

March 29, 2012

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

Re: Comprehensive Groundwater Sampling Report for the Celero Energy II, LP, Rock Queen Unit Tract 7 Tank Battery, Located in Unit Letter I, Section 22, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1645).

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 7 Tank Battery (Site) from November 2009 through December 2011. The Site is located approximately 22 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

On October 8, 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 7 Tank Battery pit was dewatered and the residual sludge, tank bottom materials, and liner were removed in October 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 440 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 7 Tank Battery* was submitted to the NMOCD. The report detailed the closure of the former pit at the facility.

Groundwater Investigation

Between November 2009 and December 2010, Celero installed four 2inch monitor wells (MW-1 through MW-4) and one 5-inch recovery well (RW-1) to assess the groundwater quality at the Site. The lithology at the Site was relatively consistent with limestone encountered to approximately 15 feet below ground surface (bgs) and very fine grain sands extending to approximately 150 to 160 feet bgs. From approximately 150 to 160 feet to the terminus of the borings (approximately 155 to 180 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 149 to 155 feet bgs. Monitor Well MW-1 was drilled into the surrounding underlying clay to 170 feet bgs and installed with 60 feet of 0.02 inch slotted screen. The remaining monitor wells were drilled to depths of 175 to 180 feet bgs and installed with 40 feet of 0.02 inch slotted screen. Recovery well RW-1 was drilled to a depth of 155 feet and installed with 20 feet of 0.035 inch slotted screen. From the top of the screens to the surface of the boring, the wells were completed with blank schedule 40 PVC casing. See Appendix B for monitor well installation diagrams.

During the investigation and subsequent sampling, the only constituents of concern detected in the groundwater above New Mexico Water Quality Control Commission (NMWQCC) standards was chlorides, TDS, and SO4. No Phase Separated Hydrocarbons (PSH) or dissolved phase separated hydrocarbons have been measured or detected in any of the onsite monitor wells above New Mexico Water Quality Control Commission (NMWQCC) standards. See Figure 3 detailing the monitor well locations.

Gauging and Monitor Well Sampling

On November 24, 2009, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for the January, April, July and October 2011 sampling events. The hydraulic gradient indicates a westerly direction. Groundwater gradient maps for the sampling events are included as Figures 4 through 7. Gauging data is summarized in Table 1.

During the sampling events, each of the wells was purged utilizing either a submersible pump or by hand bailing and subsequently sampled for BTEX



utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+. The samples were properly preserved and submitted under proper chain-of-custody control to Trace Analysis Inc. of Lubbock, Texas. All water samples collected and analyzed were below the NMWQCC standard of 0.01 milligrams per liter (mg/L) of benzene. Chlorides for the sampling period ranged from <125 mg/L in up gradient monitor well MW-4 on January 19, 2011 to 47,500 mg/L in down gradient monitor well MW-3 on January 19, 2011. With the exception of MW-4 all additional monitor wells exceeded the NMWQCC standard of 250 mg/L chlorides. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 8 through 15. Copies of the laboratory analyses are enclosed in Appendix C.

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

CONCLUSIONS

- 1. On November 24, 2009, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged, and sampled. The samples were preserved, delivered to Trace Analysis, Inc. of Midland, Texas, and analyzed for BTEX utilizing method 8021B, 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 westerly direction.
- 3. All wells tested below the NMQQCC standards of 0.01 mg/L for benzene.
- 4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells with the exception of up gradient MW-4. The chloride concentrations at the site range from <125 mg/L in up gradient MW-4 on January 19, 2011 to 47,500 mg/L in down gradient monitor well MW-3 on January 19, 2011.

RECOMMENDATIONS

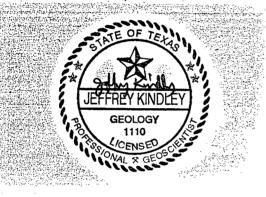
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1. Quarterly groundwater monitoring and gauging will be continued throughout the year.



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

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



Respectfully submitted, Tetra Tech, Inc.

