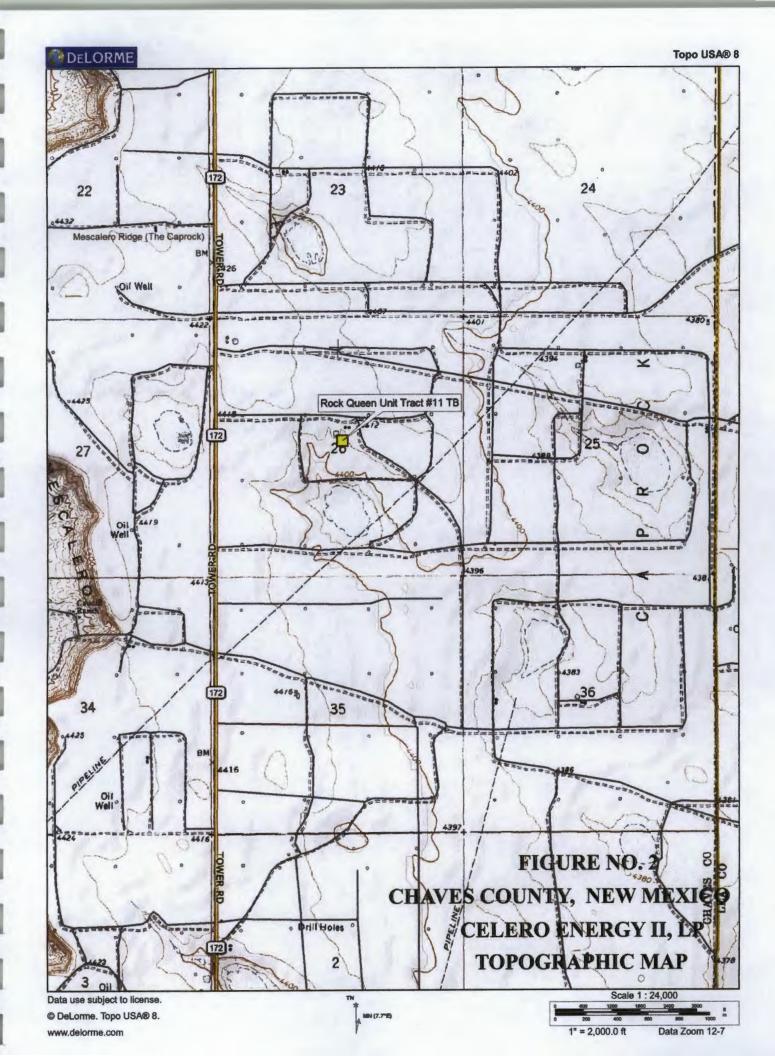
Respectfully submitted, Tetra Tech, Inc.

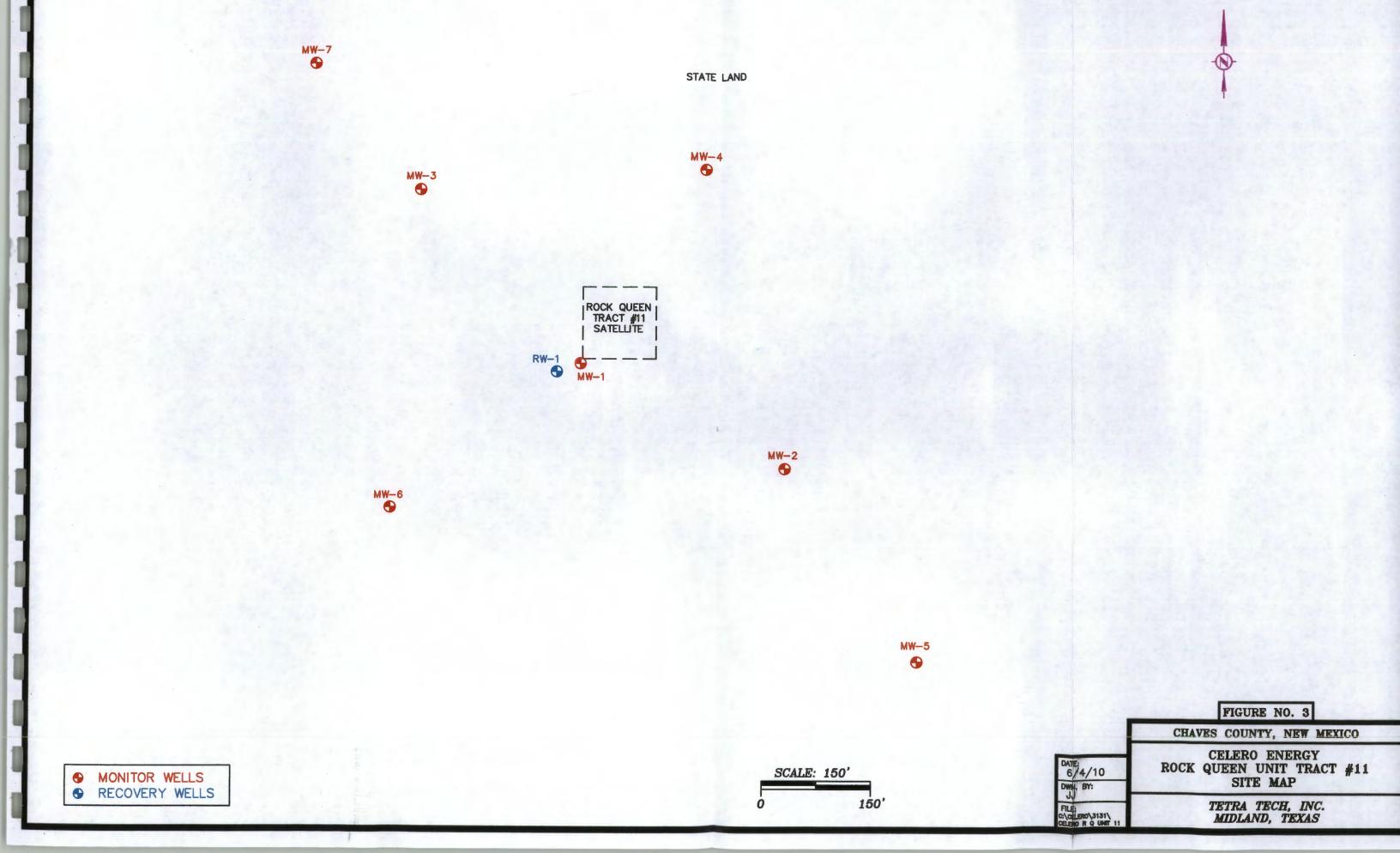
Jeffrey Kindley, P.G. Senior Environmental Geologist

Bruce Woodard - Celero Energy II, LP

FIGURES







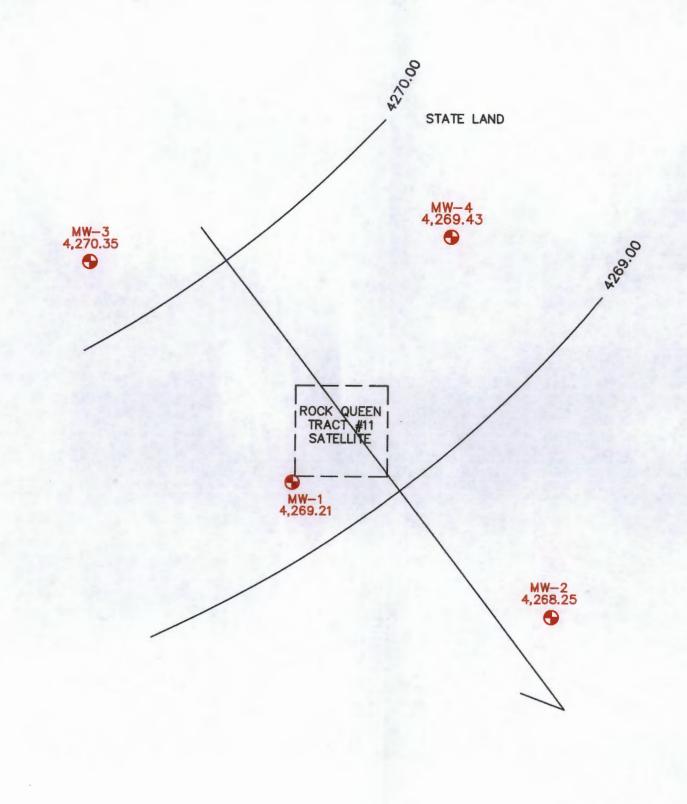


FIGURE NO. 4

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 2/25/2010

TETRA TECH, INC. MIDLAND, TEXAS

C.I. = 1'

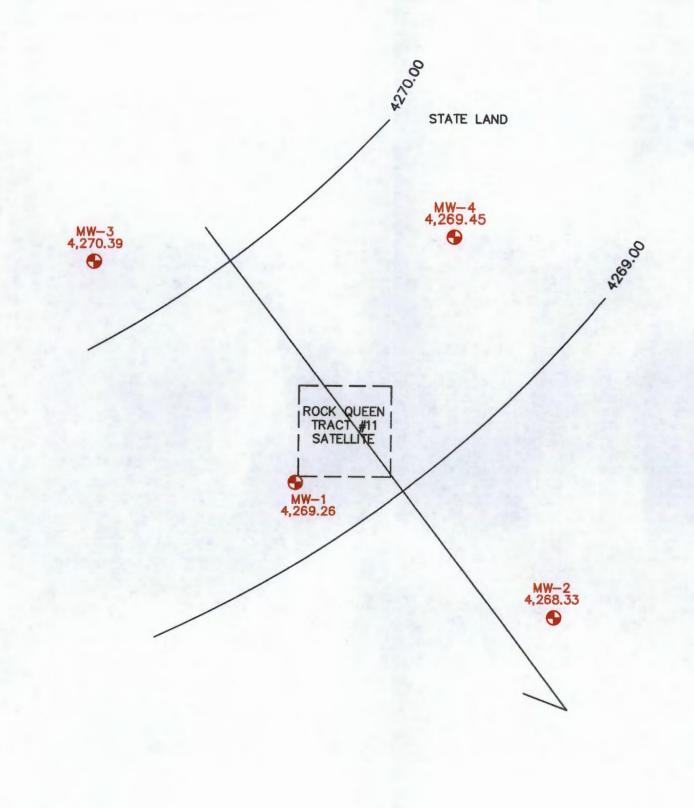
SCALE: 100' 0 10

DATE:
2/25/2010

DWN. BY:
IM

FILE:
C:\CELERO\3131\
CELERO R Q UNIT 11

MONITOR WELLS



MONITOR WELLS

C.I. = 1'

SCALE: 100'

DATE: 7/13/2010

DWN. BY: IM FILE: C:\CRLERO\3131\ CRLERO R Q UNIT 11

FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 07/13/2010

TETRA TECH, INC. MIDLAND, TEXAS

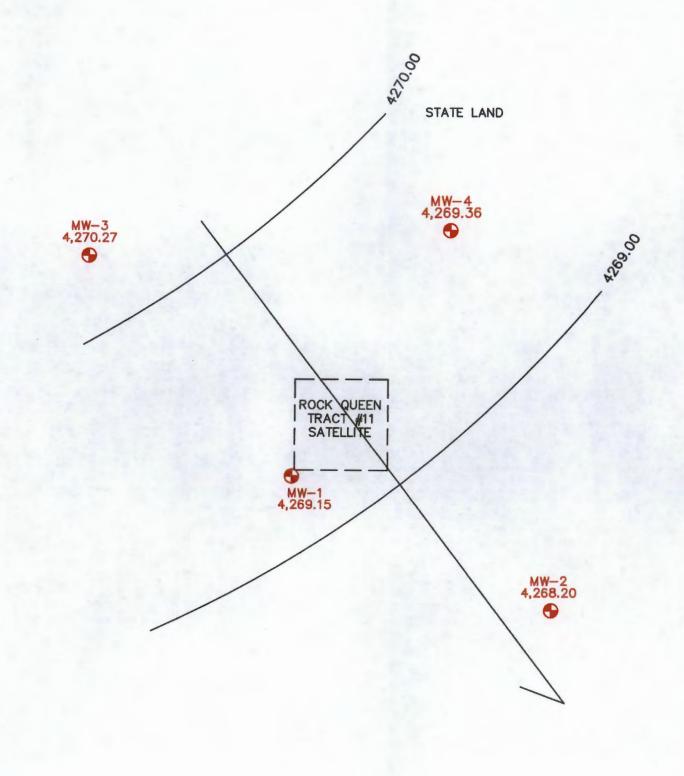


FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 10/11/2010

TETRA TECH, INC. MIDLAND, TEXAS

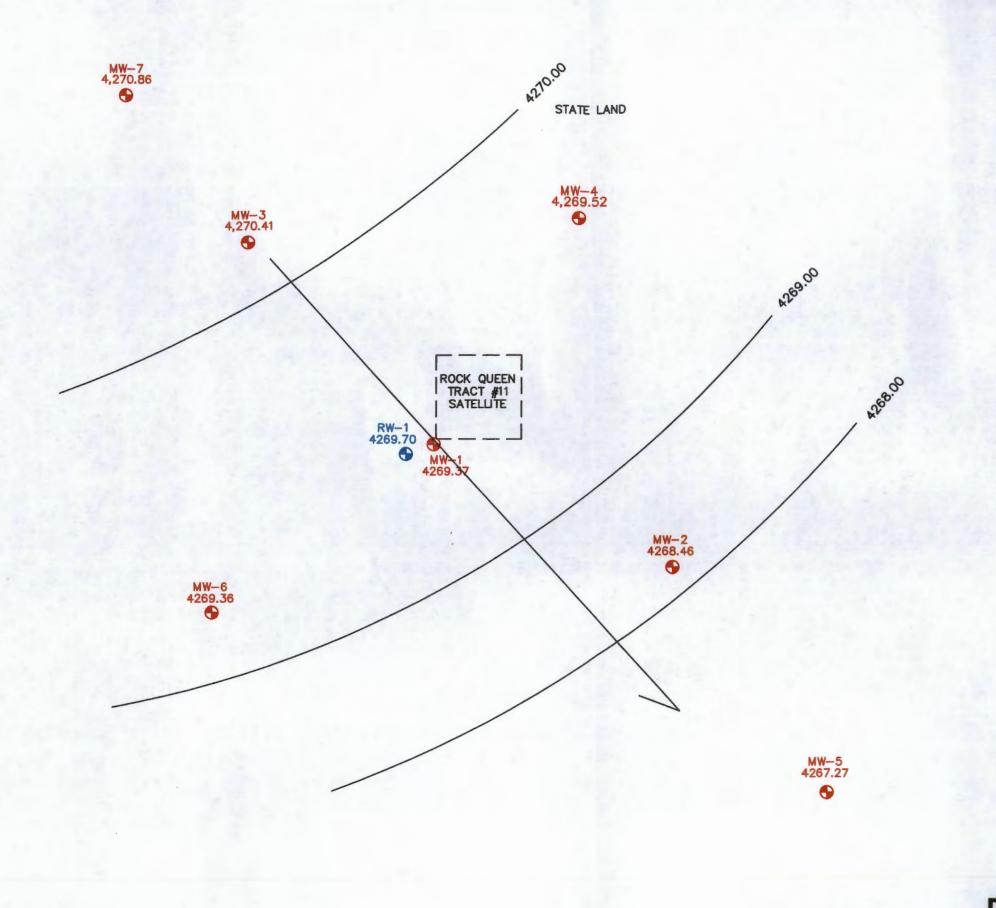
• MONITOR WELLS

C.I. = 1'

SCALE: 100'

100'

DATE: 10/11/2010 DWN. BY: IM FILE: C:\CELERO\3131\ CELENO R Q UNIT 11



MONITOR WELLS RECOVERY WELLS

SCALE: 150'

C.I. = 1'

DATE: 01/17/2011 DWN. BY: IM FILE: C\CELERO\3131\ CELERO R Q UNIT 11

FIGURE NO. 7 CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 01/17/2011

TETRA TECH, INC. MIDLAND, TEXAS

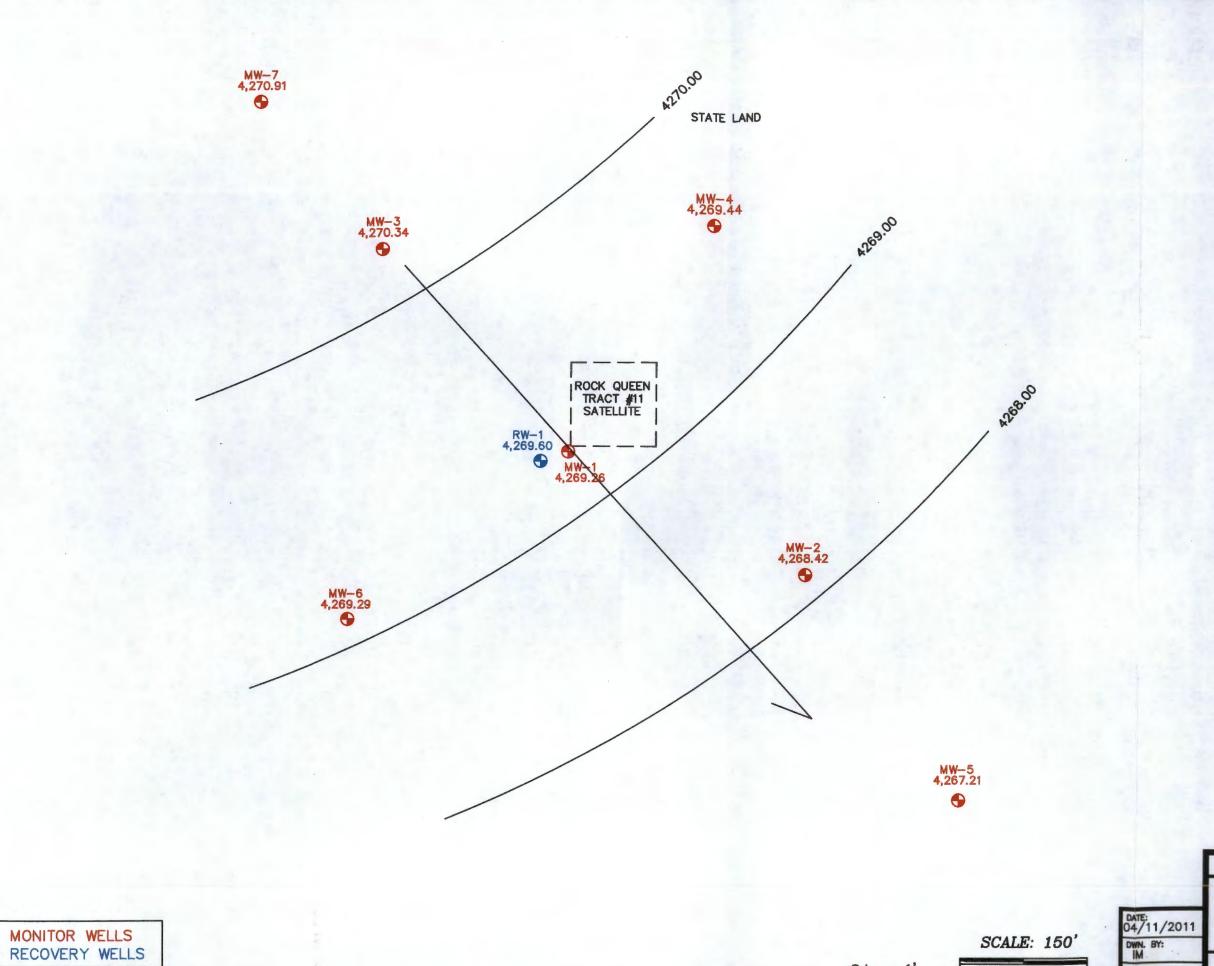


FIGURE NO. 8

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 04/11/2011

TETRA TECH, INC. MIDLAND, TEXAS

FILE: C:\CELERO\3131\ CELERO R Q UNIT 11

150'

C.I. = 1'

STATE LAND

MW-4 10,700 **⊕**

MW−3 1,990 ⊕

ROCK QUEEN TRACT #11 SATELLITE MW-1 60,700

MW-2 5,670

FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 02/25/2010

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'

DATE:
02/25/2010
DWN. BY:
IM
FILE:
C:\CELERO\3131\
CELERO R Q UNIT 11

STATE LAND

MW-4 857 **⊕**

MW−3 3,260 •



MW−2 16,400

FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 7/13/2010

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'

DATE:
7/13/2010

DWN. BY:
IM

FILE:
C:\CELERO\3131\
CELERO R Q UNIT 11

STATE LAND

MW-4 7,140 **⊕**

MW-3 2,700 **⊕**



MW-2 24,000

FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 10/11/2010

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'

DATE: 10/11/2010 DWN, BY: IM FILE: C:\CELERO\3131\ CELERO R Q UNIT 11

MW-7 994 **⊕**

STATE LAND

MW-4 109,000 ⊕

MW−3 50,100



MW−2 118,000 •

MW-6 25,800 **⊕**

MW-5 56,300 •

RESULTS IN mg/L N/S - NOT SAMPLED

SCALE: 100'

DATE: 1/19/2011 DWNL BY: IM FILE: C:\CELERO\3131\ CELERO R Q UNIT 11

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 01/19/2011

FIGURE NO. 12 CHAVES COUNTY, NEW MEXICO

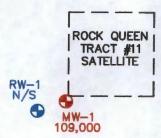
TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS RECOVERY WELLS MW-7 1,230 **⊕**

STATE LAND



MW−3 5,190



MW-2 67,600 **⊕**

MW-6 26,600

MW-5 49,900

RESULTS IN mg/L N/S-NOT SAMPLED SCALE: 100'

DATE: 2/25/2011 DWN. BY: IM FILE: C:\GELERO\3131\ GELERO R Q UNIT 11

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 02/25/2011

FIGURE NO. 13 CHAVES COUNTY, NEW MEXICO

TETRA TECH, INC. MIDLAND, TEXAS

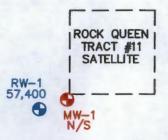
MONITOR WELLS RECOVERY WELLS

MW-7 1,350 **⊕**

STATE LAND



MW−3 2,880 •



MW−6 1,800

MW-5 67,500 •

RESULTS IN mg/L N/S - NOT SAMPLED

SCALE: 100'

DATE: 4/14/2011 DWN. BY: IM FILE: C:\CELERO\3131\ CELERO R Q UNIT 11

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 04/14/2011

FIGURE NO. 14 CHAVES COUNTY, NEW MEXICO

TETRA TECH, INC. MIDLAND, TEXAS

MONITOR WELLS
RECOVERY WELLS

TABLES

Table 1
Celero Energy II, LP
Groundwater Gauging Data
Rock Queen Unit Tract 11 Tank Battery

Chaves County, New Me	XICO
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Monitor	Date	of Well	Elevation	Depth of Well	Depth to Groundwater	Elevation
Well	Gauged	Installation	(ft)	(bgs in ft)	(ft)	(ft)
MW-1	05/25/07	05/24/07	4,407.40	161.30	138.60	4,268.80
	02/25/10				138.19	4,269.21
	07/13/10				138.14	4,269.26
	10/11/10				138.25	4,269.15
	01/17/11				138.03	4,269.37
	04/11/11				138.14	4,269.26
MW-2	02/25/10	02/17/10	4,408.61	166.18	140.36	4,268.25
	07/13/10				140.28	4,268.33
	10/11/10				140.41	4,268.20
	01/17/11				140.15	4,268.46
	04/11/11				140.19	4,268.42
MW-3	02/25/10	02/17/10	4,409.84	169.00	139.49	4,270.35
	07/13/10				139.45	4,270.39
	10/11/10				139.57	4,270.27
	01/17/11				139.43	4,270.41
	04/11/11				139.50	4,270.34
MW-4	02/25/10	02/17/10	4,411.68	172.90	142.25	4,269.43
	07/13/10				142.23	4,269.45
	10/11/10				142.32	4,269.36
	01/17/11				142.16	4,269.52
	04/11/11				142.24	4,269.44
MW-5	01/17/11	12/01/10	4,407.26	160.00	139.99	4,267.27
	04/11/11				140.05	4,267.21
MW-6	01/17/11	12/01/10	4,404.87	156.42	135.51	4,269.36
	04/11/11				135.58	4,269.29
MW-7	01/17/11	12/02/10	4,413.08	161.37	142.22	4,270.86
	04/11/11				142.17	4,270.91
RW-1	01/17/11	12/08/10	4,405.75	161.80	136.05	4,269.70
	04/11/11				136.15	4,269.60

Table 2 Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 11 Tank Battery

Chaves County, New Mexico

88	D-11-	Dissolved	Dissolved	Dissolved	Dissolved	Hydroxide	Carbonate	Bicarbonate	Total					
Monitor Well	Date Sampled	Calcium	Magnesium	Sodium	Potassium	Alkalinity	Alkalinity	Alkalinity	Alkalinity	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pН
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(111992)	(9-7		(92)	
MW-1	05/31/07	1,300	1,050	19,400	416	<1.00	<1.00	110	110	1,080	37,800	59,400	7,570	7.06
	02/25/10	3,280	2,240	28,500	737	<1.00	<1.00	101	101	1,360	60,700	104,000	17,400	6.24
	07/13/10		-	-		-	-	-		186	12,300	11,600	-	-
	10/13/10	-	-	-	-	-	-	-	-	455	20,400	42,700	-	-
	01/20/11		-	-	-	-	_	-		2,270	122,000	210,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	2,150	109,000	193,000	-	
	04/14/11	-	-	-	-	-		-	-	1,620	57,400	96,800	-	-
MW-2	02/25/10	723	265	3,850	47.6	<1.00	<1.00	132	132	176	5,670	17,800	2,900	7.70
	07/13/10	-	-	-	-	-	-	-	-	355	16,400	31,700	-	-
	10/13/10	-		-	-	-	-	-	-	547	24,000	38,400	-	-
	01/20/11	-		-	-	-	-	-	-	2,060	118,000	220,000	-	
	04/14/11	-	-	-	-	-	-	-	-	1,170	53,300	84,500	-	-
MW-3	02/25/10	370	88.4	1,060	14.2	<1.00	<1.00	138	138	120	1,990	3,460	1,290	8.13
	07/13/10	-	-	-	-	-	-	-	-	52.8	3,260	4,190	-	-
	10/13/10	-		-		-	-	-	-	73.6	2,700	6,290	-	-
	01/20/11	-		-	-	-	-	-	-	1,170	50,100	103,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	115	5,190	10,100		-
	04/14/11	-		-	-	-	-	-		73.2	2,880	4,440	-	-
MW-4	02/25/10	540	385	4,670	295	<1.00	<1.00	148	148	290	10,700	25,800	2,930	7.37
	07/13/10	-	-	-		•	-	-	-	47.4	857	1,610	-	-
	10/13/10	-		-		-	-	-	-	176.0	7,140	14,500	-	
	01/20/11	-		-		-	-	-	-	1,850.0	109,000	194,000		
	02/25/11	-		-	-	-	-	-	-	182.0	7,210	14,100		
	04/14/11	-		-	-	•	-	-	-	347.0	12,200	26,400	-	-
MW-5	01/20/11	-	-	-	-	-	•	-	-	939	56,300	109,000	-	-
	02/25/11	-		-		-	-			764	49,900	93,000	-	
	04/14/11	-	-	-	-	-	-	-	-	1,100	67,500	109,000		

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 11 Tank Battery

Chaves County, New Mexico

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	рН
MW-6	01/20/11	-	-	-	-	-	-	-	-	378	25,800	56,700	-	-
	02/25/11	-	-	-	-	-	-	-	-	422	26,600	56,700	-	-
	04/14/11	-	-	-	-		-	-	-	77.6	1,800	3,320	-	-
MW-7	01/20/11	-	-		-	-	-	-	-	77	994	2,110	-	-
	02/25/11	-	-	-	-	-	-	-	-	79.4	1,230	2,580		-
	04/14/11	-	•	-	-	-	-	-	-	92.2	1,350	2,700	-	-
RW-1	01/20/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/25/11	-	-		-	-	-	-	-	-	-	-	-	-
	04/14/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS - Not sampled

(-) Not Analyzed

APPENDIX A BORING LOGS

Boring/Well MW-1

GPS N33.161589° W103.79205°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #11 Tank Battery

Site Location Chaves County, New Mexico

05/24/07

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 160 Date Installed

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

Total Depth: 160' Groundwater encountered at approximately 138 feet below ground surface

Boring/Well MW-2

GPS N33.161183° W103.791136°

Project Number 114-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #11 Tank Battery

Site Location Chavez County, New Mexico

Letter G, Section 26, Township 13 South, Range 31 East

Total Depth 165

Date Installed 02/17/10

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

Total Depth: 165'

Boring/Well MW-3

GPS N33.162258° W103.792764°

Project Number 114-6403131A

Client Celero Energy II, LP

Site Location Rock Queen Unit Tract #11 Tank Battery

Location Chavez County, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 165

Date Installed 02/17/10

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

Boring/Well MW-3

GPS N33.162258° W103.792764°

Project Number 114-6403131A

Client Celero Energy II, LP

Site Location Rock Queen Unit Tract #11 Tank Battery

Location Chavez County, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 165

Date Installed 02/17/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
160-165	NA	Red Clay

Total Depth: 165'

Boring/Well

MW-4

GPS

N33.16233° W103.791492°

Project Number

114-6403131A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #11 Tank Battery

Site Location

Chavez County, New Mexico

Letter G, Section 26, Township 13 South, Range 31 East

Total Depth

170

Date Installed

02/17/10

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

Boring/Well MW-4

GPS N33.16233° W103.791492°

Project Number 114-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract #11 Tank Battery

Site Location Chavez County, New Mexico

Letter G, Section 26, Township 13 South, Range 31 East

Total Depth 170

Date Installed 02/17/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
165-170	NA	Red Clay

Total Depth: 170'

Boring/ Well MW-5

GPS N33.16058° W103.79098°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter J, Section 26, Township 13 South, Range 31 East

Total Depth 160'
Date Installed 12/01/10

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

Boring/Well

MW-5

GPS

N33.16058°

W103.79098°

Project Number

115-6403131A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract 11 Tank Battery

Site Location

Chaves, New Mexico

Letter J, Section 26, Township 13 South, Range 31 East Total Depth 160'

Date installed 12/01/10

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Fine Grain Well Sorted Sand
135-136'		Light Brown Fine Grain Well Sorted Sand
140-141'		Light Brown Fine Grain Well Sorted Sand
145-146'		Light Brown Sand with 15% Red Bed
150-151'		Red Bed with 50% Light Brown Sand
155-156'		Red Bed
160'		Red Bed

Total Depth:

160'

Ground water depth not encountered while drilling.

Boring/ Well MW-6

GPS N33.16290° W103.79356°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 160' Date Installed 12/01/10

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

Boring/Well

MW-6

GPS

N33.16290°

W103.79356°

Project Number

115-6403131A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract 11 Tank Battery

Site Location

Chaves, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth

160'

Date Installed

12/01/10

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Fine Grain Well Sorted Sand
135-136'		Light Brown Fine Grain Well Sorted Sand
140-141'		Light Brown Fine Grain Well Sorted Sand
145-146'		Light Brown Sand with Red Bed
150-151'		Red Bed
155-156'		Red Bed
160'		Red Bed

Total Depth:

160'

Ground water depth not encountered while drilling.

Boring/ Well MW-7

GPS N33.162942° W103.793233°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 160' Date Installed 12/02/10

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

SAMPLE LOG

Boring/ Well MW-7

GPS N33.162942° W103.793233°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter F, Section 26, Township 13 South, Range 31 East

Total Depth 160'
Date Installed 12/02/10

Depth (Ft)	OVM	Sample Description
130-131'		Light Brown Sand with 5% Grey Blue Clay
135-136'		Light Brown Sand with Buff Tan Sandstone
140-141'		Light Brown Sand with Buff Tan Sandstone
145-146'		Light Brown Sand with Buff Tan Sandstone and 5% Red Bed
150-151'		Grey Blue Clay with 25% Red Bed
155-156'		Grey Blue Clay with 45% Red Bed
160'		Red Bed

Total Depth: 160' Ground water depth not encountered while drilling.

SAMPLE LOG

Boring/ Well RW-1

GPS N33.161561° W103.792158°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter G, Section 26, Township 13 South, Range 31 East

Total Depth 160'

Date Installed 12/08/10 to 12/09/10

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

SAMPLE LOG

Boring/ Well RW-1

GPS N33.161561° W103.792158°

Project Number 115-6403131A

Client Celero Energy II, LP

Site Name Rock Queen Unit Tract 11 Tank Battery

Site Location Chaves, New Mexico

Letter G, Section 26, Township 13 South, Range 31 East

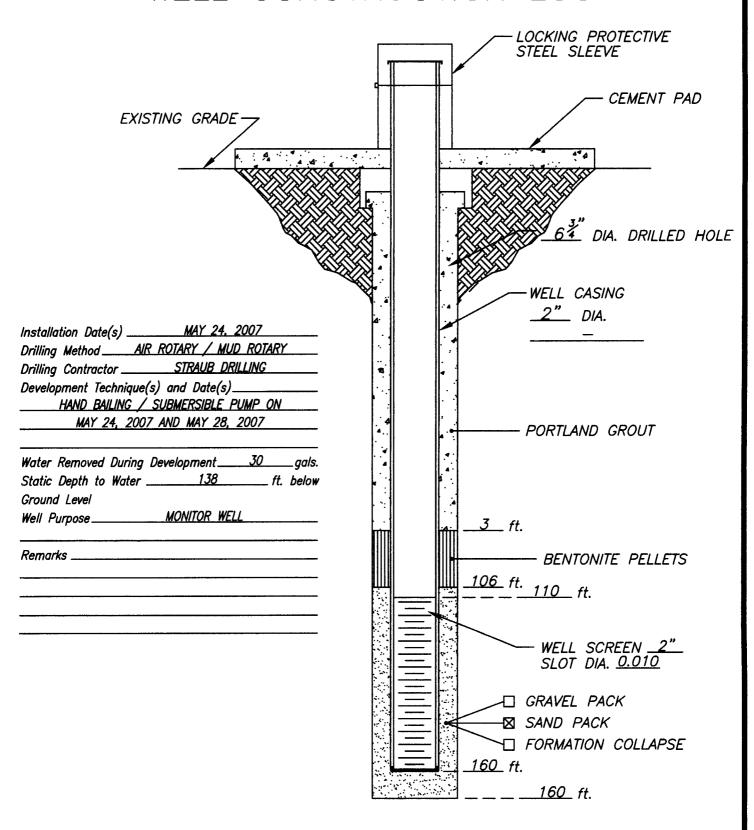
Total Depth 160'

Date Installed 12/08/10 to 12/09/10

Depth (Ft)	OVM	Sample Description
130-131'		Tan fine grain sand
135-136'		Tan fine grain sand
140-141'		Tan fine grain sand
145-146'		Tan fine grain sand
150-151'		Tan fine grain sand
155-156'		Tan fine grain sand
160'		Red Bed

Total Depth: 160' Groundwater encountered at approximately 140 feet below ground surface.

APPENDIX B MONITOR WELL INSTALLATION DIAGRAMS



DATE: 5/24/07

TETRA TECH, INC. MIDLAND, TEXAS

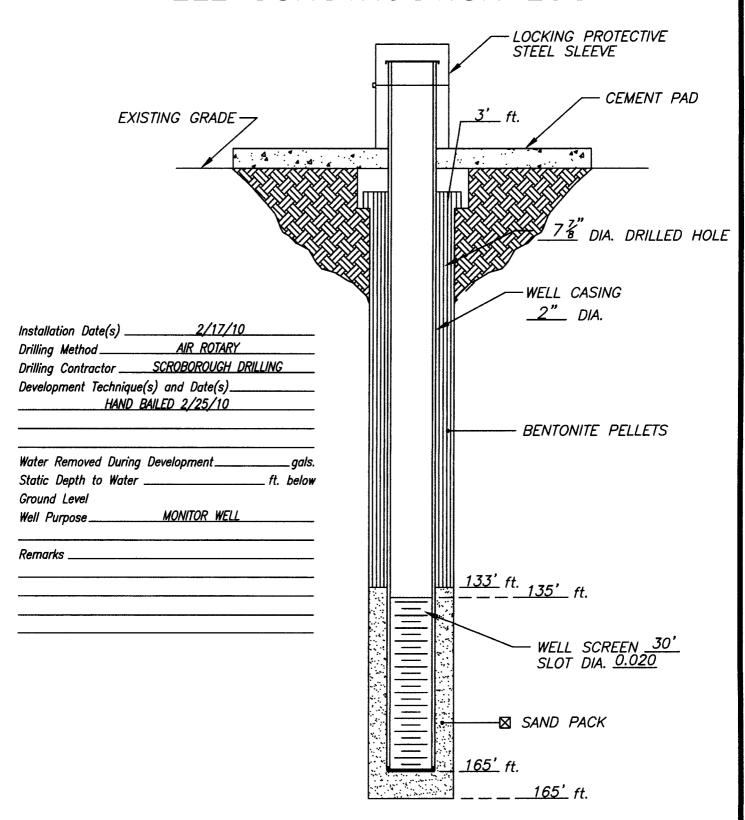
CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN UNIT TRACT 11 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-1



DATE: 2/19/10

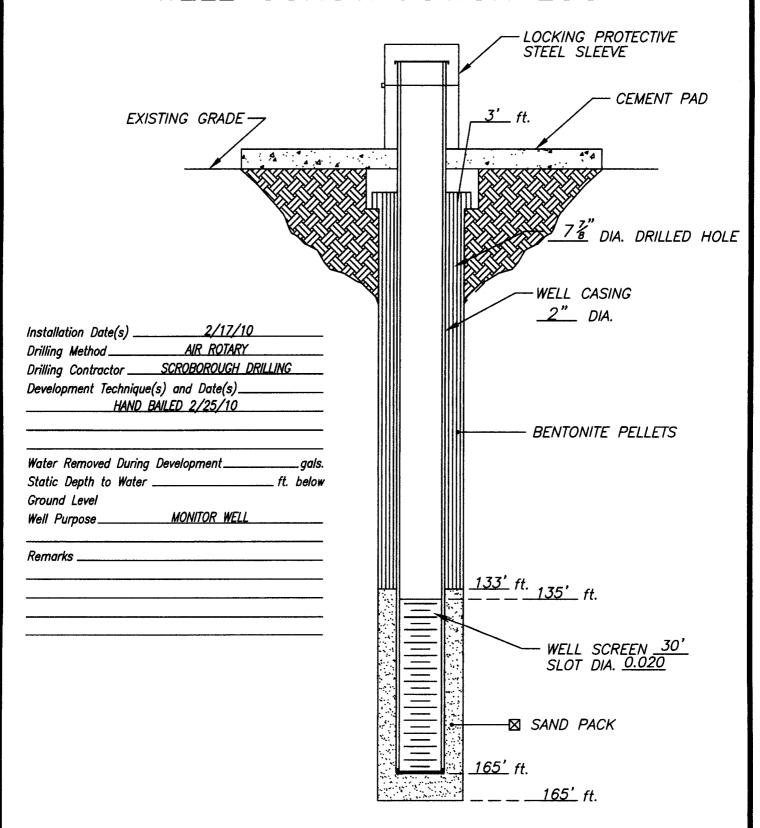
TETRA TECH, INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-2



DATE: 2/19/10

TETRA TECH, INC. MIDLAND, TEXAS

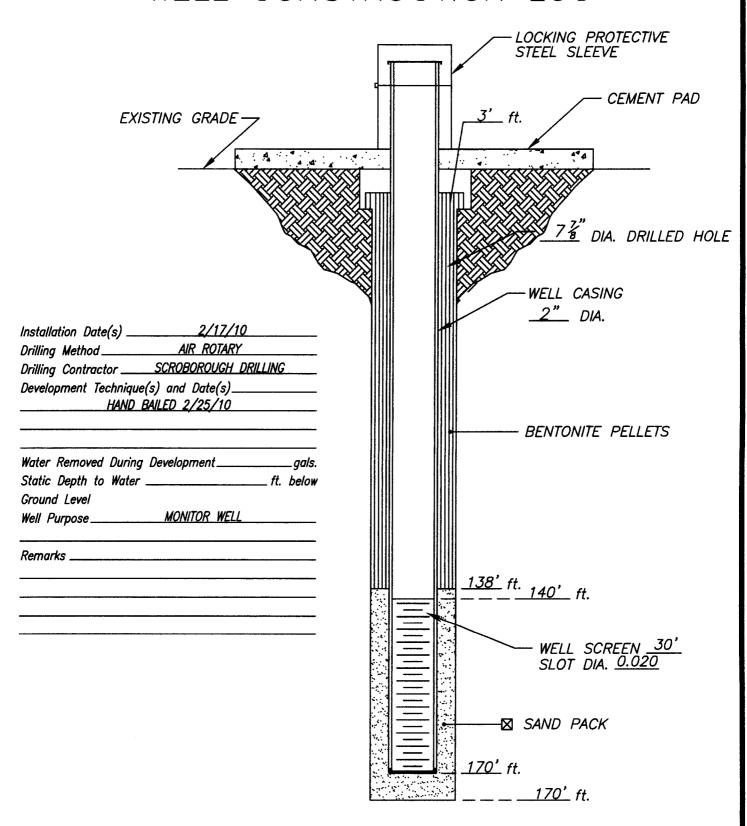
CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-3



DATE: 2/19/10

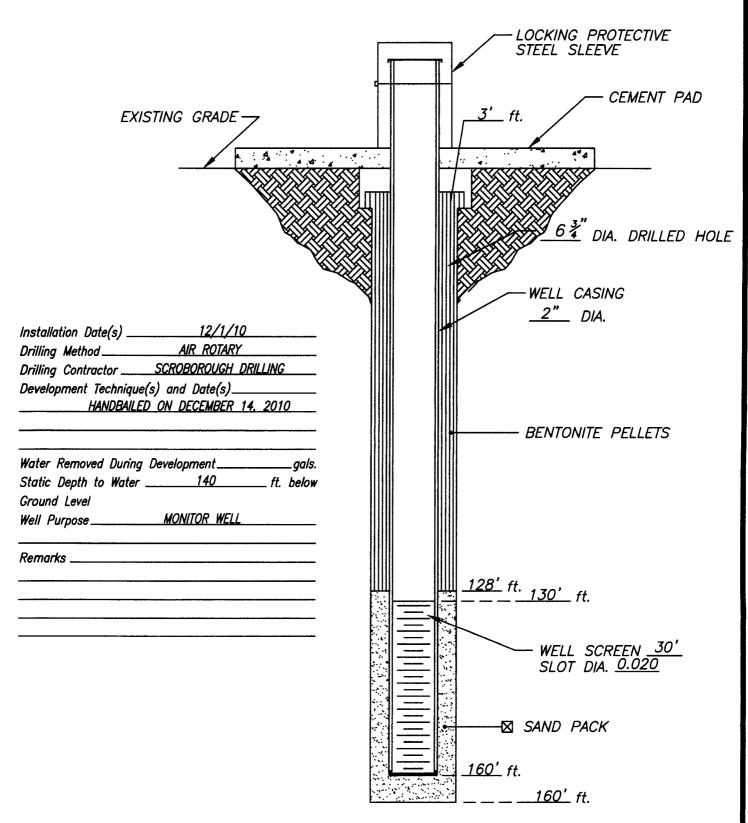
TETRA TECH, INC. MIDLAND, TEXAS

CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 11 TB LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-4



DATE: 12/1/10

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

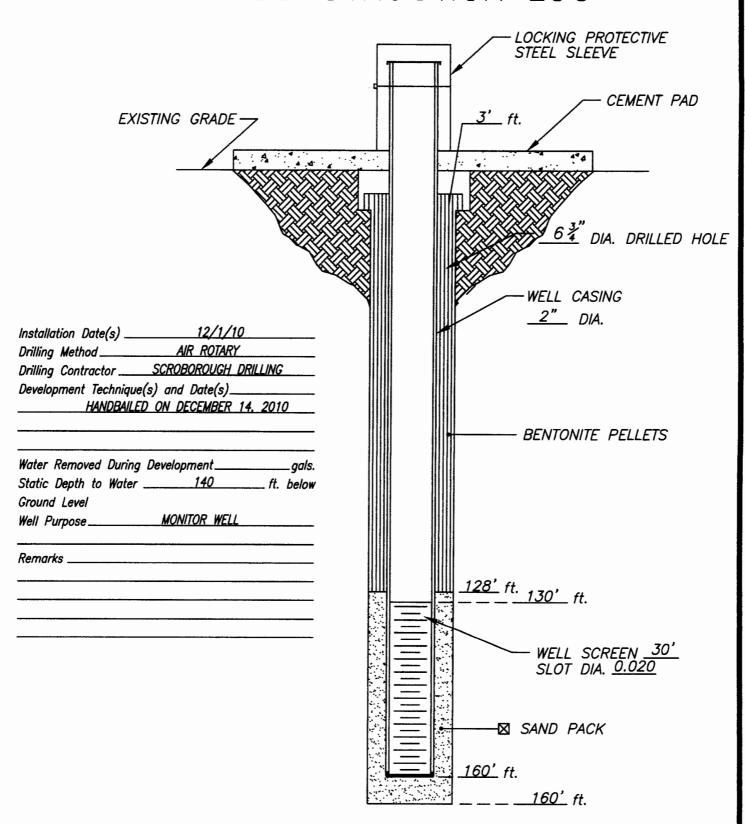
PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-5

115--6403131



DATE: 12/1/10

TETRA TECH, INC.
MIDLAND, TEXAS

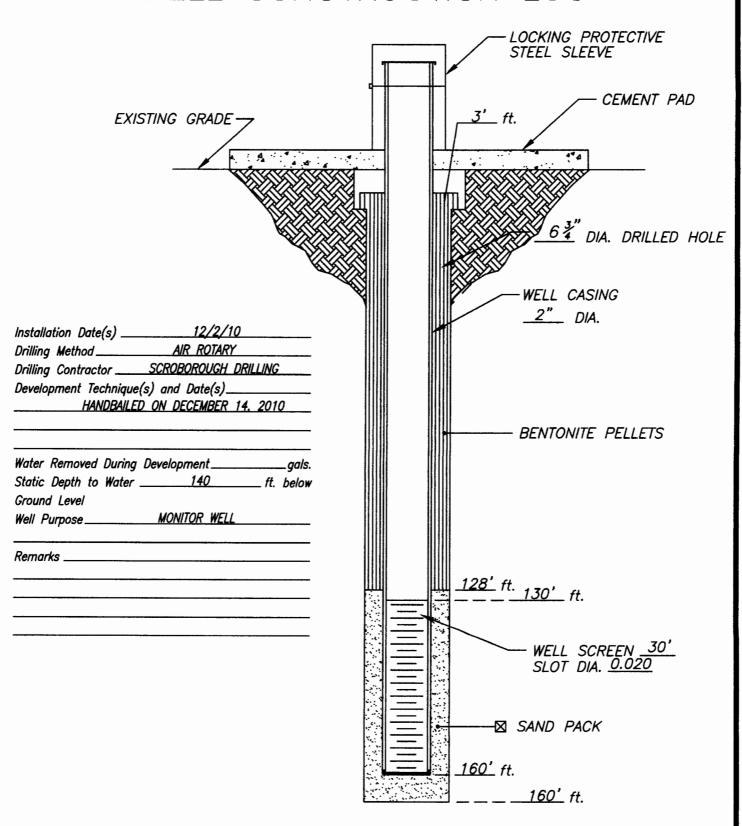
CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-6



DATE: 12/2/10

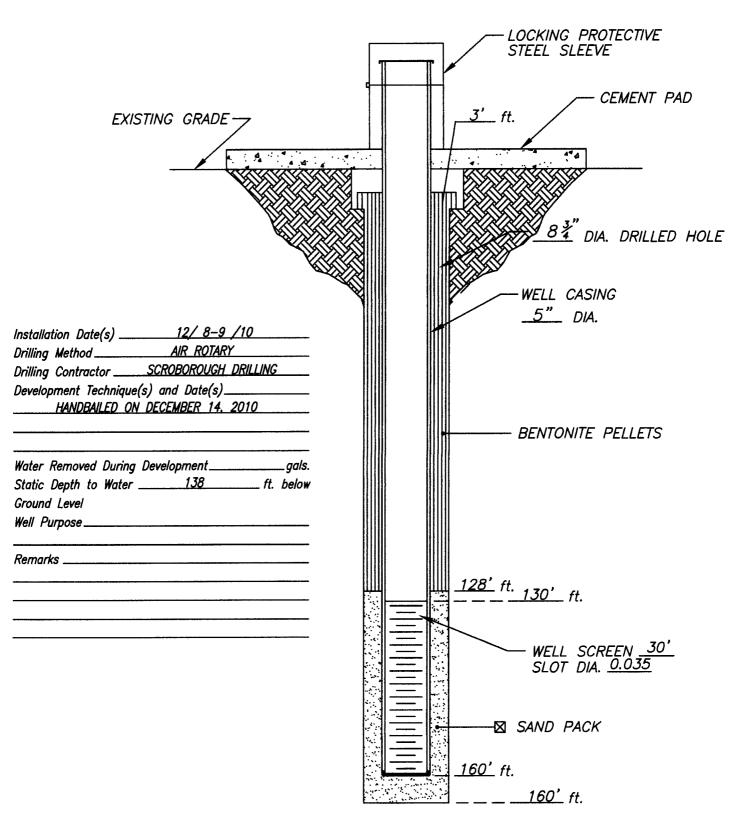
TETRA TECH, INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

MW-7



DATE: 12/10/10

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

PROJECT: ROCK QUEEN TRACT 11 TB

LOCATION: CHAVES COUNTY, NEW MEXICO

WELL NO.