Jeffrey Kindley, P.G. Senior Environmental Geologist

cc: Bruce Woodard - Celero Energy II, LP

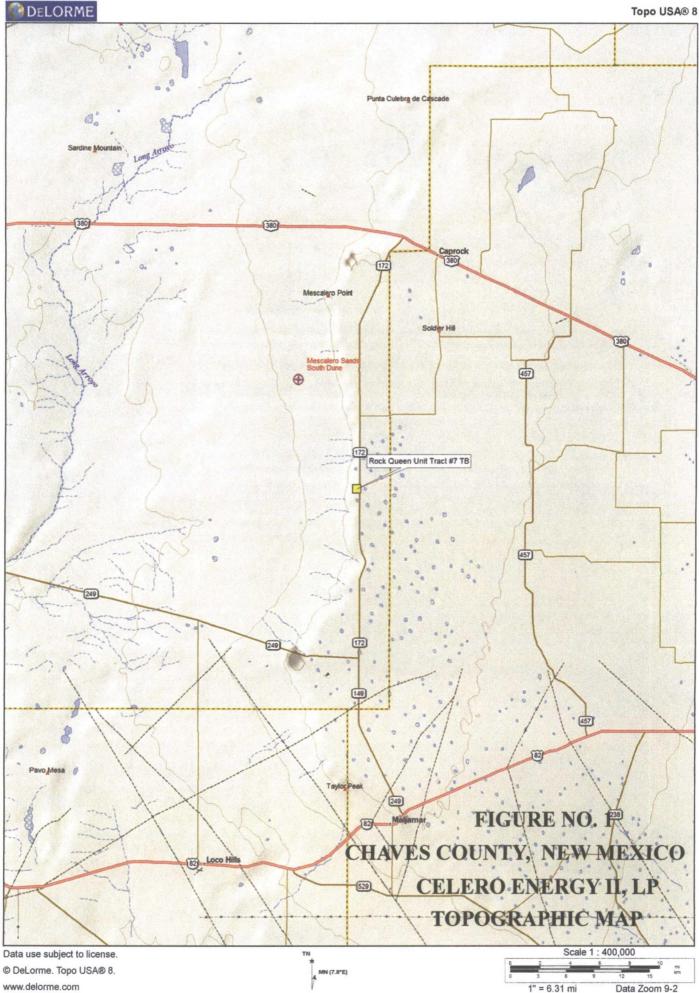
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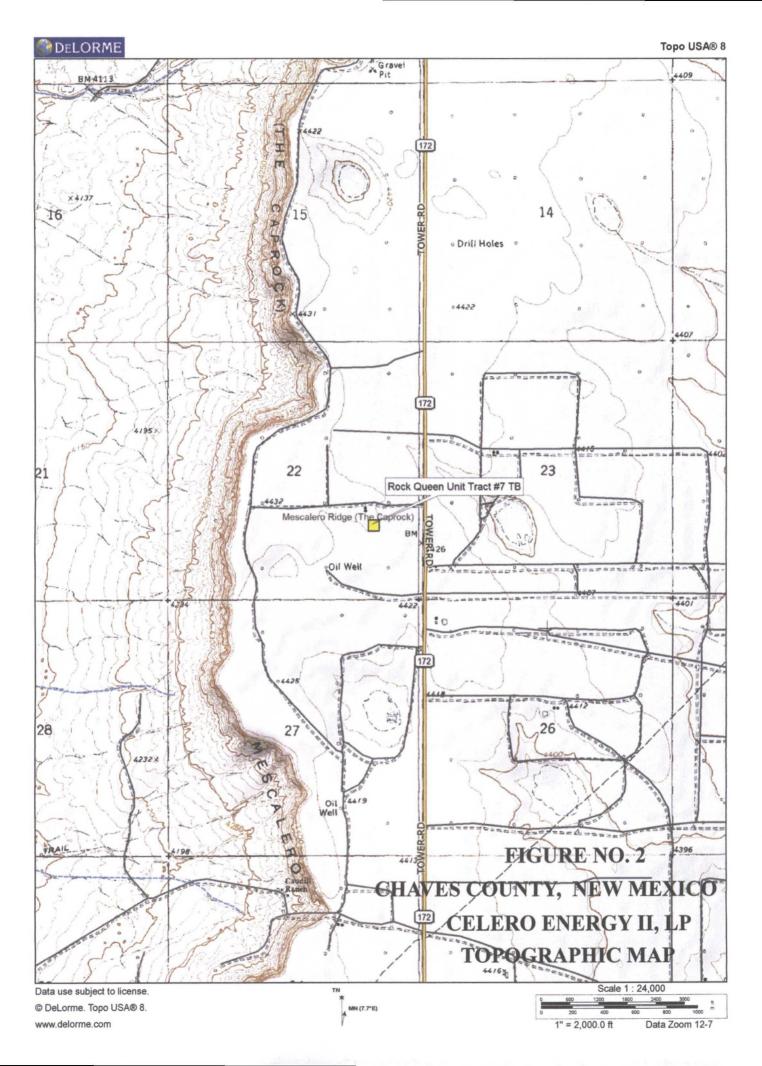
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FIGURES