RW-1

115--8403131

APPENDIX C LABORATORY ANALYSIS



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

Lubbock, Texas 79424 El Paso, Texas 79922 Midland Texas 79703 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432-689-6301 817 • 201 • 5260 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

Report Date:

Work Order:

June 15, 2007

7060508

E-Mail. lab@traceanalysis.com

Analytical and Quality Control Report

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

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

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

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

Dr. Blair Leftwich, Director

Standard Flags

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

Report Date: June 15, 2007 Work Order: 7060508 Page Number: 2 of 16 2972 Chaves Co. NM Celero Energy-Rock Queen ESA

Analytical Report

Sample: 126448 - RQU Tract 11 MW-1

Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A QC Batch: 38159 Date Analyzed: 2007-06-14 Analyzed By: JS Prep Batch: 33038 Sample Preparation: 2007-06-14 Prepared By: JS

		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		110	mg/L as CaCo3	1	4.00
Total Alkalinity		110	mg/L as CaCo3	1	4.00

Sample: 126448 - RQU Tract 11 MW-1

Ca, Dissolved Analysis: Analytical Method: S 6010B Prep Method: S 3005A QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TPPrep Batch: 32823 Sample Preparation: 2007-06-06 Prepared By: TS

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Calcium		1300	mg/L	20	0.500

Sample: 126448 - RQU Tract 11 MW-1

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ERPrep Batch: 33031 Sample Preparation: 2007-06-13 Prepared By: ERRLFlag Parameter Result Units Dilution RL5000

mg/L

0.500

37800

Sample: 126448 - RQU Tract 11 MW-1

Chloride

Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 38113 2007-06-13 Date Analyzed: Analyzed By: TP Prep Batch: 32823 Sample Preparation: 2007-06-06 Prepared By: TS

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		7570	mg eq CaCO3/L	1	0.00
			0 1 7		

Report Date: June 15, 2007 Work Order: 7060508 Page Number: 3 of 16 2972 Celero Energy-Rock Queen ESA Chaves Co. NM

Sample: 126448 - RQU Tract 11 MW-1

Analysis: K, Dissolved Analytical Method: S 6010B Prep Method: S 3005A QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

Prepared By: TS Prep Batch: 32823 Sample Preparation: 2007-06-06

RL

Flag Parameter Result Units Dilution RLDissolved Potassium 416 mg/L20 0.500

Sample: 126448 - RQU Tract 11 MW-1

S 6010B S 3005A Analysis: Mg, Dissolved Analytical Method: Prep Method: QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

Prep Batch: 32823 Sample Preparation: 2007-06-06 Prepared By: TS

RL

Dilution Parameter Flag Result Units RL1050 20 0.500 Dissolved Magnesium mg/L

Sample: 126448 - RQU Tract 11 MW-1

Analysis: Na. Dissolved Analytical Method: S 6010B Prep Method: S 3005A QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

32823 Sample Preparation: 2007-06-06 Prepared By: Prep Batch:

RL

Units Dilution RLParameter Flag Result 19400 200 0.500 Dissolved Sodium mg/L

Sample: 126448 - RQU Tract 11 MW-1

Prep Method: N/A Analysis: pН Analytical Method: SM 4500-H+ QC Batch: 37918 a Date Analyzed: 2007-06-05 Analyzed By: JS Prepared By: JS

Prep Batch: 32839 Sample Preparation: 2007-06-05

asamples were ran in the lab

RLResult RLParameter Flag Units Dilution \overline{pH} 7.06 s.u. 0.00

Sample: 126448 - RQU Tract 11 MW-1

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

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 4 of 16 Chaves Co. NM

Parameter	F	lag	RL Result	Units	Dilution	RI
Sulfate			1080	mg/L	50	0.50
Sample: 12	6448 - RQU T	ract 11 MW	7-1			
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	
QC Batch:	38061		Date Analyzed:	2007-06-11	Analyzed By:	ER
Prep Batch:	32957		Sample Preparation:	2007-06-06	Prepared By:	ER
			RL			
Parameter		Flag	Result	Units	Dilution	R
Total Dissolv	ed Solids		59400	mg/L	200	10.0
_	6449 - RQU T	ract 13 MW				
Analysis:	Alkalinity		Analytical Method:	SM 2320B	Prep Method:	•
QC Batch:	38159		Date Analyzed:	2007-06-14	Analyzed By:	JS
Prep Batch:	33038		Sample Preparation:	2007-06-14	Prepared By:	JS
			m RL			
Parameter		Flag	Result	Units	Dilution	R
Hydroxide Al			<1.00	mg/L as CaCo3	1	1.0
Carbonate Al			8.00	mg/L as CaCo3	1	1.0
Bicarbonate	•		652	mg/L as CaCo3	1	4.0
Total Alkalin	ity		660	mg/L as CaCo3	1	4.0
Sample: 12	6440 POLLT	boot 12 MW	1			
_	6449 - RQU T	ract 13 MW		S 6010B	Pren Method: S	3005
Analysis:	Ca, Dissolved	ract 13 MW	Analytical Method:	S 6010B 2007-06-13	-	
Analysis: QC Batch:	-	ract 13 MW	Analytical Method: Date Analyzed:	2007-06-13	Prep Method: S Analyzed By: T Prepared By: T	P
Sample: 126 Analysis: QC Batch: Prep Batch:	Ca, Dissolved 38113	ract 13 MW	Analytical Method: Date Analyzed: Sample Preparation:	2007-06-13	Analyzed By: T	P
Analysis: QC Batch: Prep Batch:	Ca, Dissolved 38113		Analytical Method: Date Analyzed: Sample Preparation: RL	2007-06-13 2007-06-06	Analyzed By: The Prepared By: The Prepar	P S
Analysis: QC Batch:	Ca, Dissolved 38113 32823	ract 13 MW	Analytical Method: Date Analyzed: Sample Preparation:	2007-06-13 2007-06-06 Units	Analyzed By: T	
Analysis: QC Batch: Prep Batch: Parameter Dissolved Cal	Ca, Dissolved 38113 32823	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result 282	2007-06-13 2007-06-06	Analyzed By: To Prepared By: To Dilution	P S Rl
Analysis: QC Batch: Prep Batch: Parameter Dissolved Cal	Ca, Dissolved 38113 32823 Icium	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result 282	2007-06-13 2007-06-06 Units mg/L	Analyzed By: T Prepared By: T Dilution	P S R 0.50
Analysis: QC Batch: Prep Batch: Parameter Dissolved Cal Sample: 126 Analysis:	Ca, Dissolved 38113 32823 cium 6449 - RQU T Chloride (IC)	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result 282	2007-06-13 2007-06-06 Units mg/L	Analyzed By: T Prepared By: T Dilution 5 Prep Method:	P S R1 0.50
Analysis: QC Batch: Prep Batch: Parameter Dissolved Cal	Ca, Dissolved 38113 32823 Icium	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result 282	2007-06-13 2007-06-06 Units mg/L : E 300.0 2007-06-13	Analyzed By: T Prepared By: T Dilution	P S R 0.50

RL

Result

3270

Units mg/L Dilution 500 RL 0.500

Flag

Parameter

 $\overline{\text{Chloride}}$

Report Date	e: June 15, 2007		Work Order: 7060508 Celero Energy-Rock Queen ESA		Page Number: 5 of 1 Chaves Co. N.	
Sample: 12	6449 - RQU Tı	act 13 MW	-1			
Analysis:	Hardness		Analytical Method:	S 6010B	Prep Metho	od: N/A
QC Batch:	38113		Date Analyzed:	2007-06-13	Analyzed E	
Prep Batch:	32823		Sample Preparation:	2007-06-06	Prepared B	sy: TS
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Hardness (by	(ICP)		804	mg eq CaCO3/L	1	0.00
	6449 - RQU Tı	ract 13 MW		G 2010D	5 W.I.I.	C noor i
Analysis:	K, Dissolved		Analytical Method:	S 6010B	Prep Method:	S 3005A TP
QC Batch: Prep Batch:	38113 32823		Date Analyzed: Sample Preparation:	2007-06-13 2007-06-06	Analyzed By: Prepared By:	TS
Prep Batch:	32823		Sample Preparation:	2007-00-00	Frepared by:	13
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Dissolved Po	tassium		20.1	mg/L	5	0.500
Sample: 12 Analysis: QC Batch: Prep Batch:	6449 - RQU Tr Mg, Dissolved 38113 32823	act 13 MW	-1 Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06	Prep Method: Analyzed By: Prepared By:	S 3005A TP TS
•			RL			
Parameter		Flag	Result	Units	Dilution	RL
Dissolved Ma	agnesium		24.4	mg/L	5	0.500
Sample: 12 Analysis: QC Batch: Prep Batch:	6449 - RQU Tr Na, Dissolved 38113 32823	act 13 MW	-1 Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-06	Prep Method: Analyzed By: Prepared By:	S 3005A TP TS
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Dissolved Co	1:		2020	mg / I	50	0.500

Sample: 126449 - RQU Tract 13 MW-1

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	37918 ^a	Date Analyzed:	2007-06-05	Analyzed By:	JS
Prep Batch:	32839	Sample Preparation:	2007-06-05	Prepared By:	$_{ m JS}$

2020

mg/L

50

0.500

Dissolved Sodium

asamples were ran in the lab

Report Date: June 15, 2007

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Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 6 of 16 Chaves Co. NM

Prepared By: TS

RL

0.5

Units

mg/L

		0 01010		01101100	
_		RL			
Parameter	Flag	Result	Units	Dilution	RL
рН		7.02	s.u.	1	0.00
Sample: 126449 - R6	QU Tract 13 MW-	-1			
Analysis: SO4 (IC)	•	Analytical Method	: E 300.0	Prep Method:	N/A
QC Batch: 38204		Date Analyzed:	2007-06-15	Analyzed By:	ÉŔ
Prep Batch: 33077		Sample Preparation	n: 2007-06-14	Prepared By:	$\mathbf{E}\mathbf{R}$
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		91.1	mg/L	5	0.500
Sample: 126449 - RO	QU Tract 13 MW-		CM DEADC	Duon Mathod	N/A
Analysis: TDS QC Batch: 38061		Analytical Method: Date Analyzed:	SM 2540C 2007-06-11	Prep Method:	$_{ m ER}^{ m N/A}$
Prep Batch: 32957		Sample Preparation:		Analyzed By: Prepared By:	ER
rep baten. 32507		Sample Preparation.	2007-00-00	r repared by.	ER
_		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		7245	ing/L	5	10.00
Method Blank (1)	QC Batch: 38061				
QC Batch: 38061		Date Analyzed:	2007-06-11	Analyzed By:	ER
Prep Batch: 32957		QC Preparation:	2007-06-06	Prepared By:	
•		•			
			MDL		
Parameter	F	lag	Result	Units	RL
Total Dissolved Solids			< 5.000	mg/L	10
Method Blank (1)	QC Batch: 38113				
QC Batch: 38113		Date Analyzed:	2007-06-13	Analyzed By:	TP
D D-+-b. 20002		OC D	2007 06 06	D	TO

Method Blank	(1)	QC Batch: 38113
--------------	------------	-----------------

Flag

Prep Batch: 32823

Dissolved Calcium

Parameter

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP
Prep Batch: 32823 QC Preparation: 2007-06-06 Prepared By: TS

QC Preparation: 2007-06-06

MDL

Result

< 0.0290

Report Date: June 15, 2007

33038

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Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 7 of 16 Chaves Co. NM

MDL RLParameter Flag Result Units Dissolved Potassium < 0.307 mg/L 0.5Method Blank (1) QC Batch: 38113 Analyzed By: TP QC Batch: 38113 Date Analyzed: 2007-06-13 Prepared By: TSPrep Batch: 32823 QC Preparation: 2007-06-06 MDL RLFlag Result Units Parameter mg/L 0.5 Dissolved Magnesium < 0.0740 Method Blank (1) QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP QC Batch: 38113 Prepared By: TS QC Preparation: 2007-06-06 Prep Batch: 32823 MDL RLResult Units Parameter Flag < 0.529 0.5 Dissolved Sodium mg/L QC Batch: 38153 Method Blank (1) QC Batch: Date Analyzed: 2007-06-13 Analyzed By: ER 38153 Prepared By: ERPrep Batch: 33031 QC Preparation: 2007-06-13 MDL Flag Result Units RLParameter 0.5 Chloride < 0.172 mg/L Method Blank (1) QC Batch: 38153 Analyzed By: ER QC Batch: 38153 Date Analyzed: 2007-06-13 Prep Batch: 33031 QC Preparation: 2007-06-13 Prepared By: ER MDL Result Units RLParameter Flag 0.5 < 0.777 mg/L Sulfate Method Blank (1) QC Batch: 38159 QC Batch: 38159 Date Analyzed: 2007-06-14 Analyzed By: Prep Batch: Prepared By: JS

QC Preparation:

2007-06-14

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA

MDLUnits RLFlag Parameter Result mg/L as CaCo3 Hydroxide Alkalinity < 1.00 1 Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 mg/L as CaCo3 4 Bicarbonate Alkalinity < 4.00

< 4.00

Method Blank (1)

Total Alkalinity

QC Batch: 38204

QC Batch: 38204 Prep Batch: 33077 Date Analyzed: 2007-06-15 QC Preparation: 2007-06-14 Analyzed By: ER Prepared By: ER

mg/L as CaCo3

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Chaves Co. NM

4

MDL Parameter Flag Result

Duplicates (1)

QC Batch: 37918 Prep Batch: 32839 Date Analyzed: 2007-06-05 QC Preparation: 2007-06-05 Analyzed By: JS Prepared By: JS

Duplicate Sample RPD Dilution RPD Param Result Result Units Liniit 7.09 7.06 pHs.u. 1 0 0.8

Duplicates (1)

QC Batch: 38061 Prep Batch: 32957 Date Analyzed: 2007-06-11 QC Preparation: 2007-06-06

Analyzed By: ER Prepared By: ER

RPD Duplicate Sample RPDParam Result Units Dilution Result Limit Total Dissolved Solids 596.0 582.0 mg/L 2 2 17.2

Duplicates (1)

QC Batch: 38159 Prep Batch: 33038 Date Analyzed: 2007-06-14 QC Preparation: 2007-06-14

Analyzed By: JS Prepared By: JS

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	$\begin{array}{c} \text{RPD} \\ \text{Limit} \end{array}$
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	928	764	mg/L as CaCo3	1	19	20
Total Alkalinity	928	764	mg/L as CaCo3	1	19	20

Report Date: June 15, 2007

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 9 of 16 Chaves Co. NM

Laboratory Control Spike (LCS-1)

QC Batch:

2972

38113 Prep Batch: 32823 Date Analyzed:

2007-06-13

QC Preparation: 2007-06-06

Analyzed By: TP

Prepared By: TS

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	50.4	m mg/L	1	50.0	< 0.0290	101	79.1 - 121

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

	$_{ m LCSD}$			\mathbf{Spike}	Matrix		${ m Rec.}$		\mathtt{RPD}
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Calcium	51.0	mg/L	1	50.0	< 0.0290	102	79.1 - 121	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:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP

Prep Batch: 32823

QC Preparation:

2007-06-06

Prepared By:

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Potassium	51.4	mg/L	1	50.0	< 0.307	103	78.8 - 114

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 Potassium	51.9	mg/L	1	50.0	< 0.307	104	78.8 - 114	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:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP Prepared By: TS

Prep Batch: 32823 QC Preparation: 2007-06-06

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Dissolved Magnesium 50.1 < 0.0740 100 80.2 - 120 mg/L 50.0

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 Magnesium	50.6	mg/L	1	50.0	< 0.0740	101	80.2 - 120	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:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP

Prep Batch: 32823

QC Preparation: 2007-06-06

Prepared By: TS

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Work Order: 7060508 Celero Energy-Rock Queen ESA

Chaves Co. NM

	LCS			Spike	Matrix		${f Rec}.$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Sodium	53.1	mg/L	1	50.0	< 0.529	106	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 Sodium	53.3	mg/L	1	50.0	< 0.529	107	79.4 - 123	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: 38153 Prep Batch: 33031

Date Analyzed: 2007-06-13 QC Preparation: 2007-06-13

Analyzed By: ER Prepared By: ER

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	12.2	mg/L	1	12.5	< 0.172	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
Chloride	12.1	mg/L	1	12.5	< 0.172	97	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: 38153 Prep Batch: 33031 Date Analyzed: 2007-06-13 QC Preparation: 2007-06-13 Analyzed By: ER Prepared By: ER

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	12.4	mg/L	1	12.5	< 0.777	99	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	11.6	mg/L	1	12.5	< 0.777	93	90 - 110	7	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: 38204 Prep Batch: 33077 Date Analyzed: 2007-06-15 QC Preparation: 2007-06-14

Analyzed By: ER Prepared By: ER

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	11.3	mg/L	1	12.5	< 0.777	90	90 - 110

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

Report Date: June 15, 2007

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Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 11 of 16 Chaves Co. NM

_	LCSD			Spike	Matrix	_	Rec.		RPD
Param	Result	\mathbf{Units}	Dil.	Amount	Result	${ m Rec.}$	\mathbf{Limit}	RPD	Limit
Sulfate	12.0	mg/L	1	12.5	< 0.777	96	90 - 110	6	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: 126448

QC Batch: 38113 Prep Batch: 32823 Date Analyzed: 2007-06-13 QC Preparation: 2007-06-06 Analyzed By: TP Prepared By: TS

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	1 1290	mg/L	1	50.0	1300	-20	69 - 130

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	2	1290	mg/L	1	50.0	1300	-20	69 - 130	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: 126448

QC Batch: 38113 Prep Batch: 32823 Date Analyzed: 2007-06-13 QC Preparation: 2007-06-06 Analyzed By: TP Prepared By: TS

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Potassium	3	446	mg/L	1	50.0	416	60	76.8 - 117

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

	MSD			Spike	Matrix		$\mathrm{Rec.}$		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Potassium	468	$_{ m mg/L}$	1	50.0	416	104	76.8 - 117	5	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: 126448

QC Batch: 38113 Prep Batch: 32823 Date Analyzed: 2007-06-13 QC Preparation: 2007-06-06

Analyzed By: TP Prepared By: TS

		MS			\mathbf{Spike}	Matrix		${ m Rec.}$
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Magnesium	4	1050	mg/L	1	50.0	1050	0	77.9 - 122

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 matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

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.

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

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Work Order: 7060508 Celero Energy-Rock Queen ESA

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Magnesium	5	1040	mg/L	1	50.0	1050	-20	77.9 - 122	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: 126448

QC Batch:

Dissolved Sodium

Param

38113 Prep Batch: 32823

Date Analyzed:

2007-06-13

QC Preparation: 2007-06-06

50.0

Analyzed By: TP

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Prepared By: TS

MS Result 19400

Spike Dil. Units Amount

1

Matrix Result 19400

Rec. Limit Rec.

0

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 Sodium	7	19900	mg/L	1	50.0	19400	1000	84.2 - 120	2	20

mg/L

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

Matrix Spike (MS-1)

Spiked Sample: 126147

QC Batch:

38153

Date Analyzed:

2007-06-13

Analyzed By: ER

Prep Batch: 33031

QC Preparation:

2007-06-13

Prepared By: ER

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	798	mg/L	50	625	185.563	98	10 - 188

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

	MSD			\mathbf{Spike}	Matrix		Rec .		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	787	mg/L	50	625	185.563	96	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: 126147

QC Batch:

38153

Date Analyzed:

2007-06-13

Analyzed By: ER

Prep Batch:

33031

QC Preparation:

2007-06-13

Prepared By: ER

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	671	mg/L	50	625	<38.8	107	83.1 - 114

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

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.

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

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 13 of 16 Chaves Co. NM

RPD MSD Rec. Spike Matrix RPD Param Dil. Limit Limit Result Units Amount Result Rec. 20 Sulfate 83.1 - 114 670mg/L 50 625<38.8 107 0

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

Matrix Spike (MS-1)

Spiked Sample: 126449

QC Batch: Prep Batch: 33077

38204

Date Analyzed: QC Preparation:

2007-06-15 2007-06-14

Analyzed By: ER Prepared By: ER

	MS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	159	mg/L	5	62.5	91.0693	109	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.		$_{ m RPD}$
Paranı	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	151	mg/L	5	62.5	91.0693	96	83.1 - 114	5	20

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

Standard (ICV-1)

QC Batch: 37918

Date Analyzed: 2007-06-05

Analyzed By: JS

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	7.10	101	98 - 102	2007-06-05

Standard (CCV-1)

QC Batch: 37918

Date Analyzed: 2007-06-05

Analyzed By: JS

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	7.14	102	98 - 102	2007-06-05

Standard (ICV-1)

QC Batch: 38061

Date Analyzed: 2007-06-11

Analyzed By: ER

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Dissolved Solids		mg/L	1000	1006	101	90 - 110	2007-06-11

Standard (CCV-1)

QC Batch: 38061 Date Analyzed: 2007-06-11 Analyzed By: ER Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA

			$_{ m CCVs}$	\mathbf{CCVs}	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Dissolved Solids		mg/L	1000	981.0	98	90 - 110	2007-06-11

Standard (ICV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

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Chaves Co. NM

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	49.5	99	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Potassium		mg/L	50.0	49.9	100	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			ICVs	ICV s	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Magnesium		mg/L	50.0	49.3	99	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		mg/L	50.0	51.5	103	90 - 110	2007-06-13

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	51.6	103	90 - 110	2007-06-13

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 15 of 16 Chaves Co. NM

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Potassium		mg/L	50.0	52.8	106	90 - 110	2007-06-13

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			\mathbf{CCVs}	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Magnesium		mg/L	50.0	51.7	103	90 - 110	2007-06-13

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Sodium		mg/L	50.0	52.7	105	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		m mg/L	12.5	12.1	97	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	11.7	94	90 - 110	2007-06-13

Standard (CCV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA

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			CCVs	CCVs	CCVs	Percent	_
			True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.5	12.3	98	90 - 110	2007-06-13

Standard (CCV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	12.6	101	90 - 110	2007-06-13

Standard (ICV-1)

QC Batch: 38159

Date Analyzed: 2007-06-14

Analyzed By: JS

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo3	250	242	97	90 - 110	2007-06-14

Standard (CCV-1)

QC Batch: 38159

Date Analyzed: 2007-06-14

Analyzed By: JS

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	2007-06-14

Standard (ICV-1)

QC Batch: 38204

Date Analyzed: 2007-06-15

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	11.6	93	90 - 110	2007-06-15

Standard (CCV-1)

QC Batch: 38204

Date Analyzed: 2007-06-15

Analyzed By: ER

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	11.3	90	90 - 110	2007-06-15

WAX ORDER 106050X Analysis Request and Chain of Custody Record PAGE: ANALYSIS REQUEST (Circle or Specify Method No.) HIGHLANDER ENVIRONMENTAL CORP. 1910 N. Big Spring St. 720005 温温 Midland. Texas 79705 (432) 682-4559 Fax (432) 682-3946 CLIENT NAME: SITE MANAGER: PRESERVATIVE CONTAINERS Celem Gary miller METHOD PROJECT NO .: PROJECT NAME: lock Queen LAB I.D. SAMPLE IDENTIFICATION DATE TDMEHINO3 NUMBER X REMÉDISHED BY: (Signature) RECEIVED BY: Signature) Date: G-4-0'7 SAMPLED BY: (Print & Sign) Date: JEKEMY JON S. (Circle) SETTING THE STATE (STATE) AIRBILL # PELINQUISHED BY: (Signature) RECEIVED BY: (Signature) HAND DELLYERAD OTHER: HIGHLANDER CONTACT PERSON: RECEIVING LABORATORY: Trace RECEIVED BY: (Signature) RUSH Charges ADDRESS: Authorized: CITY: Millard CONTACT: SAMPLE CONDITION WHEN RECEIVED: MATRIX: A-Air SD-Solid SL-Sludge Q-Other Please Fill out all copies - Laboratory retains yallow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink

MA / < P2492422-1



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

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

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536 NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX

El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

LELAP-02003 Kansas E-10317

Analytical and Quality Control Report

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

Report Date: March 9, 2010

Work Order: 10022629

Project Location: Chavez County, NM Project Name: Celero/ Rock Queen #11

115-6403131A 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
223824	MW-1	water	2010-02-25	17:05	2010-02-26
223825	MW-2	water	2010-02-25	17:15	2010-02-26
223826	MW-3	water	2010-02-25	17:00	2010-02-26
223827	MW-4	water	2010-02-25	17:25	2010-02-26

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

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

Michael april

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Report Date: March 9, 2010

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 4 of 25 Chavez County, NM

Analytical Report

Sample: 223824 - MW-1

Laboratory: Midland

Prep Batch: 58086

Analysis:

Alkalinity QC Batch: 67894

Analytical Method:

SM 2320B Date Analyzed: 2010-03-01 Sample Preparation: 2010-03-01 Prep Method: N/A Analyzed By: AR Prepared By: AR

RLParameter Flag Result Units Dilution RL1.00 Hydroxide Alkalinity <1.00 mg/L as CaCo3 1 Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 1.00 Bicarbonate Alkalinity mg/L as CaCo3 1 4.00101 Total Alkalinity mg/L as CaCo3 1 4.00 101

Sample: 223824 - MW-1

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 67911 Prep Batch: 58101

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2010-03-01 2010-03-01

S 5030B Prep Method:

Analyzed By: AG Prepared By: AG

RLFlag Units Dilution RLParameter Result Benzene < 0.00100 mg/L 1 0.00100 Toluene mg/L 1 0.00100 < 0.00100 Ethylbenzene 1 0.00100 < 0.00100 mg/L Xylene 0.00100 < 0.00100 mg/L 1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0898	mg/L	1	0.100	90	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0827	mg/L	1	0.100	83	51.1 - 118.8

Sample: 223824 - MW-1

Laboratory: Lubbock

Analysis: Cations QC Batch: 67940 Prep Batch: 58109

Analytical Method: S 6010B Date Analyzed: 2010-03-02 Sample Preparation: 2010-03-02

Prep Method: S 3005A Analyzed By: RRPrepared By:

RLResult Dilution RLParameter Flag Units Dissolved Calcium 3280 100 0.100 mg/L

 $continued \dots$

Report Date: March 9, 2010 Work Order: 10022629 Page Number: 5 of 25 Celero/ Rock Queen #11 Chavez County, NM

eamale	999891	continued	
SILTHIBLE	C.C.30C.h	COTALTRACA	

			RL			
Parameter		Flag	Result	Units	Dilution	RL
Dissolved Potassiu	ım		737	mg/L	100	0.100
Dissolved Magnesi	um		2240	mg/L	100	0.100
Dissolved Sodium			28500	mg/L	1000	0.100
Sample: 223824	N/13871					
Sample: 220024	- 101 44 - 1					
Laboratory: Mid	land					
Analysis: Chlo	oride (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch: 6793	31		Date Analyzed:	2010-03-02	Analyzed By:	\mathbf{AR}
Prep Batch: 5808	30		Sample Preparation:	2010-03-01	Prepared By:	AR
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Chloride			60700	mg/L	5000	0.500

Sample: 223824 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Hardness 67940		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2010-03-02 2010-03-02	Prep Method: Analyzed By: Prepared By:	RR
Parameter		Flag	RL Result	Units	Dilution	RL

Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		17400	m mg~eq~CaCO3/L	1	0.00

Sample: 223824 - MW-1

Laboratory:	Midland				
Analysis:	pН	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	67873	Date Analyzed:	2010-02-26	Analyzed By:	AG
Prep Batch:	58060	Sample Preparation:	2010-02-26	Prepared By:	AG
		m RL			
Parameter	Flag	Result	Units	Dilution	RL
pН		6.24	s.u.	1	0.00

Report Date: March 9, 2010 Work Order: 10022629 Page Number: 6 of 25 115-6403131A Celero/ Rock Queen #11 Chavez County, NM

Sample: 223824 - MW-1

Laboratory: Midland

N/A Analysis: SO4 (IC) Analytical Method: Prep Method: E 300.0 Analyzed By: QC Batch: 67931 AR. Date Analyzed: 2010-03-02 Prep Batch: 58080 Prepared By: ARSample Preparation: 2010-03-01

RL

Sample: 223824 - MW-1

Laboratory: Midland

Analysis: TDS Prep Method: Analytical Method: SM 2540C N/A QC Batch: 68098 Date Analyzed: 2010-03-09 Analyzed By: ARPrep Batch: 58103 Sample Preparation: 2010-03-02 Prepared By: AR

RL

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A QC Batch: 67894 Date Analyzed: Analyzed By: AR2010-03-01 58086 Prep Batch: Sample Preparation: 2010-03-01 Prepared By: AR

RLDilution Parameter Flag Result Units RLHydroxide Alkalinity <1.00 mg/L as CaCo3 1 1.00 Carbonate Alkalinity mg/L as CaCo3 1 1.00 <1.00 Bicarbonate Alkalinity 132 mg/L as CaCo3 1 4.00 Total Alkalinity mg/L as CaCo3 1 4.00 132

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: **BTEX** S 5030B Analytical Method: S 8021B Prep Method: QC Batch: 67911 Date Analyzed: 2010-03-01 Analyzed By: AG Prep Batch: 58101 Sample Preparation: 2010-03-01 Prepared By: AG

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 7 of 25 Chavez County, NM

		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	mg/L	1	0.00100

					Spike	Percent	$\operatorname{Recovery}$
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0803	mg/L	1	0.100	80	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0709	mg/L	1	0.100	71	51.1 - 118.8

Sample: 223825 - MW-2

Laboratory: Lubbock

Analysis: Cations QC Batch: 67940 Prep Batch: 58109 Analytical Method: S 6010B
Date Analyzed: 2010-03-02
Sample Preparation: 2010-03-02

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

RLParameter Flag Result Units Dilution RLDissolved Calcium 723 100 mg/L 0.100 Dissolved Potassium 47.6 mg/L 1 0.100Dissolved Magnesium 265 10 mg/L 0.100Dissolved Sodium 3850 mg/L 1000 0.100

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 67931 Prep Batch: 58080 Analytical Method: E 300.0
Date Analyzed: 2010-03-02
Sample Preparation: 2010-03-01

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

Sample: 223825 - MW-2

Laboratory: Lubbock

Analysis: Hardness S 6010BAnalytical Method: Prep Method: N/A QC Batch: 67940 Date Analyzed: 2010-03-02 Analyzed By: RRPrep Batch: 58109 Sample Preparation: 2010-03-02 Prepared By: KV

115 - 6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 8 of 25 Chavez County, NM

RL

Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		2900	mg eq CaCO3/L	1	0.00

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: pH QC Batch: 67873 Prep Batch: 58060 Analytical Method: SM 4500-H+ Date Analyzed: 2010-02-26 Sample Preparation: 2010-02-26

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

RL

Parameter	Flag	Result	Units	Dilution	RL
pН		7.70	s.u.	1	0.00

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 67931 Prep Batch: 58080 Analytical Method: E 300.0
Date Analyzed: 2010-03-02
Sample Preparation: 2010-03-01

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		176	mg/L	5	0.500

Sample: 223825 - MW-2

Laboratory: Midland

Analysis: TDS QC Batch: 68098 Prep Batch: 58103 Analytical Method: SM 2540C Date Analyzed: 2010-03-09 Sample Preparation: 2010-03-02

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		17800	m mg/L	100	10.0

Sample: 223826 - MW-3

Laboratory: Midland

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

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 9 of 25 Chavez County, NM

		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		138	mg/L as CaCo3	1	4.00
Total Alkalinity		138	mg/L as CaCo3	1	4.00

Sample: 223826 - MW-3

Laboratory: Midland

Analysis: BTEX QC Batch: 67911 Prep Batch: 58101 Analytical Method: S 8021B Date Analyzed: 2010-03-01 Sample Preparation: 2010-03-01

Prep Method: S 5030B Analyzed By: AG 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
Ethylbenzene		< 0.00100	mg/L	1	0.00100
Xvlene		< 0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0787	mg/L	1	0.100	79	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0678	mg/L	1	0.100	68	51.1 - 118.8

Sample: 223826 - MW-3

Laboratory: Lubbock

Analysis: Cations QC Batch: 67940 Prep Batch: 58109 Analytical Method: S 6010B Date Analyzed: 2010-03-02 Sample Preparation: 2010-03-02

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

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Calcium		370	mg/L	10	0.100
Dissolved Potassium		$\boldsymbol{14.2}$	mg/L	1	0.100
Dissolved Magnesium		88.4	$\mathrm{mg/L}$	1	0.100
Dissolved Sodium		1060	mg/L	10	0.100

115-6403131A Celero/Rock Queen #11 Chavez County, NM Sample: 223826 - MW-3 Laboratory: Midland Chloride (IC) Analysis: Analytical Method: E 300.0 Prep Method: N/AQC Batch: 67931 Date Analyzed: 2010-03-02 Analyzed By: ARPrep Batch: 58080 Sample Preparation: Prepared By: 2010-03-01 ARRLParameter Flag Result Dilution RLUnits Chloride 1990 mg/L 100 0.500 Sample: 223826 - MW-3 Laboratory: Lubbock Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 67940 Date Analyzed: 2010-03-02 Analyzed By: RRPrep Batch: 58109 KVSample Preparation: 2010-03-02 Prepared By: RLParameter Flag Result Units Dilution RLHardness (by ICP) 1290 mg eq CaCO3/L 0.00 Sample: 223826 - MW-3 Laboratory: Midland Analysis: pН Analytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 67873 Date Analyzed: 2010-02-26 Analyzed By: AGPrep Batch: 58060 Sample Preparation: 2010-02-26 Prepared By: AG RLParameter Flag Result Dilution Units RLpН 8.13 0.00 s.u. 1 Sample: 223826 - MW-3 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: Prep Method: E 300.0 N/A QC Batch: 67931 Date Analyzed: 2010-03-02 Analyzed By: AR58080 Prep Batch: Sample Preparation: 2010-03-01 Prepared By: ARRLParameter Flag Result Units Dilution RL

120

mg/L

5

0.500

Work Order: 10022629

Page Number: 10 of 25

Report Date: March 9, 2010

Sulfate

Report Date: March 9, 2010 Work Order: 10022629 Page Number: 11 of 25 115-6403131A Celero/ Rock Queen #11 Chavez County, NM

Sample: 223826 - MW-3

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 68098 Date Analyzed: 2010-03-09 Analyzed By: ARPrep Batch: 58103 Sample Preparation: 2010-03-02 Prepared By: AR

Sample: 223827 - MW-4

Laboratory: Midland

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

RLDilution RLParameter Flag Result Units Hydroxide Alkalinity mg/L as CaCo3 1.00 < 1.00 1 Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 1.00 Bicarbonate Alkalinity 148 mg/L as CaCo3 1 4.00 Total Alkalinity 148 mg/L as CaCo3 1 4.00

Sample: 223827 - MW-4

Laboratory: Midland

S 5030B Analysis: **BTEX** Analytical Method: S 8021B Prep Method: QC Batch: 67911 Date Analyzed: 2010-03-01 Analyzed By: AGPrep Batch: 58101 Sample Preparation: 2010-03-01 Prepared By: \mathbf{AG}

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

					\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0821	mg/L	1	0.100	82	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.0711	mg/L	1	0.100	71	51.1 - 118.8

Report Date: March 9, 2010 Work Order: 10022629 115-6403131A Celero / Rock Queen #1

Work Order: 10022629 Page Number: 12 of 25 Celero/ Rock Queen #11 Chavez County, NM

Sample: 223827 - MW-4

Laboratory: Lubbock

Analysis: Cations S 3005A Analytical Method: S 6010B Prep Method: QC Batch: 67940 Date Analyzed: 2010-03-02 Analyzed By: RRPrep Batch: 58109 Sample Preparation: 2010-03-02 Prepared By: KV

RLParameter Flag Result Units Dilution RLDissolved Calcium 540 mg/L 0.100Dissolved Potassium 295 mg/L 10 0.100Dissolved Magnesium 10 0.100385 mg/L Dissolved Sodium 4670 1000 mg/L 0.100

Sample: 223827 - MW-4

Laboratory: Midland

Analysis: E 300.0 Chloride (IC) Analytical Method: Prep Method: N/A QC Batch: 67932 Date Analyzed: 2010-03-02 Analyzed By: AR Prep Batch: 58087 Sample Preparation: 2010-03-01 Prepared By: AR

RL

RL

Sample: 223827 - MW-4

Laboratory: Lubbock

Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 67940 2010-03-02 Date Analyzed: Analyzed By: RRPrep Batch: 58109 Sample Preparation: 2010-03-02 Prepared By: KV

Sample: 223827 - MW-4

Laboratory: Midland

Analysis: рH Analytical Method: SM 4500-H+ Prep Method: N/A QC Batch: 67873 Date Analyzed: 2010-02-26 Analyzed By: AG Prep Batch: 58060 Sample Preparation: 2010-02-26 Prepared By: AG

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 13 of 25 Chavez County, NM

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Hq		7.37	s.u.	1	0.00

Sample: 223827 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 67932 Prep Batch: 58087 Analytical Method: E 300.0 Date Analyzed: 2010-03-02 Sample Preparation: 2010-03-01

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

Sample: 223827 - MW-4

Laboratory: Midland

Analysis: TDS QC Batch: 68098 Prep Batch: 58103 Analytical Method: SM 2540C Date Analyzed: 2010-03-09 Sample Preparation: 2010-03-02

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

Method Blank (1) QC Batch: 67894

QC Batch: 67894 Prep Batch: 58086 Date Analyzed: 2010-03-01 QC Preparation: 2010-03-01

Analyzed By: AR Prepared By: AR

MDL Parameter Flag Result Units RLHydroxide Alkalinity < 1.00 mg/L as CaCo3 $\overline{1}$ Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 Bicarbonate Alkalinity < 4.00 mg/L as CaCo3 4 Total Alkalinity < 4.00mg/L as CaCo3 4

Method Blank (1) QC Batch: 67911

QC Batch: 67911 Date Analyzed: 2010-03-01 Analyzed By: AG
Prep Batch: 58101 QC Preparation: 2010-03-01 Prepared By: AG

115-6403131A

Work Order: 10022629

Page Number: 14 of 25 Chavez County, NM Celero/Rock Queen #11

		MDL		
Parameter	Flag	Result	Units	m RL
Benzene		< 0.000300	mg/L	0.001
Toluene		< 0.000200	m mg/L	0.001
Ethylbenzene		< 0.000200	mg/L	0.001
Xylene		< 0.000900	mg/L	0.001

					Spike	Percent	Recovery
Surrogate	Flag	Result	\mathbf{Units}	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0991	mg/L	1	0.100	99	73.6 - 126.6
4-Bromofluorobenzene (4-BFB)		0.102	mg/L	1	0.100	102	62.6 - 117.5

Method Blank (1)

QC Batch: 67931

QC Batch: 67931 Prep Batch: 58080 Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR Prepared By: AR

		MDL		
Parameter	Flag	Result	Units	RL
Chloride		< 0.475	mg/L	0.5

Method Blank (1)

QC Batch: 67931

QC Batch: 67931 Prep Batch: 58080 Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR Prepared By: AR

		MDL		
Parameter	Flag	Result	Units	RL
Sulfate		< 0.217	mg/L	0.5

Method Blank (1)

QC Batch: 67932

QC.Batch: 67932 Prep Batch: 58087 Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR Prepared By: AR

MDLParameter Flag Result Units RLChloride < 0.475 mg/L 0.5

Report Date: March 9, 115-6403131A	2010		r: 10022629 k Queen #11	Page Number: 15 o Chavez County,			
Method Blank (1)	QC Batch: 67932						
QC Batch: 67932 Prep Batch: 58087		Date Analyzed: QC Preparation:	2010-03-02 2010-03-01			Analyzed By: Prepared By:	
		N	IDL				
Parameter	Flag	Re	sult	Ü	nits		RL
Sulfate		<0	.217	m	ıg/L		0.5
Method Blank (1)	QC Batch: 67940						
QC Batch: 67940 Prep Batch: 58109		Date Analyzed: QC Preparation:	2010-03-02 2010-03-02			Analyzed By: Prepared By:	
•		•				ı v	
Parameter	Fla	σ	$rac{ ext{MDL}}{ ext{Result}}$		Units		RL
Dissolved Calcium	Ta	5	<0.00216		mg/L	· · · · · · · · · · · · · · · · · · ·	0.1
Dissolved Potassium			< 0.00645		mg/L		0.1
Dissolved Magnesium			< 0.00594		mg/L		0.1
Dissolved Sodium			<0.00548		mg/L		0.1
Method Blank (1)	QC Batch: 68098						
QC Batch: 68098		Date Analyzed:	2010-03-09			Analyzed By:	AR
Prep Batch: 58103		QC Preparation:	2010-03-02			Prepared By:	
			MDL				
Parameter	Fla	ag	Result		Units		RL
Total Dissolved Solids			<9.75		mg/L		10
Duplicates (1) Dup	licated Sample: 2238	324					
QC Batch: 67873		Date Analyzed:	2010-02-26			Analyzed By:	\mathbf{AG}
Prep Batch: 58060		QC Preparation:	2010-02-26			Prepared By:	
	Duplicate	Sample					RPD
D	\mathbf{Result}	Result	\mathbf{Units}	Dilution		RPD	Limit
Param pH	6.22	6.24	s.u.	1		0	1.5

Analyzed By: AR Prepared By: AR

Duplicates (1)

QC Batch: 67894 Prep Batch: 58086

Duplicated Sample: 223818

Date Analyzed:

QC Preparation: 2010-03-01

2010-03-01

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 16 of 25 Chavez County, NM

Param	Duplicate Result	Sample Result	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	192	194	mg/L as CaCo3	1	1	20
Total Alkalinity	192	194	mg/L as CaCo3	1	1	20

Duplicates (1) Duplicated Sample: 223828

QC Batch: 68098 Prep Batch: 58103 Date Analyzed: 2010-03-09 QC Preparation: 2010-03-02

Analyzed By: AR
Prepared By: AR

	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	90600	90100	mø/L	100	1	10

Laboratory Control Spike (LCS-1)

QC Batch: 67911 Prep Batch: 58101 Date Analyzed: 2010-03-01 QC Preparation: 2010-03-01

Analyzed By: AG Prepared By: AG

	LCS			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.0949	mg/L	1	0.100	< 0.000300	95	79.4 - 112.4
Toluene	0.0942	mg/L	1	0.100	< 0.000200	94	79.3 - 110
Ethylbenzene	0.0935	mg/L	1	0.100	< 0.000200	94	73.8 - 113.1
Xylene	0.282	mg/L	1	0.300	< 0.000900	94	73.9 - 113.6

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	0.0957	mg/L	1	0.100	< 0.000300	96	79.4 - 112.4	1	20
Toluene	0.0954	mg/L	1	0.100	< 0.000200	95	79.3 - 110	1	20
Ethylbenzene	0.0952	mg/L	1	0.100	< 0.000200	95	73.8 - 113.1	2	20
Xylene	0.287	mg/L	1	0.300	< 0.000900	96	73.9 - 113.6	2	20

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

Surrogate	$rac{ ext{LCS}}{ ext{Result}}$	$\begin{array}{c} LCSD \\ Result \end{array}$	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0954	0.0943	mg/L	1	0.100	95	94	76.2 - 129.6
4-Bromofluorobenzene (4-BFB)	0.112	0.111	mg/L	1	0.100	112	111	77.9 - 119.8

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 17 of 25 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

67931 Prep Batch: 58080 Date Analyzed:

2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	27.3	mg/L	1	25.0	< 0.475	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	24.1	mg/L	1	25.0	< 0.475	96	90 - 110	12	

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:

67931

Date Analyzed:

2010-03-02

Analyzed By: AR

Prep Batch: 58080

QC Preparation:

2010-03-01

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.8	mg/L	1	25.0	< 0.217	99	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
Sulfate	24.8	mg/L	1	25.0	< 0.217	99	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: 58087

67932

Date Analyzed:

2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.7	mg/L	1	25.0	< 0.475	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	23.7	mg/L	1	25.0	< 0.475	95	90 - 110	0	

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

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 18 of 25 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 58087

67932

Date Analyzed:

2010-03-02 QC Preparation: 2010-03-01

Analyzed By: AR

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	23.2	mg/L	1	25.0	< 0.217	93	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	23.1	mg/L	1	25.0	< 0.217	92	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: 67940 Date Analyzed:

2010-03-02

Analyzed By: RR Prepared By: KV

Prep Batch: 58109

QC Preparation: 2010-03-02

Matrix Rec.

LCS			Spike	Matrix		Rec.
Result	Units	Dil.	Amount	Result	Rec.	Limit
52.9	mg/L	1	50.0	< 0.00216	106	85 - 115
51.6	mg/L	1	50.0	< 0.00645	103	85 - 115
53.9	mg/L	1	50.0	< 0.00594	108	85 - 115
50.6	mg/L	1	50.0	< 0.00548	101	85 - 115
	Result 52.9 51.6 53.9	Result Units 52.9 mg/L 51.6 mg/L 53.9 mg/L	Result Units Dil. 52.9 mg/L 1 51.6 mg/L 1 53.9 mg/L 1	Result Units Dil. Amount 52.9 mg/L 1 50.0 51.6 mg/L 1 50.0 53.9 mg/L 1 50.0	Result Units Dil. Amount Result 52.9 mg/L 1 50.0 <0.00216	Result Units Dil. Amount Result Rec. 52.9 mg/L 1 50.0 <0.00216

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	51.0	mg/L	1	50.0	< 0.00216	102	85 - 115	4	20
Dissolved Potassium	49.7	mg/L	1	50.0	< 0.00645	99	85 - 115	4	20
Dissolved Magnesium	51.5	mg/L	1	50.0	< 0.00594	103	85 - 115	5	20
Dissolved Sodium	49.0	mg/L	1	50.0	< 0.00548	98	85 - 115	3	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: 68098 Prep Batch: 58103 Date Analyzed: 2010-03-09 QC Preparation: 2010-03-02

Analyzed By: AR Prepared By: AR

 $continued \dots$

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 19 of 25 Chavez County, NM

control spikes continued ...

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
	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			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1020	mg/L	1	1000	< 9.75	102	90 - 110	0	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: 223853

QC Batch: 67911 Prep Batch: 58101

Date Analyzed: 2010-03-01 QC Preparation: 2010-03-01 Analyzed By: AG Prepared By: AG

	MS			Spike	Matrix		Rec.
Param	Result	\mathbf{Units}	Dil.	Amount	Result	Rec.	Limit
Benzene	10.9	mg/L	50	5.00	5.9567	99	77.3 - 117.4
Toluene	6.30	mg/L	50	5.00	1.5038	96	75 - 111.8
Ethylbenzene	5.23	mg/L	50	5.00	0.5072	94	78.8 - 106.6
Xylene	14.6	mg/L	50	15.0	0.6358	93	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	10.6	mg/L	50	5.00	5.9567	93	77.3 - 117.4	3	20
Toluene	5.98	$\mathrm{mg/L}$	50	5.00	1.5038	90	75 - 111.8	5	20
Ethylbenzene	4.79	mg/L	50	5.00	0.5072	86	78.8 - 106.6	9	20
Xylene	13.5	mg/L	50	15.0	0.6358	86	68.9 - 114	8	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)	4.41	4.27	mg/L	50	5	88	85	76.3 - 129.8
4-Bromofluorobenzene (4-BFB)	5.17	4.98	mg/L	50	5	103	100	75.2 - 112.8

Matrix Spike (MS-1) Spiked Sample: 223826

QC Batch: 67931 Prep Batch: 58080 Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01 Analyzed By: AR Prepared By: AR

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 20 of 25 Chavez County, NM

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	I	2350	mg/L	5	138	< 2.38	1709	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	2350	mg/L	5	138	< 2.38	1709	90 - 110	0	

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

Matrix Spike (MS-1) Spiked S

IS-1) Spiked Sample: 223826

QC Batch: 67931 Prep Batch: 58080 Date Analyzed: QC Preparation: 2010-03-02 2010-03-01 Analyzed By: AR

Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	3	224	mg/L	5	138	120	76	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	4	213	mg/L	5	138	120	68	90 - 110	5	

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

Matrix Spike (MS-1) Spiked Sample: 223829

QC Batch: 67932 Prep Batch: 58087

Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01 Analyzed By: AR Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	\mathbf{Units}	Dil.	Amount	Result	Rec.	Limit
Chloride	5	27200	mg/L	50	1380	24013	232	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	6	27300	mg/L	50	1380	24013	239	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.

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.

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

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

115-6403131A

Work Order: 10022629 Celero/Rock Queen #11 Page Number: 21 of 25 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 223829

QC Batch:

67932 Prep Batch: 58087 Date Analyzed:

2010-03-02

QC Preparation: 2010-03-01

Analyzed By: AR

Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	7	1500	mg/L	50	1380	463	75	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	1590	mg/L	50	1380	463	82	90 - 110	6	

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

Matrix Spike (MS-1) Spiked Sample: 223817

QC Batch: Prep Batch: 58109

67940

Date Analyzed:

2010-03-02 QC Preparation: 2010-03-02 Analyzed By: RR

Prepared By: KV

*							
	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	366	mg/L	1	50.0	306	120	75 - 125
Dissolved Potassium	72.6	mg/L	1	50.0	20.6	104	75 - 125
Dissolved Magnesium	117	mg/L	1	50.0	71	92	75 - 125
Dissolved Sodium	485	mg/L	1	50.0	439	92	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	356	mg/L	1	50.0	306	100	75 - 125	3	20
Dissolved Potassium	75.6	mg/L	1	50.0	20.6	110	75 - 125	4	20
Dissolved Magnesium	120	mg/L	1	50.0	71	98	75 - 125	2	20
Dissolved Sodium	486	mg/L	1	50.0	439	94	75 - 125	0	20

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

Standard (ICV-1)

QC Batch: 67873

Date Analyzed: 2010-02-26

Analyzed By: AG

⁷Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁸MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 22 of 25 Chavez County, NM

			ICVs	ICVs	ICVs	Percent	D - (-
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
pН		s.u.	7.00	6.99	100	98 - 102	2010-02-26

Standard (CCV-1)

QC Batch: 67873

Date Analyzed: 2010-02-26

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	6.93	99	98 - 102	2010-02-26

Standard (ICV-1)

QC Batch: 67894

Date Analyzed: 2010-03-01

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	17.0		0 - 200	2010-03-01
Carbonate Alkalinity		mg/L as CaCo3	0.00	244		0 - 200	2010-03-01
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	< 4.00		0 - 200	2010-03-01
Total Alkalinity		mg/L as CaCo3	250	261	104	90 - 110	2010-03-01

Standard (CCV-1)

QC Batch: 67894

Date Analyzed: 2010-03-01

Analyzed By: AR

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	29.0		0 - 200	2010-03-01
Carbonate Alkalinity		mg/L as CaCo3	0.00	224		0 - 200	2010-03-01
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	< 4.00		0 - 200	2010-03-01
Total Alkalinity		mg/L as CaCo3	250	253	101	90 - 110	2010-03-01

Standard (CCV-2)

QC Batch: 67911

Date Analyzed: 2010-03-01

115-6403131A

Work Order: 10022629 Celero/ Rock Queen #11 Page Number: 23 of 25

Chavez County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0945	94	80 - 120	2010-03-01
Toluene		mg/L	0.100	0.0943	94	80 - 120	2010-03-01
Ethylbenzene		mg/L	0.100	0.0941	94	80 - 120	2010-03-01
Xylene		mg/L	0.300	0.283	94	80 - 120	2010-03-01

Standard (CCV-3)

QC Batch: 67911

Date Analyzed: 2010-03-01

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	0.0957	96	80 - 120	2010-03-01
Toluene		mg/L	0.100	0.0944	94	80 - 120	2010-03-01
Ethylbenzene		mg/L	0.100	0.0932	93	80 - 120	2010-03-01
Xylene		mg/L	0.300	0.281	94	80 - 120	2010-03-01

Standard (ICV-1)

QC Batch: 67931

Date Analyzed: 2010-03-02

Analyzed By: AR

			ICVs True	$\begin{array}{c} \rm ICVs \\ \rm Found \end{array}$	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.8	95	90 - 110	2010-03-02

Standard (ICV-1)

QC Batch: 67931

Date Analyzed: 2010-03-02

Analyzed By: AR

			ICVs True	ICVs Found	$\begin{array}{c} {\rm ICVs} \\ {\rm Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-03-02

Standard (CCV-1)

QC Batch: 67931

Date Analyzed: 2010-03-02

Analyzed By: AR

Order #: 10022629

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CLIENT NAME: Cr Joro Enrogy			SITE MANAGE		NERS			SER	VATIVE		TX1005	Ba				60/624	270/625					ns, pH,			
PROJECT NO.: 115-640 3131 A	PRC ()) NEC	FAME: / Rock Quee	n #11	CONTA	(N/A				2	MOD.	ls Ag As	ls Ag As	Volatile		8240/82	i. Vol. 8	8 8		P.	stos)	1s/Catio			
LAB I.D. DATE TIME	MATRIX	GRAB	<u>~</u> .	と, Aiへ E IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL HN03	ICE	NONE	(BTEX 8021B)	TPH 8015 MOD	RCRA Meta	TCLP Meta	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Sen	Pest. 808/608	Chloride	Gamma Spec.	PLM (Asbestos)	Major Anions/Cations, pH, TDS			
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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

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

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E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB:

1752439743100-86536 NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock:

T104704219-08-TX

El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

LELAP-02003 Kansas E-10317

Analytical and Quality Control Report

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

Report Date: August 5, 2010

Work Order: 10071416

Project Location:

Chavez County, NM

Project Name:

Celero/ Rock Queen #11

Project Number:

115-6403131A

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

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

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

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

Dr. Plair Leftwich Director

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

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

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

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

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

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

115-6403131A

Work Order: 10071416 Celero/Rock Queen #11 Page Number: 4 of 16 Chavez County, NM

Analytical Report

Sample: 237463 - MW-1

Laboratory: Midland

BTEX Analysis: 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

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	$\mathbf{Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0848	mg/L	1	0.100	85	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0693	mg/L	1	0.100	69	51.1 - 128

Sample: 237463 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 72386 Prep Batch: 62048

Analytical Method: E 300.0 Date Analyzed: 2010-08-05 Sample Preparation: 2010-08-04 Prep Method: N/A Analyzed By: SSPrepared By: SS

		1XL			
Parameter	Flag	Result	\mathbf{Units}	Dilution	RL
Chloride		12300	mg/L	1000	2.50

Sample: 237463 - MW-1

Laboratory: Midland

Analysis: SO4 (IC) 71930 QC Batch: Prep Batch: 61483

Analytical Method: $\to 300.0$ Date Analyzed: 2010-07-16 Sample Preparation: 2010-07-15

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

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		186	mg/L	5	2.50

115-6403131A

Work Order: 10071416 Celero/Rock Queen #11 Page Number: 5 of 16 Chavez County, NM

Sample: 237463 - MW-1

Laboratory: Midland

TDS Analysis: QC Batch: 72039 Prep Batch: 61516 Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C 2010-07-26 2010-07-16 Prep Method: N/AAnalyzed By: ARPrepared By: AR

RL

Parameter Result Flag Units Dilution RLTotal Dissolved Solids 11600 mg/L 100 10.0

Sample: 237464 - MW-2

Laboratory: Midland

Analysis:

BTEX QC Batch: 71724 Prep Batch: 61451

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

RL

Prep Method: S 5030B Analyzed By: \mathbf{AG} Prepared By: \mathbf{AG}

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	m mg/L	1	0.00100

					\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0927	mg/L	1	0.100	93	67.8 - 126
4-Bromoffuorobenzene (4-BFB)		0.0752	$_{ m mg/L}$	1	0.100	75	51.1 - 128

Sample: 237464 - MW-2

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 71930 Prep Batch: 61483

Chloride

 $\to 300.0$ Analytical Method: Date Analyzed: 2010-07-16 Sample Preparation: 2010-07-15

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

Parameter Flag

RLResult Units Dilution RL16400 1000 mg/L 2.50

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 6 of 16 Chavez County, NM

Sample: 237464 - MW-2

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 71930 Prep Batch: 61483 Analytical Method: E 300.0 Date Analyzed: 2010-07-16 Sample Preparation: 2010-07-15

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

RL

Sample: 237464 - 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: AR Prepared By: AR

RL

Sample: 237465 - 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	$\mathrm{mg/L}$	1	0.00100
Ethylbenzene		< 0.00100	mg/L	1	0.00100
Xylene		< 0.00100	mg/L	1	0.00100

					\mathbf{Spike}	${f Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.106	mg/L	1	0.100	106	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0853	mg/L	1	0.100	85	51.1 - 128

115-6403131	:: August 5, 2010 A		er: 10071416 ck Queen #11	Page Number: Chavez Coun	
Sample: 23	7465 - MW-3				
Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Meth	od: E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Prepara	tion: 2010-07-15	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		3260	mg/L	100	2.50
Sample: 23	7465 - MW-3				
Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method	l: E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation	n: 2010-07-15	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		52.8	mg/L	5	2.50
Sample: 23	7465 - MW-3				
-					
Laboratory:	Midland	Analytical Method	: SM 2540C	Prep Method:	N/A
Laboratory: Analysis:		Analytical Method Date Analyzed:	: SM 2540C 2010-07-26	Prep Method: Analyzed By:	N/A AR
Laboratory: Analysis: QC Batch:	Midland TDS	Analytical Method Date Analyzed: Sample Preparation	2010-07-26		•
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039	Date Analyzed: Sample Preparation RL	2010-07-26 n: 2010-07-16	Analyzed By: Prepared By:	AR AR
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039 61516	Date Analyzed: Sample Preparation RL Flag Result	2010-07-26 n: 2010-07-16 Units	Analyzed By: Prepared By: Dilution	AR AR RL
Laboratory: Analysis: QC Batch:	Midland TDS 72039 61516	Date Analyzed: Sample Preparation RL	2010-07-26 n: 2010-07-16	Analyzed By: Prepared By:	AR AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv	Midland TDS 72039 61516	Date Analyzed: Sample Preparation RL Flag Result	2010-07-26 n: 2010-07-16 Units	Analyzed By: Prepared By: Dilution	AR AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland	Date Analyzed: Sample Preparation RL Flag Result 4190	2010-07-26 n: 2010-07-16 Units mg/L	Analyzed By: Prepared By: Dilution 10	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation RL Flag Result 4190 Analytical Method:	2010-07-26 n: 2010-07-16 Units mg/L S 8021B	Analyzed By: Prepared By: Dilution 10 Prep Method: S	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX 71724	Date Analyzed: Sample Preparation RL Flag Result 4190 Analytical Method: Date Analyzed:	2010-07-26 n: 2010-07-16 Units mg/L S 8021B 2010-07-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: A	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation RL Flag Result 4190 Analytical Method:	2010-07-26 n: 2010-07-16 Units mg/L S 8021B	Analyzed By: Prepared By: Dilution 10 Prep Method: S	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation RL Result 4190 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-07-26 n: 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: Av Prepared By: Av	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX 71724	Date Analyzed: Sample Preparation RL Result 4190 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-07-26 n: 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: Ar Prepared By: Ar Dilution	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039 61516 ed Solids 7466 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation RL Result 4190 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-07-26 n: 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: A Prepared By: A Dilution 1 0	AR AR RL 10.0

Report Date: August 5, 2010 115-6403131A Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 8 of 16 Chavez County, NM

sample 237466 continued ...

			RI					
Parameter F	lag		Result	t	Units	Dil	ution	RL
Ethylbenzene			< 0.00100)	mg/L		1	0.00100
Xylene			< 0.00100)	mg/L		11	0.00100
						Spike	Percent	Recovery
Surrogate	Fl	lag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0995	mg/L	1	0.100	100	67.8 - 126
4-Bromofluorobenzene (4-BF)	B)		0.0786	mg/L	1	0.100	79	51.1 - 128

Sample: 237466 - MW-4

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 72386 Date Analyzed: 2010-08-05 Analyzed By: SSPrep Batch: 62048 Prepared By: SSSample Preparation: 2010-08-04

Sample: 237466 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) Prep Method: N/AAnalytical Method: E 300.0 QC Batch: 71930 Date Analyzed: 2010-07-16 Analyzed By: ARPrepared By: Prep Batch: 61483 Sample Preparation: 2010-07-15 AR

Sample: 237466 - MW-4

Laboratory: Midland

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

Report Date: August 5 115-6403131A	, 2010	Work Order: 10071416 Celero/ Rock Queen #11				Page Number: 9 of 1 Chavez County, NA			
Method Blank (1)	QC Batch: 71724								
QC Batch: 71724		Date Anal	yzed:	2010-07	-14		Analya	zed By:	AG
Prep Batch: 61451		QC Prepar	ration:	2010-07	-14			red By:	AG
				MDL					
Parameter	Flag		Result			Unit	S		RL
Benzene				000600		mg/l			0.001
Toluene				000600		mg/l			0.001
Ethylbenzene				00800		mg/l			0.001
Xylene			<0.0	000767		mg/l	<u> </u>		0.001
						Spike	Percent		overy
Surrogate	Flag	Result	Units		ution	Amount	Recovery		mits
Trifluorotoluene (TFT)	(PPP)	0.0973	mg/I		1	0.100	97		- 118
4-Bromofluorobenzene (4-BFB)	0.0848	mg/I		1	0.100	85	47.3	- 116
Method Blank (1)	QC Batch: 71930								
QC Batch: 71930		Date Anal	vzed:	2010-07-	-16		Analyz	zed By:	AR
Prep Batch: 61483		QC Prepar	-	2010-07-			-	ed By:	AR
				DI					
Parameter	Flag			DL sult		Units	,		RL
Chloride	1 146			425		mg/I			2.5
Method Blank (1)	QC Batch: 71930								
QC Batch: 71930		Date Anal	yzed:	2010-07-	16		Analyz	ed By:	AR
Prep Batch: 61483		QC Prepar	ation:	2010-07-	$\cdot 15$		Prepar	ed By:	AR
				IDL					
Parameter	Flag			sult		Units			RL
Sulfate			<0.	.177		mg/I			2.5
Method Blank (1)	QC Batch: 72039								
QC Batch: 72039		Date Anal	waod.	2010-07-	26		Analyz	ad B	AR
QC Batch: 72039 Prep Batch: 61516		Date Analy QC Prepar		2010-07-			Anaiyz Prepar		AR
-		•					•	·	
Parameter	Fla	a or		MDL Result		11.	nits		RL
Total Dissolved Solids	T l č	<u>1</u> В		10.0					10
Total Dissolved Solids				10.0	***************************************	m	g/L		1(

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 10 of 16 Chavez County, NM

Method Blank (1)

QC Batch: 72386

QC Batch: Prep Batch: 62048

72386

Date Analyzed: QC Preparation: 2010-08-04

2010-08-05

Analyzed By: SS

Prepared By: SS

MDL

Parameter	Flag	Result	Units	RL
Chloride		< 0.0402	mg/L	2.5

Duplicates (2) Duplicated Sample: 237468

QC Batch:

72039

Date Analyzed:

2010-07-26

Analyzed By: AR

Prep Batch: 61516

QC Preparation: 2010-07-15

Prepared By: AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	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: QC Preparation: 2010-07-14

2010-07-14

Analyzed By: AG

Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	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			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

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 11 of 16 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

71930

Date Analyzed:

2010-07-16

Analyzed By: AR

Prep Batch: 61483

QC Preparation: 2010-07-15

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	25.8	mg/L	1	25.0	< 0.265	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	26.1	mg/L	1	25.0	< 0.265	104	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 71930 Date Analyzed:

2010-07-16

Analyzed By: AR

Prep Batch: 61483

QC Preparation: 2010-07-15

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	23.1	mg/L	1	25.0	< 0.177	92	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	22.7	mg/L	1	25.0	< 0.177	91	90 - 110	2	20

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

Laboratory Control Spike (LCS-2)

QC Batch: 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.

	LCSD			\mathbf{Spike}	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1050	mg/L	1	1000	< 9.75	105	90 - 110	2	10

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

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 12 of 16 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 62048

Date Analyzed: QC Preparation:

2010-08-05 2010-08-04 Analyzed By: SS

Prepared By: SS

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	${f Limit}$
Chloride	23.9	mg/L	1	25.0	< 0.0402	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	24.3	mg/L	1	25.0	< 0.0402	97	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: 237430

QC Batch:

71724 Prep Batch: 61451 Date Analyzed:

2010-07-14 QC Preparation: 2010-07-14

Analyzed By: AG Prepared By: AG

Param		$rac{ ext{MS}}{ ext{Result}}$	Units	Dil.	$\begin{array}{c} {\bf Spike} \\ {\bf Amount} \end{array}$	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	1	0.0695	mg/L	1	0.100	< 0.000800	70	75.3 - 110
Xylene	2	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	3	0.0719	mg/L	1	0.100	< 0.000600	72	78.3 - 111	11	20
Ethylbenzene	4	0.0623	mg/L	1	0.100	< 0.000800	62	75.3 - 110	11	20
Xylene	5	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)	6 7	0.0434	0.0551	mg/L	1	0.1	43	55	68.3 - 107

continued.

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

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

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

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 occured properly.

⁶Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample. ⁷Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 13 of 16 Chavez County, NM

matrix spikes continued ...

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
4-Bromofluorobenzene (4-BFB) ⁸	0.0418	0.0525	mg/L	1	0.1	42	52	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 237466

QC Batch: 71930 Prep Batch: 61483 Date Analyzed: 2010-07-16 QC Preparation: 2010-07-15 Analyzed By: AR Prepared By: AR

	MS			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	< 0.265	${ m mg/L}$	1	25.0	< 0.265		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	< 0.265	mg/L	1	25.0	< 0.265		90 - 110		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: 237466

QC Batch: 71930 Prep Batch: 61483 Date Analyzed: 2010-07-16 QC Preparation: 2010-07-15

Analyzed By: AR Prepared By: AR

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	10	1150	mg/L	50	1380	51.6	80	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	11	1180	mg/L	50	1380	51.6	82	90 - 110	3	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: 237710

QC Batch: 72386 Prep Batch: 62048 Date Analyzed: 2010-08-05 QC Preparation: 2010-08-04 Analyzed By: SS Prepared By: SS

⁸Surrogate 4-BFB 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.

¹⁰Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

¹¹MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occurred properly.

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 14 of 16 Chavez County, NM

	MS			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	3470	mg/L	100	2500	1140	93	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	\mathbf{Limit}
Chloride	3440	mg/L	100	2500	1140	92	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: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0986	99	80 - 120	2010-07-14
Toluene		mg/L	0.100	0.0974	97	80 - 120	2010-07-14
Ethylbenzene		mg/L	0.100	0.0912	91	80 - 120	2010-07-14
Xylene		mg/L	0.300	0.274	91	80 - 120	2010-07-14

Standard (CCV-2)

QC Batch: 71724

Date Analyzed: 2010-07-14

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	0.0999	100	80 - 120	2010-07-14
Toluene		mg/L	0.100	0.100	100	80 - 120	2010-07-14
Ethylbenzene		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	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0992	99	80 - 120	2010-07-14
Toluene		mg/L	0.100	0.0982	98	80 - 120	2010-07-14
Ethylbenzene		mg/L	0.100	0.0938	94	80 - 120	2010-07-14
Xylene		mg/L	0.300	0.283	94	80 - 120	2010-07-14

Report Date: August 5, 2010 115-6403131A Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 15 of 16 Chavez County, NM

Standard ((ICV-1)	ì
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QC Batch: 71930

Date Analyzed: 2010-07-16

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		m mg/L	25.0	26.9	108	90 - 110	2010-07-16

Standard (ICV-1)

QC Batch: 71930

Date Analyzed: 2010-07-16

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	26.4	106	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71930

Date Analyzed: 2010-07-16

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	25.1	100	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71930

Date Analyzed: 2010-07-16

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	26.3	105	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 72386

Date Analyzed: 2010-08-05

Analyzed By: SS

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.9	96	90 - 110	2010-08-05

115-6403131A

Work Order: 10071416 Celero/ Rock Queen #11 Page Number: 16 of 16 Chavez County, NM

Standard (CCV-2)

QC Batch: 72386

Date Analyzed: 2010-08-05

Analyzed By: SS

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		m mg/L	25.0	24.3	97	90 - 110	2010-08-05

Orcher #: 1007/4/10

Ana	Analysis Request of Chain of Custody Record					PAGE:								\mathcal{I}	OF:			I												
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	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 SITE MANAGER: PRESERVATIVE									l	6 (Ext. to C35)	Cr Pb Hg											ros)							
CLIENT NAME	elero					SITE MANAGE Jeff King	R:		EBS	T			RVATI	VE		TX1005	88 O	Ba Cd			0/624	70/625						F.		
PROJECT NO 115 - 64 LAB I.D.	i: 0313	31	\vdash	\exists	<u> </u>	NAME; ero / Rock Guz Chavet a,	en #11 NM		NUMBER OF CONTAINERS	FILTERED (Y/N)					BTEX 8021B.>	8015 MOD.	RCRA Metals Ag As	Metals Ag As	TCLP Volatiles	TCLP Semi Volatiles	5 Vol. 8240/826	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	809/808	Gamma Spec.	Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH,(TDS	caro)	
NUMBER	DATE 2010	TIME	MATRIX	COMP	GRAB	SAMPL	E IDENTIFICATION		NOMB		HNO3	SE SE	NONE		Xare	HPH PAH 8	RCRA	TOLP	TCLP	TCLP	GC.M	GC.MS	PCB's	Pest.	Gamm	Alpha	PLM (Major	3	
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ADDRESS	CITY: Midland STATE: TX ZIP:							Jeff Kindley RUSH Charges Authorized: Yes								No														
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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

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5015 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

Report Date: November 10, 2010

Work Order: 10101410

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

Chavez County, NM

Project Location: Project Name: Celero/Rock Queen #11

Project Number: 115-6403131A

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

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

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

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

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

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

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

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

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

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

115-6403131A

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 4 of 15 Chavez County, NM

Analytical Report

Sample: 247518 - MW-1

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

RL

Parameter	Flag	\mathbf{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	$\mathbf{Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0890	mg/L	1	0.100	89	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0750	mg/L	1	0.100	75	39 - 138

Sample: 247518 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC)
QC Batch: 75072
Prep Batch: 64403

Analytical Method: E 300.0
Date Analyzed: 2010-11-03
Sample Preparation: 2010-11-03

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

RL

		1013			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		20400	mg/L	1000	2.50

Sample: 247518 - MW-1

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 75231 Prep Batch: 64531 Analytical Method: E 300.0 Date Analyzed: 2010-11-09 Sample Preparation: 2010-11-09

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		455	mg/L	50	2.50

Report Date: November 10, 2010 115-6403131A

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 5 of 15 Chavez County, NM

Sample: 247518 - MW-1

Laboratory: Midland

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		42700	mg/L	100	10.0

Sample: 247519 - 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

RL

Parameter	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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0878	mg/L	1	0.100	88	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0779	mg/L	1	0.100	78	39 - 138

Sample: 247519 - MW-2

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 75072 Prep Batch: 64403 Analytical Method: E 300.0
Date Analyzed: 2010-11-03
Sample Preparation: 2010-11-03

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		24000	mg/L	1000	2.50

115-6403131A

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 6 of 15 Chavez County, NM

Sample: 247519 - MW-2

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 75231 Prep Batch: 64531

Analytical Method: Date Analyzed:

E 300.0 2010-11-09 Sample Preparation: 2010-11-09 Prep Method: N/A Analyzed By: PG Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		547	mg/L	50	2.50

Sample: 247519 - MW-2

Laboratory: Midland

Analysis: TDS QC Batch: 74622 Prep Batch: 63873 Analytical Method: SM 2540C Date Analyzed:

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		38400	mg/L	100	10.0

Sample: 247520 - MW-3

Laboratory: Midland

Analysis: BTEX QC Batch: 74557 Prep Batch: 63840

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

RL

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

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)		0.0968	mg/L	1	0.100	97	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0811	mg/L	1	0.100	81	39 - 138

115-6403131A	November 10, 2010		Work Order: 10101410 Celero/Rock Queen #11		
Sample: 2475	520 - MW-3				
Laboratory: I	Lubbock				
Analysis: (Chloride (IC)	Analytical Metho	od: E 300.0	Prep Method:	N/A
QC Batch: 7	75072	Date Analyzed:	2010-11-03	Analyzed By:	\overline{PG}
Prep Batch: 6	64403	Sample Preparat	ion: 2010-11-03	Prepared By:	PG
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		2700	mg/L	100	2.50
Sample: 2475	520 - MW-3				
Laboratory: I	Lubbock				
Analysis: S	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch: 7	75136	Date Analyzed:	2010-11-04	Analyzed By:	PG
Prep Batch: 6	64442	Sample Preparation	n: 2010-11-04	Prepared By:	PG
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		73.6	mg/L	5	2.50
Laboratory: M Analysis: T QC Batch: 7	620 - MW-3 Midland FDS 4622 3873	Analytical Method: Date Analyzed: Sample Preparation RL	SM 2540C 2010-10-21 :: 2010-10-15	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Laboratory: M Analysis: T QC Batch: 7 Prep Batch: 6	Midland FDS 4622	Date Analyzed: Sample Preparation	2010-10-21	Analyzed By:	AR
Analysis: T QC Batch: 7	Midland PDS 4622 3873	Date Analyzed: Sample Preparation RL	2010-10-21 :: 2010-10-15	Analyzed By: Prepared By:	AR AR RL
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Sample: 2475 Laboratory: M	Midland TDS 4622 3873 Solids 21 - MW-4 Midland	Date Analyzed: Sample Preparation RL Flag Result 6290	2010-10-21 :: 2010-10-15 : Units : mg/L	Analyzed By: Prepared By: Dilution 10	AR AR RL 10.0
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Sample: 2475 Laboratory: MAnalysis: B	Midland TDS 4622 3873 Solids 21 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation RL Flag Result 6290 Analytical Method:	2010-10-21 2010-10-15 Units mg/L	Analyzed By: Prepared By: Dilution 10 Prep Method: S	AR AR RL 10.0
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Laboratory: MAnalysis: BQC Batch: 7 QC Batch: 7	Midland FDS 4622 3873 Solids 21 - MW-4 Midland BTEX 4557	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed:	2010-10-21 2010-10-15 Units mg/L S 8021B 2010-10-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: A	AR AR RL 10.0
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Sample: 2475 Laboratory: MAnalysis: BQC Batch: 7-	Midland TDS 4622 3873 Solids 21 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation:	2010-10-21 2010-10-15 Units mg/L	Analyzed By: Prepared By: Dilution 10 Prep Method: S	AR AR RL 10.0
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Sample: 2475 Laboratory: MAnalysis: BQC Batch: 7 Prep Batch: 6	Midland TDS 4622 3873 Solids 21 - MW-4 Midland BTEX 4557 3840	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-10-21 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: Ac Prepared By: Ac	AR AR RL 10.0
Laboratory: MAnalysis: TQC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Sample: 2475 Laboratory: MAnalysis: BQC Batch: 7 Prep Batch: 6 Parameter	Midland FDS 4622 3873 Solids 21 - MW-4 Midland BTEX 4557	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-10-21 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: Ac Prepared By: Ac Dilution	AR AR RL 10.0
Laboratory: Manalysis: To QC Batch: 7 Prep Batch: 6 Parameter Total Dissolved Laboratory: Manalysis: Batch: 7 QC Batch: 7 Prep Batch: 6	Midland TDS 4622 3873 Solids 21 - MW-4 Midland BTEX 4557 3840	Date Analyzed: Sample Preparation RL Result 6290 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-10-21 2010-10-15 Units mg/L S 8021B 2010-10-14 2010-10-14	Analyzed By: Prepared By: Dilution 10 Prep Method: S Analyzed By: Ac Prepared By: Ac Dilution 1 0	AR AR RL 10.0

Report Date: November 10, 2010 Work Order: 10101410
115-6403131A Celero/Rock Queen #11

Work Order: 10101410 Page Number: 8 of 15 Celero/Rock Queen #11 Chavez County, NM

sample 247521 continued ...

			RL					
Parameter	Flag		Result		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)			0.0916	mg/L	1	0.100	92	66.2 - 107
4-Bromofluorobenzene (4-Bl	FB)		0.0803	mg/L	1	0.100	80	39 - 138

Sample: 247521 - MW-4

Laboratory: Lubbock

Analysis: Chloride (IC) Prep Method: N/A Analytical Method: E 300.0 QC Batch: Analyzed By: PG 75072 Date Analyzed: 2010-11-03 Prep Batch: 64403 Sample Preparation: 2010-11-03 Prepared By: PG

Sample: 247521 - MW-4

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0Prep Method: N/A QC Batch: 75136 Analyzed By: PGDate Analyzed: 2010-11-04 Prep Batch: PG 64442 Sample Preparation: 2010-11-04 Prepared By:

Sample: 247521 - MW-4

Laboratory: Midland

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

Report Date: November 115-6403131A	10, 2010		Order: 10101410 Rock Queen #11	J15000	Page Number: 9 c Chavez County,		
Method Blank (1)	QC Batch: 74557						
QC Batch: 74557 Prep Batch: 63840		Date Analyzed: QC Preparation	2010-10-14 2010-10-14		Analyzed Prepared		
			MDL				
Parameter	Flag		Result	Units	}	$_{ m RL}$	
Benzene		<0.	000400	mg/L		0.001	
Toluene			008000	mg/L		0.001	
Ethylbenzene			000400	mg/L		0.001	
Xylene		<0.	000400	mg/L	·	0.001	
Surrogate	Flag	Result Uni	ts Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)	<u> </u>	0.0893 mg/	$^{\prime}$ L 1	0.100	89	61.8 - 106	
4-Bromofluorobenzene (4	l-BFB)	0.0784 mg/		0.100	78	48.5 - 129	
Method Blank (1) QC Batch: 74622 Prep Batch: 63873	QC Batch: 74622	Date Analyzed: QC Preparation	2010-10-21 2010-10-15		Analyzed Prepared	-	
Devices	TOI.		MDL	Y 1		Dr	
Parameter Total Dissolved Solids	Fla	ag	Result 11.0	Ur	g/L	RL 10	
Method Blank (1)	QC Batch: 75072				<i></i>		
QC Batch: 75072		Date Analyzed:	2010-11-03		Analyzed	By: PG	
Prep Batch: 64403		QC Preparation:			Prepared	-	
Trep Butch. 01100		&C I Teparation	2010-11-00		Trepared	Dy. IG	
Donomoton	Dia -		MDL	T7::46		nı	
Parameter Chloride	Flag		Result .0350	Units mg/I		$\frac{\text{RL}}{2.5}$	
Cinoride			.0300	mg/ r	1	2.0	
Method Blank (1)	QC Batch: 75136						
QC Batch: 75136		Date Analyzed:	2010-11-04		Analyzed		
Prep Batch: 64442		QC Preparation:	2010-11-04		Prepared	By: PG	
			MDL				
Parameter	Flag		esult	Units		RL	
Sulfate		</td <td>0.596</td> <td>mg/L</td> <td></td> <td>2.5</td>	0.596	mg/L		2.5	

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Work Order: 10101410 Celero/Rock Queen #11 Page Number: 10 of 15 Chavez County, NM

Method Blank (1)

QC Batch: 75231

QC Batch:

75231

Date Analyzed:

2010-11-09

Analyzed By: PG

RL

2.5

Prep Batch:

QC Preparation:

2010-11-09

Prepared By: PG

64531

MDL

Parameter Units Flag Result Sulfate < 0.596 mg/L

Duplicates (2) Duplicated Sample: 247533

QC Batch:

74622

Date Analyzed:

2010-10-21

Analyzed By: AR

Prepared By: AR

Prep Batch: 63873

QC Preparation:

2010-10-15

	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	$rac{ ext{LCS}}{ ext{Result}}$	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			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

	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

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Work Order: 10101410 Celero/Rock Queen #11 Page Number: 11 of 15 Chavez County, NM

Laboratory Control Spike (LCS-2)

QC Batch: Prep Batch: 63873

74622

Date Analyzed:

2010-10-21 QC Preparation: 2010-10-15

Analyzed By: AR

Prepared By: AR

	$_{ m LCS}$			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			Spike	Matrix		Rec.		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: 75072 Prep Batch: 64403 Date Analyzed: QC Preparation:

2010-11-03 2010-11-03 Analyzed By: PG

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	24.4	mg/L	1	25.0	< 0.0350	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
Chloride	23.8	mg/L	1	25.0	< 0.0350	95	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: 75136 Prep Batch: 64442 Date Analyzed: 2010-11-04 QC Preparation: 2010-11-04

Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.2	mg/L	1	25.0	< 0.596	97	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	< 0.596	98	90 - 110	2	20

115-6403131A

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 12 of 15 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: 75231 Prep Batch: 64531 Date Analyzed: 2010-11-09 QC Preparation: 2010-11-09 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	< 0.596	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	23.9	mg/L	1	25.0	< 0.596	96	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: 247532

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

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
			<u> </u>				
Benzene	0.107	$_{ m mg/L}$	1	0.100	0.0048	102	60.9 - 132
Toluene	0.0929	$_{ m mg/L}$	1	0.100	< 0.000800	93	65.7 - 129
Ethylbenzene	0.0881	$_{ m mg/L}$	1	0.100	< 0.000400	88	51.5 - 134
Xvlene	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	1	0.0817	mg/L	1	0.100	0.0048	77	60.9 - 132	27	20
Toluene	2	0.0712	$_{ m mg/L}$	1	0.100	< 0.000800	71	65.7 - 129	26	20
Ethylbenzene	3	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

	MS	MSD			Spike	MS	MSD	$\mathrm{Rec}.$
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT) 4 5	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

¹MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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.

⁴High surrogate recovery due to peak interference.

⁵High surrogate recovery due to peak interference.

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Work Order: 10101410 Celero/Rock Queen #11 Page Number: 13 of 15 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 248210

QC Batch:

75072 Prep Batch: 64403 Date Analyzed:

2010-11-03 QC Preparation: 2010-11-03 Analyzed By: PG

Prepared By: PG

	MS			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	1300	mg/L	50	1250	<1.75	104	90 - 110

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

	MSD			\mathbf{Spike}	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	1300	mg/L	50	1250	<1.75	104	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: 248463

QC Batch: 75136 Prep Batch: 64442 Date Analyzed: QC Preparation:

2010-11-04 2010-11-04 Analyzed By: PG

Prepared By: PG

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	6	1470	mg/L	50	1250	<29.8	118	90 - 110

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

		MSD			\mathbf{Spike}	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	7	1470	mg/L	50	1250	<29.8	118	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: 249831

QC Batch: 75231 Prep Batch: 64531 Date Analyzed: QC Preparation:

2010-11-09 2010-11-09

Analyzed By: PG Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	1290	mg/L	50	1250	<29.8	103	90 - 110

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

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

115-6403131A

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 14 of 15 Chavez County, NM

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	1290	mg/L	50	1250	<29.8	103	90 - 110	0	20

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

Standard (CCV-2)

QC Batch: 74557

Date Analyzed: 2010-10-14

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	0.0941	94	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.0958	96	80 - 120	2010-10-14
Ethylbenzene		${ m mg/L}$	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

			CCVs	CCVs	CCVs	Percent	
			True	Found	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		${ m mg/L}$	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: 75072

Date Analyzed: 2010-11-03

Analyzed By: PG

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	25.0	100	90 - 110	2010-11-03

Standard (CCV-2)

QC Batch: 75072

Date Analyzed: 2010-11-03

Report Date: November 10, 2010 115-6403131A

Param

Sulfate

Flag

Units

mg/L

Conc.

25.0

Work Order: 10101410 Celero/Rock Queen #11 Page Number: 15 of 15 Chavez County, NM

115-640313	1A			Celero/Rock Qı	1een #11	Cha	vez County, NM
			CCVs	CCVs	CCVs	Percent	ъ.
Danam	[7] o =	TI:4.	True	Found	Percent	Recovery	Date
Param Chloride	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.7	99	90 - 110	2010-11-03
Standard ((CCV-1)						
QC Batch:	75136		Date An	alyzed: 2010-1	11-04	Ana	lyzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.8	99	90 - 110	2010-11-04
G4 - 1 - 1 /	CCT a)						
Standard ((CCV-2)						
QC Batch:	75136		Date An	alyzed: 2010-1	1-04	Ana	lyzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-11-04
Standard (CCV-1)						
QC Batch:	75231		Date An	alyzed: 2010-1	1-09	Ana	lyzed By: PG
			CCVs	CCVs	CCVs	Percent	
			${f True}$	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	23.7	95	90 - 110	2010-11-09
Standard (CCV-2)						
QC Batch:	75231		Date An	alyzed: 2010-1	1-09	Ana	lyzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
D	T31	TT *4	0		D	T	

Conc.

24.3

Recovery

97

Limits

90 - 110

Analyzed

2010-11-09

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LAB I.D. NUMBER	DATE Zerik	TIME	MATPEX	COMP	GRAB	Claret C	E IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (#CL	HINOS	팔	NONE	farrey angra	TPH 8016	PAH 8270	TC'S Meta	TCL P Voleti	TCLP Semi	<u>5</u>	GC.MS Vol.	PCB's 8080	Peet. 808/60	Chloride	Alaba Bata	PLM (Asbestos)	Major Anior	Q. 17.		
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Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

LS ZK5 40164



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

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536 NCTRCA WFWB38444Y0909

DBE: VN 20657

Report Date: February 7, 2011

Work Order: 11012132

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/Rock Queen #11

Project Number: 115-6403131A

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

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

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

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

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

Standard Flags

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

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

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

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

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

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

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

Report Date: February 7, 2011 Work Order: 11012132 Page Number: 4 of 22 115-6403131A Celero/Rock Queen #11 Chavez County, NM

Analytical Report

Sample: 255912 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 77124 Prep Batch: 66157 Analytical Method: S 8021B
Date Analyzed: 2011-01-24
Sample Preparation: 2011-01-24

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	m mg/L	1	0.00100
Ethylbenzene		< 0.00100	$\mathrm{mg/L}$	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)		0.111	mg/L	1	0.100	111	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	51.1 - 128

Sample: 255912 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77369 Prep Batch: 66366 Analytical Method: E 300.0
Date Analyzed: 2011-02-01
Sample Preparation: 2011-02-01

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

		RL			
Parameter	Flag	Result	\mathbf{Units}	Dilution	RL
Chloride		122000	mg/L	10000	2.50

Sample: 255912 - MW-1

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77371 Prep Batch: 66370 Analytical Method: E 300.0 Date Analyzed: 2011-02-02 Sample Preparation: 2011-02-02

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

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		2270	mg/L	100	2.50

Report Date: February 7, 2011 Work Order: 11012132 Page Number: 5 of 22 115-6403131A Celero/Rock Queen #11 Chavez County, NM

Sample: 255912 - MW-1

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: ARPrep Batch: 66142 Sample Preparation: 2011-01-25 Prepared By: AR

Sample: 255913 - MW-2

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AGPrep Batch: 66157 Sample Preparation: 2011-01-24 Prepared By: AG

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

					\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.113	$_{ m mg/L}$	1	0.100	113	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 255913 - MW-2

Laboratory: Lubbock

Chloride (IC) Analytical Method: Analysis: E 300.0 Prep Method: N/A QC Batch: 77369 Date Analyzed: 2011-02-01 Analyzed By: PGPrep Batch: 66366 Sample Preparation: 2011-02-01 Prepared By: PG

115-6403131A

Work Order: 11012132 Celero/Rock Queen #11 Page Number: 6 of 22 Chavez County, NM

Sample: 255913 - MW-2

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77371 Prep Batch: 66370

Analytical Method: Date Analyzed: Sample Preparation: 2011-02-02

E 300.0 2011-02-02 Prep Method: N/A

Analyzed By: PG Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		2060	mg/L	100	2.50

Sample: 255913 - MW-2

Laboratory: Midland

Analysis: TDS QC Batch: 77255 Prep Batch: 66142 Analytical Method: SM 2540C Date Analyzed: 2011-01-31 Sample Preparation: 2011-01-25 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		220000	mg/L	100	10.0

Sample: 255914 - MW-3

Laboratory: Midland

Analysis: BTEX QC Batch: 77124 Prep Batch: 66157

Analytical Method: S 8021B Date Analyzed: 2011-01-24 Sample Preparation: 2011-01-24

RL

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

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

Surrogate	Flag	Result	Units	Dilution	$egin{array}{c} \mathbf{Spike} \ \mathbf{Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.109	mg/L	1	0.100	109	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0986	mg/L	1	0.100	99	51.1 - 128

115-6403131	Date: February 7, 2011 Work Order: 11012132 Page Number 03131A Celero/Rock Queen #11 Chavez Co			er: 7 of 22 ounty, NM		
Sample: 25	55914 - MW-3	.				
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method	l: E 300.0	Prep Method:	N/A
QC Batch:	77369		Date Analyzed:	2011-02-01	Analyzed By:	PG
Prep Batch:	66366		Sample Preparation	on: 2011-02-01	Prepared By:	PG
			RL			
Parameter	F	Flag	Result	Units	Dilution	RL
Chloride			50100	mg/L	10000	2.50
Sample: 25	5914 - MW-3	.				
Laboratory:						
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371		Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370		Sample Preparation:	2011-02-02	Prepared By:	PG
			RL			
Parameter	F	Flag	Result	Units	Dilution	RL
Sulfate			1170	mg/L	100	2.50
	2014 NATA 9					
Sample: 25	5914 - IVI VV -3					
_	Midland					
Laboratory:			Analytical Method:	SM 2540C	Prep Method:	N/A
Laboratory: Analysis:	Midland		Analytical Method: Date Analyzed:	SM 2540C 2011-01-31	Prep Method: Analyzed By:	N/A AR
Laboratory: Analysis: QC Batch:	Midland TDS				Prep Method: Analyzed By: Prepared By:	
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77255		Date Analyzed: Sample Preparation: RL	2011-01-31 2011-01-25	Analyzed By: Prepared By:	AR AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TDS 77255 66142	Flag	Date Analyzed: Sample Preparation: RL Result	2011-01-31 2011-01-25 Units	Analyzed By: Prepared By: Dilution	AR AR RL
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv	Midland TDS 77255 66142		Date Analyzed: Sample Preparation: RL	2011-01-31 2011-01-25	Analyzed By: Prepared By:	AR AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv	Midland TDS 77255 66142	Flag	Date Analyzed: Sample Preparation: RL Result	2011-01-31 2011-01-25 Units	Analyzed By: Prepared By: Dilution	AR AR RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland	Flag	Date Analyzed: Sample Preparation: RL Result 103000	2011-01-31 2011-01-25 Units mg/L	Analyzed By: Prepared By: Dilution 100	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland BTEX	Flag	Date Analyzed: Sample Preparation: RL Result 103000	2011-01-31 2011-01-25 Units mg/L	Analyzed By: Prepared By: Dilution 100 Prep Method: S	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis: QC Batch:	Midland TDS 77255 66142 ved Solids 5915 - MW-4 Midland BTEX 77124	Flag	Date Analyzed: Sample Preparation: RL Result 103000 Analytical Method: Date Analyzed:	2011-01-31 2011-01-25 Units mg/L S 8021B 2011-01-24	Analyzed By: Prepared By: Dilution 100 Prep Method: S Analyzed By: A	AR AR RL 10.0 5030B G
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis: QC Batch:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland BTEX	Flag	Date Analyzed: Sample Preparation: RL Result 103000 Analytical Method: Date Analyzed:	2011-01-31 2011-01-25 Units mg/L	Analyzed By: Prepared By: Dilution 100 Prep Method: S	AR AR RL 10.0 5030B G
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland BTEX 77124 66157	Flag	Date Analyzed: Sample Preparation: RL Result 103000 Analytical Method: Date Analyzed: Sample Preparation:	2011-01-31 2011-01-25 Units mg/L S 8021B 2011-01-24 2011-01-24	Analyzed By: Prepared By: Dilution 100 Prep Method: S Analyzed By: A Prepared By: A	AR AR RL 10.0 5030B G
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland BTEX 77124 66157	Flag	Date Analyzed: Sample Preparation: RL Result 103000 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2011-01-31 2011-01-25 Units mg/L S 8021B 2011-01-24 2011-01-24 Units	Analyzed By: Prepared By: Dilution 100 Prep Method: S Analyzed By: A Prepared By: A Dilution	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77255 66142 red Solids 5915 - MW-4 Midland BTEX 77124 66157	Flag	Date Analyzed: Sample Preparation: RL Result 103000 Analytical Method: Date Analyzed: Sample Preparation:	2011-01-31 2011-01-25 Units mg/L S 8021B 2011-01-24 2011-01-24	Analyzed By: Prepared By: Dilution 100 Prep Method: S Analyzed By: A Prepared By: A Dilution 1 00	AR AR RL 10.0 5030B G

Report Date: February 7, 2011 115-6403131A

Work Order: 11012132 Celero/Rock Queen #11 Page Number: 8 of 22 Chavez County, NM

sample 255915 continued . . .

D			RL					
	Flag		Result		\mathbf{Units}	Dil	ution	m 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)			0.114	mg/L	1	0.100	114	67.8 - 126
4-Bromofluorobenzene (4-BI	FB)		0.102	mg/L	1	0.100	102	51.1 - 128

Sample: 255915 - MW-4

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77369 Prep Batch: 66366 Analytical Method: E 300.0
Date Analyzed: 2011-02-01
Sample Preparation: 2011-02-01

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

Sample: 255915 - MW-4

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77371 Prep Batch: 66370 Analytical Method: E 300.0
Date Analyzed: 2011-02-02
Sample Preparation: 2011-02-02

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

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		1850	mg/L	100	2.50

Sample: 255915 - MW-4

Laboratory: Midland

Analysis: TDS QC Batch: 77255 Prep Batch: 66142 Analytical Method: SM 2540C Date Analyzed: 2011-01-31 Sample Preparation: 2011-01-25

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

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		194000	mg/L	100	10.0

Report Date: February 7, 2011 115-6403131A

Work Order: 11012132 Celero/Rock Queen #11 Page Number: 9 of 22 Chavez County, NM

Sample: 255916 - MW-5

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AGPrep Batch: 66157 Sample Preparation: 2011-01-24 Prepared By: AG

RLParameter Flag Result Units Dilution RLBenzene < 0.00100 0.00100 mg/L 1 1 0.00100Toluene < 0.00100 mg/L Ethylbenzene mg/L 0.00100< 0.00100 1 Xylene < 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	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0986	$_{ m mg/L}$	1	0.100	99	51.1 - 128

Sample: 255916 - MW-5

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 77370 Date Analyzed: 2011-02-01 Analyzed By: PG Prep Batch: 66367 Sample Preparation: 2011-02-01 Prepared By: PG

Sample: 255916 - MW-5

Laboratory: Lubbock

Analysis: Analytical Method: E 300.0 Prep Method: N/A SO4 (IC) QC Batch: PG77371Date Analyzed: 2011-02-02 Analyzed By: PG Prep Batch: 66370 Sample Preparation: 2011-02-02 Prepared By:

115-6403131A

Work Order: 11012132 Celero/Rock Queen #11 Page Number: 10 of 22 Chavez County, NM

Sample: 255916 - MW-5

Laboratory: Midland

TDS Analysis: QC Batch: 77255 Prep Batch: 66142

SM 2540C Analytical Method: Date Analyzed: 2011-01-31 Sample Preparation: 2011-01-25 Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Parameter Result Dilution RLFlag Units Total Dissolved Solids 109000 100 10.0 mg/L

Sample: 255917 - MW-6

Midland Laboratory:

Analysis: **BTEX** QC Batch: 77124 Prep Batch: 66157

Analytical Method: S 8021B Date Analyzed: 2011-01-24 Sample Preparation: 2011-01-24

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

RL

RLParameter Units Dilution Flag Result Benzene < 0.00100 mg/L 1 Toluene < 0.00100 mg/L 1

0.001000.00100 1 0.00100Ethylbenzene < 0.00100 mg/L 1 Xylene < 0.00100 mg/L 0.00100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.112	mg/L	1	0.100	112	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0999	${ m mg/L}$	1	0.100	100	51.1 - 128

Sample: 255917 - MW-6

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77371 Prep Batch: 66370

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

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

RL Result Units Dilution RLParameter Flag 10000 Chloride 25800 mg/L 2.50 Report Date: February 7, 2011 Work Order: 11012132 Page Number: 11 of 22 115-6403131A Celero/Rock Queen #11 Chavez County, NM

Sample: 255917 - MW-6

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 77426 Date Analyzed: Analyzed By: PG 2011-02-06 Prep Batch: 66413 Sample Preparation: 2011-02-06 Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		378	mg/L	50	2.50

Sample: 255917 - MW-6

Laboratory: Midland

TDS Analysis: Analytical Method: SM 2540C Prep Method: N/A QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: ARPrep Batch: 66142 Sample Preparation: 2011-01-25 Prepared By: AR

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		56700	mg/L	100	10.0

RL

Sample: 255918 - MW-7

Laboratory: Midland

Analysis: **BTEX** Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 77124 Date Analyzed: Analyzed By: 2011-01-24 AGPrep Batch: 66157 Prepared By: Sample Preparation: 2011-01-24 AG

		RL			
Parameter	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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.114	mg/L	1	0.100	114	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.104	mg/L	1	0.100	104	51.1 - 128

Report Date 115-6403131		7, 2011	Work Order Celero/Rock		Page Number: 1 Chavez Coun	
Sample: 25	55918 - MV	W-7				
Laboratory:	Lubbock					
Analysis:	Chloride ((IC)	Analytical Method	l: E 300.0	Prep Method:	N/A
QC Batch:	77370		Date Analyzed:	2011-02-01	Analyzed By:	PG
Prep Batch:	66367		Sample Preparation	on: 2011-02-01	Prepared By:	PG
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Chloride			994	mg/L	100	2.50
Sample: 25	5918 - MV	<i>N</i> -7				
Laboratory:	Lubbock					
Analysis:	SO4 (IC)		Analytical Method:	E~300.0	Prep Method:	
QC Batch:	77371		Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370		Sample Preparation:	2011-02-02	Prepared By:	PG
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Sulfate			77.0	mg/L	5	2.50
Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	5918 - MV Midland TDS 77255 66142	V-7	Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-01-31 2011-01-25	Prep Method: Analyzed By: Prepared By:	N/A AR AR
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Dissolve	ed Solids		2110	mg/L	5	10.0
Method Bla	nk (1)	QC Batch: 77124				
QC Batch:	77124		Date Analyzed: 2	011-01-24	Analyzed By:	AG
Prep Batch:	66157		-	011-01-24	Prepared By:	
			M	DL		
Parameter		Flag	Res		Units	RL
Benzene			< 0.000	600	mg/L	0.001
Toluene			< 0.000		m mg/L	0.001
Ethylbenzene			< 0.0008	800	mg/L	0.001

continued ...

115-6403131A

Work Order: 11012132 Celero/Rock Queen #11 Page Number: 13 of 22 Chavez County, NM

m	iethod	blank	continued		

4-Bromofluorobenzene (4-BFB)

			IVI :	DL			
Parameter	Flag		Res	ult	Unit	RL	
Xylene			< 0.0007	767	mg/	0.001	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.115	mg/L	1	0.100	115	70.2 - 118

mg/L

1

0.100

0.111

Method Blank (1) QC Batch: 77255

QC Batch: 77255 Prep Batch: 66142 Date Analyzed: 2011-01-31 QC Preparation: 2011-01-24

Analyzed By: AR Prepared By: AR

111

47.3 - 116

Method Blank (1) QC Batch: 77369

QC Batch: 77369 Prep Batch: 66366 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

Method Blank (1) QC Batch: 77370

QC Batch: 77370 Prep Batch: 66367 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

Method Blank (1) QC Batch: 77371

QC Batch: 77371 Prep Batch: 66370 Date Analyzed: 2011-02-02 QC Preparation: 2011-02-02

Analyzed By: PG Prepared By: PG

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 14 of 22 Chavez County, NM

		MDL		
Parameter	Flag	Result	Units	RL
Chloride		< 0.0142	mg/L	2.5

Method Blank (1) QC Batch: 77371

QC Batch: 77371 Prep Batch: 66370

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

Method Blank (1) QC Batch: 77426

QC Batch: 77426 Prep Batch: 66413 Date Analyzed: 2011-02-06 QC Preparation: 2011-02-06

Analyzed By: PG Prepared By: PG

Duplicates (1) Duplicated Sample: 255921

QC Batch: 77255 Prep Batch: 66142 Date Analyzed: 2011-01-31 QC Preparation: 2011-01-24

Analyzed By: AR Prepared By: AR

Duplicate Sample RPD Param Result Result Dilution RPD Units Limit Total Dissolved Solids 147000 134000 100 mg/L 9 10

Laboratory Control Spike (LCS-1)

QC Batch: 77124 Prep Batch: 66157 Date Analyzed: 2011-01-24 QC Preparation: 2011-01-24 Analyzed By: AG Prepared By: AG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.0885	mg/L	1	0.100	< 0.000600	88	82.9 - 118
Toluene	0.0989	m mg/L	1	0.100	< 0.000600	99	82.7 - 117
Ethylbenzene	0.102	$_{ m mg/L}$	1	0.100	< 0.000800	102	78.8 - 116

continued . . .

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 15 of 22 Chavez County, NM

control spikes continued ...

	LCS			Бріке	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Xylene	0.308	mg/L	1	0.300	< 0.000767	103	79.3 - 116

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	0.0906	mg/L	1	0.100	< 0.000600	91	82.9 - 118	2	20
Toluene	0.102	mg/L	1	0.100	< 0.000600	102	82.7 - 117	3	20
Ethylbenzene	0.106	mg/L	1	0.100	< 0.000800	106	78.8 - 116	4	20
Xylene	0.320	mg/L	1	0.300	< 0.000767	107	79.3 - 116	4	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)	0.110	0.111	mg/L	1	0.100	110	111	67.3 - 113
4-Bromofluorobenzene (4-BFB)	0.110	0.113	mg/L	1	0.100	110	113	68.2 - 134

Laboratory Control Spike (LCS-1)

QC Batch: 77255 Prep Batch: 66142 Date Analyzed: 2011-01-31 QC Preparation: 2011-01-24

Analyzed By: AR
Prepared By: AR

	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			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1020	mg/L	1	1000	< 9.75	102	90 - 110	0	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: 77369 Prep Batch: 66366 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	24.3	mg/L	1	25.0	< 0.0142	97	90 - 110

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 16 of 22 Chavez County, NM

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	24.1	mg/L	1	25.0	< 0.0142	96	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: 77370 Prep Batch: 66367 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.5	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:

77371 Prep Batch: 66370 Date Analyzed:

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

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	24.1	mg/L	1	25.0	< 0.0142	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	24.1	mg/L	1	25.0	< 0.0142	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: 77371 Prep Batch: 66370 Date Analyzed: 2011-02-02 QC Preparation: 2011-02-02

Analyzed By: PG Prepared By: PG

continued ...

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 17 of 22 Chavez County, NM

control spikes continued ...

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Sulfate	24.5	mg/L	1	25.0	< 0.126	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
Sulfate	24.7	mg/L	1	25.0	< 0.126	99	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: 77426 Prep Batch: 66413 Date Analyzed: 2011-02-06 QC Preparation: 2011-02-06 Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	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			\mathbf{Spike}	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	24.7	mg/L	1	25.0	< 0.126	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: 255921

QC Batch: 77124 Prep Batch: 66157 Date Analyzed: 2011-01-24 QC Preparation: 2011-01-24 Analyzed By: AG Prepared By: AG

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	1	0.0669	mg/L	1	0.100	0.0121	55	77.9 - 114
Toluene	2	0.0633	mg/L	1	0.100	0.0066	57	78.3 - 111
Ethylbenzene	3	0.0573	mg/L	1	0.100	< 0.000800	57	75.3 - 110
Xylene	4	0.145	m mg/L	1	0.300	< 0.000767	48	75.7 - 109

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

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.

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

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Work Order: 11012132

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		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	5	0.0811	mg/L	1	0.100	0.0121	69	77.9 - 114	19	20
Toluene	6	0.0774	mg/L	1	0.100	0.0066	71	78.3 - 111	20	20
Ethylbenzene	7	0.0693	mg/L	1	0.100	< 0.000800	69	75.3 - 110	19	20
Xylene	8	0.180	mg/L	1	0.300	< 0.000767	60	75.7 - 109	22	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)	9	0.0705	0.0437	mg/L	1	0.1	70	44	68.3 - 107
4-Bromofluorobenzene (4-BFB)	10	0.0736	0.0449	mg/L	1	0.1	74	45	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 255915

QC Batch: 77369 Prep Batch: 66366 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

MS Spike Matrix Rec. Param Dil. Result Result Units Amount Rec. Limit Chloride 10000 109000 369000 mg/L250000 104 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	370000	mg/L	10000	250000	109000	104	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: 255918

QC Batch: 77370 Prep Batch: 66367 Date Analyzed: 2011-02-01 QC Preparation: 2011-02-01

Analyzed By: PG Prepared By: PG

	MS			$\mathbf{S}_{\mathbf{pike}}$	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	3610	mg/L	100	2500	994	105	90 - 110

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.

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

⁸Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

⁹Surrogate out due to peak interference.

¹⁰Surrogate out due to peak interference.

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 19 of 22

Chavez	County,	NM
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	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	3620	mg/L	100	2500	994	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: 255921

QC Batch: 77371 Prep Batch: 66370 Date Analyzed: 2011-02-02 QC Preparation: 2011-02-02 Analyzed By: PG Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 341000 10000 250000 81200 104 90 - 110 mg/L

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	341000	mg/L	10000	250000	81200	104	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: 255921

QC Batch: 77371 Prep Batch: 66370 Date Analyzed: 2011-02-02 QC Preparation: 2011-02-02

Analyzed By: PG Prepared By: PG

MS Spike Matrix Rec. Param Result Dil. Result Limit Units Amount Rec. 90 - 110 Sulfate 246000 mg/L 10000 250000 <1260 98

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	244000	mg/L	10000	250000	<1260	98	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: 255931

QC Batch: 77426 Prep Batch: 66413 Date Analyzed: 2011-02-06 QC Preparation: 2011-02-06

Analyzed By: PG

continued ...

Prepared By: PG

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Work Order: 11012132 Celero/Rock Queen #11 Page Number: 20 of 22 Chavez County, NM

matrix	snikes	continued				
	Option	001000100000	•	•	•	

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	1780	m mg/L	50	1250	478	104	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	1790	mg/L	50	1250	478	105	90 - 110	1	20

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

Standard (CCV-2)

QC Batch: 77124

Date Analyzed: 2011-01-24

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	0.0858	86	80 - 120	2011-01-24
Toluene		m mg/L	0.100	0.0989	99	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.103	103	80 - 120	2011-01-24
Xylene		mg/L	0.300	0.308	103	80 - 120	2011-01-24

Standard (CCV-3)

QC Batch: 77124

Date Analyzed: 2011-01-24

Analyzed By: AG

			${ m CCVs} \ { m True}$	CCVs Found	$\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0820	82	80 - 120	2011-01-24
Toluene		mg/L	0.100	0.0952	95	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.0976	98	80 - 120	2011-01-24
Xylene		$_{ m mg/L}$	0.300	0.294	98	80 - 120	2011-01-24

Standard (CCV-1)

QC Batch: 77369

Date Analyzed: 2011-02-01

Analyzed By: PG

Report Date: February 7, 2011 115-6403131A

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			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	23.6	94	90 - 110	2011-02-01

Standard (CCV-2)

QC Batch: 77369

Date Analyzed: 2011-02-01

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	23.5	94	90 - 110	2011-02-01

Standard (CCV-1)

QC Batch: 77370

Date Analyzed: 2011-02-01

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	23.5	94	90 - 110	2011-02-01

Standard (CCV-2)

QC Batch: 77370

Date Analyzed: 2011-02-01

Analyzed By: PG

			$\begin{array}{c} { m CCVs} \\ { m True} \end{array}$	CCVs Found	$\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		$_{ m mg/L}$	25.0	23.6	94	90 - 110	2011-02-01

Standard (CCV-1)

QC Batch: 77371

Date Analyzed: 2011-02-02

Analyzed By: PG

			CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.5	98	90 - 110	2011-02-02

Standard (CCV-1)

QC Batch: 77371

Date Analyzed: 2011-02-02

Analyzed By: PG

Report Date: February 7, 2011

115-6403131A Celero/Rock Queen #11

			\mathbf{CCVs}	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/I	25.0	25.0	100	90 - 110	2011-02-02

Work Order: 11012132

Standard (CCV-2)

QC Batch: 77371

Date Analyzed: 2011-02-02

Analyzed By: PG

Page Number: 22 of 22

Chavez County, NM

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.0	96	90 - 110	2011-02-02

Standard (CCV-2)

QC Batch: 77371

Date Analyzed: 2011-02-02

Analyzed By: PG

			CCVs True	CCVs Found	$rac{ ext{CCVs}}{ ext{Percent}}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.5	98	90 - 110	2011-02-02

Standard (CCV-1)

QC Batch: 77426

Date Analyzed: 2011-02-06

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	25.2	101	90 - 110	2011-02-06

Standard (CCV-2)

QC Batch: 77426

Date Analyzed: 2011-02-06

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	24.7	99	90 - 110	2011-02-06

2 WO #: 11012132

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Certifications

HUB: **WBENC**: 237019 1752439743100-86536 **DBE**: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX El Paso: T104704221-08-TX Midland: T104704392-08-TX

> LELAP-02003 LELAP-02002

Kansas E-10317

Analytical and Quality Control Report

Jeff Kindley Report Date: March 15, 2011

Tetra Tech

1910 N. Big Spring Street Work Order: 11022538

Midland, TX, 79705

Chavez Co., NM Project Location:

Celero/Rock Queen Unit Tract #11 Project Name:

Project Number: 115-6403131

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

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

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

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

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

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Report Date: March 15, 2011 115-6403131

Work Order: 11022538 Celero/Rock Queen Unit Tract #11 Page Number: 4 of 16 Chavez Co., NM

Analytical Report

Sample: 258863 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77994 Prep Batch: 66902

Analytical Method: E 300.0 Date Analyzed: 2011-02-28 Sample Preparation: 2011-02-28 Prep Method: N/A
Analyzed By: PG
Prepared By: PG

RL

Sample: 258863 - MW-1

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 79353 Prep Batch: 67326 Analytical Method: E 300.0 Date Analyzed: 2011-03-07 Sample Preparation: 2011-03-07

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

RL

Sample: 258863 - MW-1

Laboratory: Midland

Analysis: TDS QC Batch: 79232 Prep Batch: 67216 Analytical Method: SM 2540C Date Analyzed: 2011-03-11 Sample Preparation: 2011-02-28

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

RL

Sample: 258864 - MW-2

Laboratory: Lubbock

Analysis: Chloride (IC)
QC Batch: 77994
Prep Batch: 66902

Analytical Method: E 300.0
Date Analyzed: 2011-02-28
Sample Preparation: 2011-02-28

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

continued ...

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sample 258864 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
		RL	**	Dil . I	D.
Parameter	Flag	\mathbf{Result}	${f Units}$	Dilution	RL
Chloride		67600	m mg/L	10000	2.50

Sample: 258864 - MW-2

Laboratory: Lubbock

Analysis: SO4 (IC)

QC Batch: 79353

Prep Batch: 67326

Analytical Method: E 300.0

Date Analyzed: 2011-03-07

Sample Preparation: 2011-03-07

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

Sample: 258864 - MW-2

Laboratory: Midland

Analysis:TDSAnalytical Method:SM 2540CQC Batch:79232Date Analyzed:2011-03-11Prep Batch:67216Sample Preparation:2011-02-28

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

Sample: 258865 - MW-3

Laboratory: Lubbock

Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A Analysis: QC Batch: 77994 Date Analyzed: 2011-02-28 Analyzed By: PGPrep Batch: 66902 Sample Preparation: 2011-02-28 Prepared By: PG

Report Date 115-6403131	e: March 15, 2011	·,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Work Order: Celero/Rock Queer		Page Number: Chavez Co	
Sample: 25	58865 - MW-3					
Laboratory:	Lubbock					
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326		Sample Preparation:	2011-03-07	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Sulfate			115	mg/L	5	2.50
Sample: 25	8865 - MW-3					
Laboratory:	Midland					
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232		Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216		Sample Preparation:	2011-02-28	Prepared By:	AR.
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Dissolv	ved Solids		10100	mg/L	20	10.0
Sample: 25	8866 - MW-4					
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method	E 300.0	Prep Method:	N/A
QC Batch:	77994		Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66902		Sample Preparatio	n: 2011-02-28	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Chloride			7210	mg/L	1000	2.50
G 1 0**	2000 1611					
_	8866 - MW-4					
Laboratory:	Lubbock			5 000 0		37/4
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	PG PC
Prep Batch:	67326		Sample Preparation:	2011-03-07	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Sulfate			182	mg/L	10	2.50

Report Date: March 15, 2011 115-6403131		rk Order: 11022538 ock Queen Unit Tract #11	Page Number: Chavez Co	
Sample: 258866 - MW-4				
Laboratory: Midland				
Analysis: TDS	Analytical N		Prep Method:	N/A
QC Batch: 79232	Date Analyz		Analyzed By: Prepared By:	AR
Prep Batch: 67216	Sample Prep	paration: 2011-02-28	Prepared by:	AR
		RL		
Parameter	Flag Re	esult Units	Dilution	RL
Total Dissolved Solids	14	100 mg/L	20	10.0
Sample: 258867 - MW-5				
Laboratory: Lubbock		77.7	D 16.1	37/1
Analysis: Chloride (IC)		l Method: E 300.0	Prep Method:	N/A
QC Batch: 77994	Date Ana		Analyzed By: Prepared By:	PG PG
Prep Batch: 66902	Sample P	reparation: 2011-02-28	Prepared by:	rG
	RL			
Parameter Flag	Result	Units	Dilution	RL
Chloride	49900	mg/L	10000	2.50
Sample: 258867 - MW-5 Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 79353 Prep Batch: 67326	Analytical I Date Analy Sample Pre	zed: 2011-03-07	Prep Method: Analyzed By: Prepared By:	N/A PG PG
	RL			
Parameter Flag	Result	Units	Dilution	RL
Sulfate	764	mg/L	100	2.50
Sample: 258867 - MW-5 Laboratory: Midland Analysis: TDS QC Batch: 79232 Prep Batch: 67216	Analytical M Date Analyz Sample Prep	zed: 2011-03-11	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		DI		
Parameter	Flag Re	RL esult Units	Dilution	RL

Report Date 115-6403131	e: March 15, 2011		Work Order: Celero/Rock Queen		Page Number: Chavez Co	
Sample: 25	58868 - MW-6					
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903		Sample Preparation	n: 2011-02-28	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Chloride			26600	ıng/L	5000	2.50
Sample: 25	8868 - MW-6					
Laboratory:	Lubbock					
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326		Sample Preparation:	2011-03-07	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Sulfate		***************************************	422	mg/L	50	2.50
Sample: 25	8868 - MW-6					
Laboratory:	Midland					
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232		Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216		Sample Preparation:	2011-02-28	Prepared By:	AR
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Dissolv	ed Solids		56700	nıg/L	100	10.0
Sample: 25	8869 - MW-7					
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method:		Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903		Sample Preparation	: 2011-02-28	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Chloride	471444		1230	$_{ m ing/L}$	100	2.50

Report Date 115-6403131	e: March 15, 2011		Work Order: Celero/Rock Queen		Page Number: Chavez C	
Sample: 25	8869 - MW-7					
Laboratory:						
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353		Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326		Sample Preparation:	2011-03-07	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Sulfate			79.4	mg/L	5	2.50
-	8869 - MW-7					
Laboratory: Analysis:	Midland TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232		Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216		Sample Preparation:	2011-03-11	Prepared By:	AR
Top Docum	V.210		Dampio I reputation.	2011 02 20	Tropulot by.	1110
_			RL		-	
Parameter	1 (7 1: 1	Flag	Result	Units	Dilution	RL
Total Dissolv	ved Bolids		2580	mg/L	5	10.0
Sample: 25	8870 - RW-1					
Laboratory:	Lubbock					
Analysis:	Chloride (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995		Date Analyzed:	2011-02-28	Analyzed By:	\overrightarrow{PG}
Prep Batch:	66903		Sample Preparation	ı: 2011-02-28	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Chloride			94000	mg/L	10000	2.50
Sample: 25	8870 - RW-1					
Laboratory:	Lubbock					
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79356		Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67327		Sample Preparation:	2011-03-07	Prepared By:	PG
			RL			
Parameter	Flag		Result	Units	Dilution	RL
Sulfate			1690	mg/L	100	2.50

115-6403131 Celero/Rock Queen Unit Tract #11 Chavez Co., NM Sample: 258870 - RW-1 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 79232 Date Analyzed: 2011-03-11 Analyzed By: ARPrep Batch: 67216 Sample Preparation: 2011-02-28 Prepared By: ARRLParameter Flag Result Units Dilution RLTotal Dissolved Solids 174000 mg/L 100 10.0 Method Blank (1) QC Batch: 77994 QC Batch: 77994 Date Analyzed: 2011-02-28 Analyzed By: PG Prep Batch: 66902 QC Preparation: 2011-02-28 Prepared By: PG MDLFlag Parameter Result Units RLChloride < 0.0142 mg/L $\overline{2.5}$ Method Blank (1) QC Batch: 77995 QC Batch: 77995 Date Analyzed: 2011-02-28 Analyzed By: PG Prep Batch: 66903 QC Preparation: 2011-02-28 Prepared By: PG MDL Parameter Result RLFlag Units Chloride < 0.0142 mg/L 2.5 Method Blank (1) QC Batch: 79232 QC Batch: 79232 Analyzed By: AR Date Analyzed: 2011-03-11 Prep Batch: 67216 Prepared By: QC Preparation: 2011-02-28

MDL

Result

< 9.75

Flag

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RL

10

Units

mg/L

Report Date: March 15, 2011

Parameter

Total Dissolved Solids

Report Date: March 15. 115-6403131	, 2011	Celero	Work Ord /Rock Que			Page Number: Chavez	11 of 16 Co., NM	
Method Blank (1)	QC Batch: 79353							
QC Batch: 79353 Prep Batch: 67326			Analyzed: reparation:	2011-03 2011-03			Analyzed By Prepared By	
			Λ	1DL				
Parameter	Flag			sult		Units		RL
Sulfate			<0	.126		mg/L	**************************************	2.5
Method Blank (1)	QC Batch: 79356							
QC Batch: 79356		Date A	Analyzed:	2011-03	-07		Analyzed By	y: PG
Prep Batch: 67327		QC Pi	reparation:	2011-03	-07		Prepared By	y: PG
			Λ	1DL				
Parameter	Flag			sult		Units		RL
Sulfate			<0	.126		mg/L		2.5
Duplicates (1) Dup QC Batch: 79232 Prep Batch: 67216	licated Sample: 2588	Date A	Analyzed: reparation:	2011-03- 2011-02-			Analyzed By Prepared By	
	Dupli		Sampl					RPD
Param Total Dissolved Solids	Res 1820		Result 174000		Units mg/L	Dilution 100	RPD 5	Limit 10
Laboratory Control S QC Batch: 77994 Prep Batch: 66902	Library Control of the Control of th	Date A	Analyzed: reparation:	2011-02- 2011-02-	-28	100	Analyzed By	y: PG
D		CS	IImia -	Da	Spike	Matrix	Do.	Rec.
Param Chloride		sult 3.3	Units mg/L	Dil.	Amount 25.0	Result < 0.0142	Rec. 93	<u>Limit</u> 90 - 110
Percent recovery is based			· · · · · · · · · · · · · · · · · · ·					00 110
_	LCSD	<u>.</u>		Spike	Matrix		Rec.	RPD
Param	Result	Units		Amount	Result		imit RPD	Limit

23.4

 $\overline{\text{Chloride}}$

mg/L

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

25.0

< 0.0142

90 - 110

20

0

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Laboratory Control Spike (LCS-1)

QC Batch: 77995 Prep Batch: 66903

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Date Analyzed: 2011-02-28 QC Preparation: 2011-02-28 Analyzed By: PG Prepared By: PG

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 90 - 110 23.4 25.0 < 0.0142 94 mg/L1

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	23.2	mg/L	1	25.0	< 0.0142	93	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: 79232 Prep Batch: 67216 Date Analyzed: 2011-03-11 QC Preparation: 2011-02-28 Analyzed By: AR
Prepared By: AR

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 90 - 110 Total Dissolved Solids mg/L 1000 < 9.75 96 961

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.	$_{ m Limit}$	RPD	Limit
Total Dissolved Solids	977	ing/L	1	1000	< 9.75	98	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-1)

QC Batch: 79353 Prep Batch: 67326 Date Analyzed: 2011-03-07 QC Preparation: 2011-03-07 Analyzed By: PG Prepared By: PG

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 90 - 110 Sulfate 24.3 mg/L 25.0< 0.12697

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	1	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 67327

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Date Analyzed: QC Preparation: 2011-03-07 2011-03-07 Analyzed By: PG Prepared By: PG

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Limit Rec. Sulfate 24.225.0 < 0.126 97 90 - 110 mg/L1

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	24.3	mg/L	1	25.0	< 0.126	97	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: 258867

QC Batch: 77994 Date Analyzed:

2011-02-28

Analyzed By: PG

Prep Batch: 66902 QC Preparation: 2011-02-28

Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	292000	mg/L	10000	250000	49900	97	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	293000	mg/L	10000	250000	49900	97	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: 258874

QC Batch: 77995 Prep Batch: 66903 Date Analyzed: QC Preparation:

2011-02-28 2011-02-28

Analyzed By: PG Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 90 - 110 Chloride 123 mg/L 5 125 6.26 93

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

	MSD			\mathbf{Spike}	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	123	mg/L	5	125	6.26	93	90 - 110	0	20

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

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Matrix Spike (MS-1)

Spiked Sample: 258869

QC Batch:

79353

Date Analyzed:

2011-03-07

Analyzed By: PG

Prep Batch: 67326

QC Preparation: 2011-03-07

Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	210	mg/L	5	125	79.4	104	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	209	mg/L	5	125	79.4	104	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: 259706

QC Batch:

79356

Date Analyzed:

2011-03-07

Analyzed By: PG

Prep Batch: 67327

QC Preparation: 2011-03-07

Prepared By: PG

	MS			\mathbf{Spike}	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	217	mg/L	5	125	88.3	103	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	218	mg/L	5	125	88.3	104	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: 77994

Date Analyzed: 2011-02-28

Analyzed By: PG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		nıg/L	25.0	23.8	95	90 - 110	2011-02-28

Standard (CCV-2)

QC Batch: 77994

Date Analyzed: 2011-02-28

Analyzed By: PG

Report Date: March 15, 2011 Work Order: 11022538 Page Number: 15 of 16 115-6403131 Celero/Rock Queen Unit Tract #11 Chavez Co., NM **CCVs CCVs CCVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L 25.023.4 94 90 - 110 2011-02-28 Standard (CCV-1) QC Batch: 77995 Date Analyzed: 2011-02-28 Analyzed By: PG **CCVs CCVs CCVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L25.0 23.4 94 90 - 110 2011-02-28 Standard (CCV-2) QC Batch: 77995 Date Analyzed: 2011-02-28 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 2011-02-28 Standard (CCV-1) QC Batch: 79353 Date Analyzed: 2011-03-07 Analyzed By: PG **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Flag Param Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L25.0 24.6 98 90 - 110 2011-03-07 Standard (CCV-2) QC Batch: 79353 Date Analyzed: 2011-03-07 Analyzed By: PG

Standard (CCV-1)

Flag

Units

mg/L

Param

Sulfate

QC Batch: 79356 Date Analyzed: 2011-03-07 Analyzed By: PG

CCVs

Found

Conc.

24.4

CCVs

Percent

Recovery

98

Percent

Recovery

Limits

90 - 110

Date

Analyzed

2011-03-07

CCVs

True

Conc.

25.0

115 - 6403131

Work Order: 11022538 Celero/Rock Queen Unit Tract #11 Page Number: 16 of 16 Chavez Co., NM

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	$\mathbf{Analyzed}$
Sulfate		mg/L	25.0	24.4	98	90 - 110	2011-03-07

Standard (CCV-2)

QC Batch: 79356

Date Analyzed: 2011-03-07

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	24.3	97	90 - 110	2011-03-07

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An	Analysis Request of Chain of Custody Record																														
	(Circle or Specify Method No.)																														
			[f	Midland, Tex	Spring St.								6 (Ext. to C35)	1	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se										B			
CLIENT NAM	AE:					SITE MANAGER	<i>t</i> •		EBS			SER\	/ATIV	E	TX1005		Ba C	Ba O			30/624	70/625						s, pH.	1		
PROJECT N				OJE		NAME:	- , H ()		CONTAI	€ F	T		П		20		Ag As	Ag As	8	OBUM	240/82	. Vol. 82	80			, F	8	/Cation	Xes		
LAB I.D. NUMBER	DATE So u	TIME	Ų	T	GRAB	Char	E IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N) HCL	HNO3	ICE	NONE		BTEX 8021B	PAH 8270	RCRA Metals Ag As Ba C	TCLP Metal	TCLP Volatiles	ICLP Semi volatiles	GC.MS Vol. 8240/8260/624	GC.MS Semi	PCB's 8080/608	Pest. 808/60	Chloride	Alpha Beta (PLM (Asbestos)	Major Anions/Cations, pH,(TOS)	S.1F.		
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REUNQUISHED	BY: (Signatu	re)				Date:	RECEIVED BY: (Signature)		_		Date:					_			H CO		CT PE	P\$	N:			от	HER:	sults	by:		
ADDRESS:	RECEIVING LABORATORY: Touce RECEIVED BY: (Signature) / L & Visch 2.4°C ADDRESS: Authorized: DATE: 2-26-11 TIME: 11'.) D RECEIVED BY: (Signature) / L & Visch 2.4°C Authorized: Yes No																														
	MPLE CONDITION WHEN RECEIVED: REMARKS: XMidland-TDS Xdubboch-Chlouder Sulkater "3																														
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6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

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

Report Date: April 27, 2011

Work Order: 11041524

817 • 201 • 5260

Certifications

NELAP DoD LELAP WBE HUB NCTRCA DBE Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Jeff Kindley

Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Project Location:

Chavez Co., NM

Project Name: Celero/Rock Queen Unit Tract #11

Project Number: 115-6403131

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

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

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

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

Michael april

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

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Sample 263886 (MW-3)	8
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Case Narrative

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

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

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

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

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

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

Report Date: April 27, 2011 Work Order: 11041524 Page Number: 6 of 27 115-6403131 Celero/Rock Queen Unit Tract #11 Chavez Co., NM

Analytical Report

Sample: 263884 - MW-1

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 80419 Date Analyzed: 2011-04-18 Analyzed By: ME68257 Prep Batch: Sample Preparation: 2011-04-18 Prepared By: ME

RLParameter Flag Cert Result Units Dilution RLBenzene < 0.00100 mg/L 0.00100 1 Toluene mg/L1 0.00100< 0.00100 Ethylbenzene < 0.00100 mg/L1 0.00100Xylene < 0.00100 mg/L 1 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0804	mg/L	1	0.100	80	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0881	mg/L	1	0.100	88	51.1 - 128

Sample: 263884 - MW-1

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: 80546 Date Analyzed: Analyzed By: AR2011-04-21 Prep Batch: 68355 Sample Preparation: 2011-04-19 Prepared By: AR.

Sample: 263884 - MW-1

Laboratory: Midland

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 80546 Date Analyzed: 2011-04-21 Analyzed By: AR Prep Batch: 68355 Sample Preparation: 2011-04-19 Prepared By: AR

Report Date: April 27, 2011 115-6403131	Cele	Work Order: ro/Rock Queen	Page Number: 7 of 27 Chavez Co., NM			
Sample: 263884 - MW-1						
Laboratory: Midland						
Analysis: TDS	Analy	tical Method:	SM 2540C		Prep Method:	N/A
QC Batch: 80661	Date	Analyzed:	2011-04-25		Analyzed By:	m AR
Prep Batch: 68386	Samp	le Preparation:	2011-04-19		Prepared By:	AR
			RL			
Parameter	\mathbf{Flag}	Cert	Result	\mathbf{Units}	Dilution	$_{ m RL}$
Total Dissolved Solids		1	96800	nig/L	100	10.0

Sample: 263885 - MW-2

Laboratory: Midland

Analysis: BTEXAnalytical Method: S 8021BPrep Method: S 5030B QC Batch: 80419 Date Analyzed: 2011-04-18 Analyzed By: ME Prep Batch: 68257 Sample Preparation: 2011-04-18 Prepared By: ME

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

						\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0809	mg/L	1	0.100	81	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0914	mg/L	1	0.100	91	51.1 - 128

Sample: 263885 - MW-2

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80546 Date Analyzed: 2011-04-21 Analyzed By: AR Prep Batch: 68355 Sample Preparation: 2011-04-19 Prepared By: AR

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	53300	mg/L	5000	2.50

Report Date: April 27, 2011 Work Order: 11041524 Page Number: 8 of 27 115-6403131 Celero/Rock Queen Unit Tract #11 Chavez Co., NM Sample: 263885 - MW-2 Laboratory: Midland Prep Method: N/A Analysis: SO4 (IC) Analytical Method: E 300.0 QC Batch: 80546 Date Analyzed: 2011-04-21 Analyzed By: ARPrep Batch: 68355 Prepared By: Sample Preparation: 2011-04-19

Sample: 263885 - MW-2

Laboratory: Midland

Prep Method: Analysis: TDS Analytical Method: SM 2540C N/AQC Batch: 80661 Date Analyzed: 2011-04-25 Analyzed By: AR Prep Batch: 68386 Sample Preparation: 2011-04-19 Prepared By: AR

Sample: 263886 - MW-3

Laboratory: Midland

Analysis: BTEX Analytical Method: Prep Method: S 5030B S 8021B QC Batch: 80419 Date Analyzed: 2011-04-18 Analyzed By: MEPrep Batch: 68257 Sample Preparation: 2011-04-18 Prepared By: ME

RLParameter Units Dilution RLFlag Cert Result 0.00100 Benzene mg/L < 0.00100 1 Toluene 0.00100mg/L1 < 0.00100 Ethylbenzene mg/L0.00100< 0.00100 1 Xylene < 0.00100 mg/L 1 0.00100

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0907	nıg/L	1.	0.100	91	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0963	mg/L	1	0.100	96	51.1 - 128

Report Date: April 2 115-6403131	7, 2011		ork Order: lock Queen	£11	Page Number: 9 of Chavez Co., 1		
Sample: 263886 - N	MW-3						
Laboratory: Midland		A 1 1	136 () 1	F. 200.0		D W (1)	DT / A
Analysis: Chlorid QC Batch: 80546	e (1C)		cal Method nalyzed:	E 300.0 2011-04-2)1	Prep Method: Analyzed By:	N/A AR
Prep Batch: 68355			Preparation			Prepared By:	AR
				RL			
Parameter	Flag	Cert	$R\epsilon$	esult	Units	Dilution	RL
Chloride		1	2	880	m mg/L	100	2.50
Sample: 263886 - N	∕IW-3						
Laboratory: Midland		A 14:	l Mathada	E 200 0		Don Maked	DT / A
Analysis: SO4 (IC QC Batch: 80546	2)	Analytica Date Ana	d Method:	E 300.0 2011-04-21		Prep Method: Analyzed By:	N/A AR
Prep Batch: 68355			reparation:	2011-04-21		Prepared By:	AR
				RL			
Parameter	Flag	Cert		sult	Units	Dilution	RL
Sulfate		1	7	73.2	mg/L	5	2.50
Sample: 263886 - N	Л W-3						
Laboratory: Midland	ł						
Analysis: TDS		Analytical		SM 2540C		Prep Method:	N/A
QC Batch: 80715 Prep Batch: 68387		Date Anal	yzea: eparation:	2011-04-26 2011-04-20		Analyzed By: Prepared By:	AR AR
Tep Daten. 00007		Sample 11	eparadon.	2011-04-20		Frepared by.	An
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
		r. rag	1	4440	mg/L	5	10.0

Analytical Method:

Sample Preparation:

Date Analyzed:

S 8021B

2011 - 04 - 18

2011-04-18

Sample: 263887 - MW-4

 BTEX

Laboratory: Midland

QC Batch: 80419 Prep Batch: 68257

Analysis:

Analyzed By:
Prepared By:
continued ...

Prep Method: S 5030B

ME

ME

Work Order: 11041524 115-6403131 Celero/Rock Queen Unit Tract #11 Page Number: 10 of 27 Chavez Co., NM

sample 263887 (continued			
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				RL				
Parameter	Flag	Cert		Result	Unit	8	Dilution	RL
				RL				
Parameter	Flag	Cert		Result	Unit	s	Dilution	RL
Benzene		1	<	0.00100	mg/	L	1	0.00100
Toluene		1	<	0.00100	mg/		1	0.00100
Ethylbenzene		1	<	0.00100	mg/		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	0.0868	mg/L	1	0.100	87	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0990	mg/L	1	0.100	99	51.1 - 128

Sample: 263887 - MW-4

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0QC Batch: 80572 Date Analyzed: 2011-04-22 Analyzed By: ARPrep Batch: 68378 Sample Preparation: 2011-04-21 Prepared By: AR

RLParameter Dilution Flag Cert Result Units RLChloride 1000 2.50 12200 1 mg/L

Sample: 263887 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) Analytical Method: $\to 300.0$ Prep Method: N/A QC Batch: 80572 Analyzed By: AR. Date Analyzed: 2011-04-22 Prep Batch: 68378 AR2011-04-21 Prepared By: Sample Preparation:

RLParameter Cert Result Units Dilution RLFlag Sulfate 347 mg/L 100 2.50
 Report Date: April 27, 2011
 Work Order: 11041524
 Page Number: 11 of 27

 115-6403131
 Celero/Rock Queen Unit Tract #11
 Chavez Co., NM

Sample: 263887 - MW-4

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80715 Date Analyzed: 2011-04-26 Analyzed By: ARPrep Batch: 68387 Sample Preparation: 2011-04-20 Prepared By: AR

Sample: 263888 - MW-5

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B MEQC Batch: 80419 Date Analyzed: 2011-04-18 Analyzed By: Sample Preparation: Prep Batch: 68257 2011-04-18 Prepared By: ME

RLDilution Parameter Flag Cert Result Units RLBenzene 0.00650 mg/L 1 0.00100 Toluene 0.00680 mg/L1 0.00100 Ethylbenzene < 0.00100 mg/L1 0.00100Xylene < 0.00100 mg/L 1 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0730	mg/L	1	0.100	73	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0831	mg/L	1	0.100	83	51.1 - 128

Sample: 263888 - MW-5

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80572 Date Analyzed: 2011-04-22 Analyzed By: AR Prep Batch: 68378 Sample Preparation: 2011-04-21 Prepared By: AR

 Report Date: April 27, 2011
 Work Order: 11041524
 Page Number: 12 of 27

 115-6403131
 Celero/Rock Queen Unit Tract #11
 Chavez Co., NM

Sample: 263888 - MW-5

Laboratory: Midland

Analysis: Analytical Method: Prep Method: N/A SO4 (IC) E 300.0 QC Batch: 80572 Date Analyzed: 2011-04-22 Analyzed By: ARPrep Batch: Prepared By: 68378 Sample Preparation: 2011-04-21 AR

Sample: 263888 - MW-5

Laboratory: Midland

Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80715 Date Analyzed: 2011-04-26 Analyzed By: ARPrep Batch: 68387 Sample Preparation: 2011-04-20 Prepared By: AR

Sample: 263889 - MW-6

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5030B QC Batch: 80419 Date Analyzed: 2011-04-18 Analyzed By: ME Prep Batch: 68257 Sample Preparation: 2011-04-18 Prepared By: ME

RLDilution RLParameter Flag Cert Units Result mg/L 0.00100 Benzene 1 < 0.00100 Toluene mg/L0.00100 < 0.00100 1 Ethylbenzene < 0.00100 mg/L1 0.00100Xylene < 0.00100 mg/L1 0.00100

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0937	mg/L	1	0.100	94	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0953	mg/L	1	0.100	95	51.1 - 128

Report Date 115-6403131	e: April 27, 2011		Work Order: 11041524 Celero/Rock Queen Unit Tract #11			Page Number: 13 of 2 Chavez Co., NN			
Sample: 26	3889 - MW-6								
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 80572 68378		Analytical l Date Analy Sample Pre	zed: 2011-04	1-22	Prep Method: Analyzed By: Prepared By:	N/A AR AR		
Parameter		Flag	Cert	RL Result	Units	Dilution	RL		
Chloride		1100	1	1800	mg/L	100	2.50		
Laboratory: Analysis:	3889 - MW-6 Midland SO4 (IC)		Analytical Me		0	Prep Method:	N/A		
QC Batch: Prep Batch:	80572 68378		Date Analyze Sample Prepa			Analyzed By: Prepared By:	AR AR		
Parameter Sulfate		Flag	Cert	RL Result	Units ing/L	Dilution 5	RL 2.50		
G 1 00	0000 MW 0			Mario an	6/				
Sample: 26: Laboratory: Analysis: QC Batch: Prep Batch:	3889 - MW-6 Midland TDS 80715 68387		Analytical Me Date Analyzed Sample Prepar	l: 2011-04-20	õ	Prep Method: Analyzed By: Prepared By:	N/A AR AR		
Parameter Total Dissolve	ad Calida		Flag Cert		Units	Dilution	RL		
Total Dissolv	ed Solids		1	3320	mg/L	5	10.0		
Sample: 26	3890 - MW-7								
Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 80419 68257		Analytical Meth Date Analyzed: Sample Preparat	2011-04-18		Prep Method: S Analyzed By: M Prepared By: M			

continued ...

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 14 of 27 Chavez Co., NM

AR

AR

sample 263890	continued			
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115-6403131

				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		i	<	0.00100	mg/		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	0.0971	mg/L	1	0.100	97	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0974	mg/L	1	0.100	97	51.1 - 128

Sample: 263890 - MW-7

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: Prep Method: N/A E 300.0 QC Batch: 80572 Date Analyzed: 2011-04-22 Analyzed By: Prep Batch: 68378 Sample Preparation: 2011-04-21 Prepared By:

RLDilution Parameter Flag Cert Result Units RLChloride 100 2.50 1350 mg/L 1

Sample: 263890 - MW-7

Laboratory: Midland

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80572 Analyzed By: Date Analyzed: 2011-04-22 ARPrep Batch: 68378 Sample Preparation: 2011-04-21 Prepared By: AR

RLParameter Flag Cert Result Units Dilution RLSulfate 92.2 mg/L5 2.50

Work Order: 11041524

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Celero/Rock Queen Unit Tract #11

Chavez Co., NM

Sample: 263890 - MW-7

Laboratory: Midland

Prep Batch:

Analysis: QC Batch:

TDS 80715 68387 Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C2011-04-26

Prep Method: N/A Analyzed By: AR2011-04-20 Prepared By: AR

RL

Parameter Flag Cert Result Units Dilution RLTotal Dissolved Solids 2700 mg/L 10.0 5 1

115-6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 16 of 27 Chavez Co., NM

Method Blanks

Method Blank (1)

QC Batch: 80419

QC Batch: 80419 Prep Batch: 68257

Date Analyzed: 2011-04-18 QC Preparation: 2011-04-18 Analyzed By: ME Prepared By: ME

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Benzene		1	< 0.000400	mg/L	0.001
Toluene		1	< 0.000300	mg/L	0.001
Ethylbenzene		1	< 0.000300	mg/L	0.001
Xylene		1	< 0.000333	mg/L	0.001

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0911	mg/L	1	0.100	91	70.2 - 118
4-Bromofluorobenzene (4-BFB)		1	0.104	mg/L	1	0.100	104	47.3 - 116

Method Blank (1) QC Batch: 80546

QC Batch: 80546 Prep Batch: 68355 Date Analyzed: 2011-04-21 QC Preparation: 2011-04-19 Analyzed By: AR Prepared By: AR

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride		ı	0.593	mg/L	2.5

Method Blank (1)

QC Batch: 80546

QC Batch: 80546 Prep Batch: 68355 Date Analyzed: 2011-04-21 QC Preparation: 2011-04-19

Analyzed By: AR Prepared By: AR

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Sulfate		1	< 0.177	mg/L	2.5

Report Date: April 27, 115-6403131	, 2011	Work Orde Celero/Rock Que	er: 11041524 en Unit Tract	t #11	Page Number: 1 Chavez Co	
Method Blank (1)	QC Batch: 80572					
QC Batch: 80572 Prep Batch: 68378		Date Analyzed: QC Preparation:	2011-04-22 2011-04-21		Analyzed By: Prepared By:	AR AR
Parameter	Flag	Cert		MDL Result	Units	RL
Chloride	Trag	1		0.555	mg/L	2.5
Method Blank (1)	QC Batch: 80572					
QC Batch: 80572 Prep Batch: 68378		Date Analyzed: QC Preparation:	2011-04-22 2011-04-21		Analyzed By: Prepared By:	AR AR
Parameter	Flag	Cert		MDL Result	Units	RL
Sulfate	1105	1		<0.177	mg/L	2.5
Method Blank (1)	QC Batch: 80661					
QC Batch: 80661 Prep Batch: 68386		Date Analyzed: QC Preparation:	2011-04-25 2011-04-19		Analyzed By: Prepared By:	AR AR
D		DI	<i>a</i> .	MDL	** **	DI
Parameter Total Dissolved Solids		Flag	Cert	Result < 9.75	Units mg/L	RL 10
Method Blank (1)	QC Batch: 80715					
QC Batch: 80715 Prep Batch: 68387		Date Analyzed: QC Preparation:	2011-04-26 2011-04-20		Analyzed By: Prepared By:	AR AR
Parameter Total Dissolved Solids		Flag	Cert	MDL Result <9.75	Units mg/L	RL 10

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115-6403131 Celero/Rock Queen Unit Tract #11

Page Number: 18 of 27 Chavez Co., NM

Duplicates (1) Duplicated Sample: 263885

QC Batch: 80661 Prep Batch: 68386 Date Analyzed: QC Preparation:

2011-04-25 2011-04-19 Analyzed By: AR Prepared By: AR

Duplicate Sample RPD Param Result Result Dilution RPD Units Limit Total Dissolved Solids 90500 84500 mg/L 100 10

Work Order: 11041524

Duplicates (1) Duplicated Sample: 263895

QC Batch: 80715 Prep Batch: 68387 Date Analyzed: 2011-04-26 QC Preparation: 2011-04-20 Analyzed By: AR Prepared By: AR

Duplicate Sample RPD Param Result Result Units Dilution RPD Limit Total Dissolved Solids 3480 3330 mg/L 5 4 10

115-6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 19 of 27 Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 80419 Prep Batch: 68257 Date Analyzed: QC Preparation: 2011-04-18

2011-04-18

Analyzed By: ME Prepared By: ME

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 80546 Prep Batch: 68355 Date Analyzed: QC Preparation: 2011-04-19

2011-04-21

Analyzed By: AR Prepared By: AR

			LCS			\mathbf{Spike}	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	25.6	mg/L	1	25.0	< 0.265	102	90 - 110

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

 $continued \dots$

115-6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 20 of 27 Chavez Co., NM

control spikes continued . . .

Param	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	${ m Re}c. \ { m Limit}$	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.7	mg/L	1	25.0	< 0.265	103	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: 80546

Date Analyzed:

2011-04-21

Analyzed By: AR Prepared By: AR

Prep Batch: 68355

QC Preparation: 2011-04-19

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		j	24.3	mg/L	1	25.0	< 0.177	97	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	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	24.4	nıg/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:

80572

Date Analyzed:

2011-04-22

Analyzed By: AR

Prep Batch: 68378

QC Preparation: 2011-04-21

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	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			\mathbf{Spike}	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	26.4	nıg/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.

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Work Order: 11041524 Page Number: 21 of 27 Celero/Rock Queen Unit Tract #11 Chavez Co., NM

Laboratory Control Spike (LCS-1)

QC Batch:

Prep Batch: 68378

Date Analyzed:

2011-04-22

Analyzed By: AR.

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	24.0	mg/L	1	25.0	< 0.177	96	90 - 110

QC Preparation: 2011-04-21

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}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	23.9	mg/L	1	25.0	< 0.177	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: 80661 Prep Batch: 68386

Date Analyzed: QC Preparation: 2011-04-19

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
Total Dissolved Solids		1	997	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	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	988	mg/L	1	1000	< 9.75	99	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: 80715 Prep Batch: 68387 Date Analyzed: 2011-04-26 QC Preparation: 2011-04-20

Analyzed By: AR. Prepared By: AR.

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	\mathbf{Units}	Dil.	${f Amount}$	Result	Rec.	Limit
Total Dissolved Solids		1	966	mg/L	1	1000	< 9.75	97	90 - 110

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

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Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 22 of 27 Chavez Co., NM

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	992	mg/L	1	1000	< 9.75	99	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: 263885

QC Batch: 80546 Prep Batch: 68355

Date Analyzed: QC Preparation:

2011-04-21 2011-04-19 Analyzed By: AR.

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	55300	mg/L	50	1380	53000	167	90 - 110

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

			MSD			\mathbf{Spike}	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	55300	mg/L	50	1380	53000	167	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: 263885

QC Batch: 80546 Date Analyzed:

2011-04-21

Analyzed By: AR Prepared By: AR

Prep Batch: 68355

QC Preparation: 2011-04-19

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 2360 mg/L 1380 1170 86 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.	$_{ m Limit}$	RPD	$_{ m Limit}$
Sulfate		1	2370	mg/L	50	1380	1170	87	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: 263890

QC Batch: 80572 Date Analyzed: 2011-04-22 Analyzed By: AR Prep Batch: 68378 QC Preparation: 2011-04-21 Prepared By: AR

115 - 6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 23 of 27 Chavez Co., NM

			MS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	3810	mg/L	100	2750	1350	89	90 - 110

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

			MSD			Spike	Matrix		$\mathrm{Re}c.$		RPD
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	$_{ m Limit}$
Chloride		1	3800	mg/L	100	2750	1350	89	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: 263890

QC Batch: 80572 Prep Batch: 68378 Date Analyzed: 2011-04-22 QC Preparation: 2011-04-21 Analyzed By: AR Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	2510	mg/L	100	2750	125	87	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.	\mathbf{Limit}	RPD	$_{ m Limit}$
Sulfate		1	2510	mg/L	100	2750	125	87	90 - 110	0	20

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

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Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 24 of 27 Chavez Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 80419

Date Analyzed: 2011-04-18

Analyzed By: ME

				CCVs True	${ m CCVs} \ { m Found}$	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.0932	93	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0973	97	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0962	96	80 - 120	2011-04-18
Xylene		1	m mg/L	0.300	0.292	97	80 - 120	2011-04-18

Standard (CCV-2)

QC Batch: 80419

Date Analyzed: 2011-04-18

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		ı	$_{ m mg/L}$	0.100	0.0964	96	80 - 120	2011-04-18
Toluene		1	$_{ m ing/L}$	0.100	0.100	100	80 - 120	2011-04-18
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.0997	100	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-18

Standard (CCV-3)

QC Batch: 80419

Date Analyzed: 2011-04-18

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	$_{ m mg/L}$	0.100	0.0957	96	80 - 120	2011-04-18
Toluene		1	$_{ m mg/L}$	0.100	0.0994	99	80 - 120	2011-04-18
Ethylbenzene		1	$_{ m mg/L}$	0.100	0.0987	99	80 - 120	2011-04-18
Xylene		1	nıg/L	0.300	0.294	98	80 - 120	2011-04-18

Report Date:	April	27,	2011
115-6403131			

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 25 of 27 Chavez Co., NM

Standard	(ICV-1	١
Standard	110 4-1	3

QC Batch: 80546

Date Analyzed: 2011-04-21

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	F-10/10/18/19	1	mg/L	25.0	24.2	97	90 - 110	2011-04-21

Standard (ICV-1)

QC Batch: 80546

Date Analyzed: 2011-04-21

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	25.1	100	90 - 110	2011-04-21

Standard (CCV-1)

QC Batch: 80546

Date Analyzed: 2011-04-21

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	25.0	100	90 - 110	2011-04-21

Standard (CCV-1)

QC Batch: 80546

Date Analyzed: 2011-04-21

Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 80572

Date Analyzed: 2011-04-22

Analyzed By: AR

115-6403131

Work Order: 11041524 Celero/Rock Queen Unit Tract #11 Page Number: 26 of 27 Chavez Co., NM

				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	24.0	96	90 - 110	2011-04-22

Standard (ICV-1)

QC Batch: 80572

Date Analyzed: 2011-04-22

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				${f True}$	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.9	100	90 - 110	2011-04-22

Standard (CCV-1)

QC Batch: 80572

Date Analyzed: 2011-04-22

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Paranı	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22

Standard (CCV-1)

QC Batch: 80572

Date Analyzed: 2011-04-22

Analyzed By: AR

				CCVs	CCVs	$\rm CCVs$	$\operatorname{Percent}$	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22

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

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Analysis Request of Chain of Custody Record PAGE: OF: **ANALYSIS REQUEST** (Circle or Specify Method No.) **TETRA TECH** Pb Hg Se Pd Hg Se (Ext to C35) 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 88 SITE MANAGER: Jeff Kindley CLIENT NAME: PRESERVATIVE GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/62 NUMBER OF CONTAINERS Celero METHOD TCLP Semi Volatiles RCI PROJECT NO .: PROJECT NAME: 115-6403131 FILTERED (Y/N)
HCL
HNO3 Rock Queen Tract LAB I.D. MATRIX COMP. GRAB TCLP Vol DATE TIME SAMPLE IDENTIFICATION NONE NUMBER 2011 ઝ(ઝજ્ય 1340 mw-885 i325 mw-2 286 1730 mw-3 887 1355 mw-4 888 1310 mw-5 889 1250 mw-6 890 1215 Xmw-7 XX RELINQUISHED BY: Signature) Date: 4-15-11 SAMPLED BY: (Pont & Initial)

James Kenne L

SAMPLE SHIPPED BY: (Circle Date: MelUall RELINQUISHED BY: (Signature) AIRBILL #: Time: Time: HAND DELIVERED UPS OTHER: RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature) Date: Time: Results by: Time: RECEIVING LABORATORY: Jeff Kindley RECEIVED BY: (Signature) ADDRESS:
CITY: M | d | G h c | STATE: RUSH Charges

Oclo cintact 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:

Yes

No

ZIP:

REMARKS:

DATE:

PHONE:

SAMPLE CONDITION WHEN RECEIVED: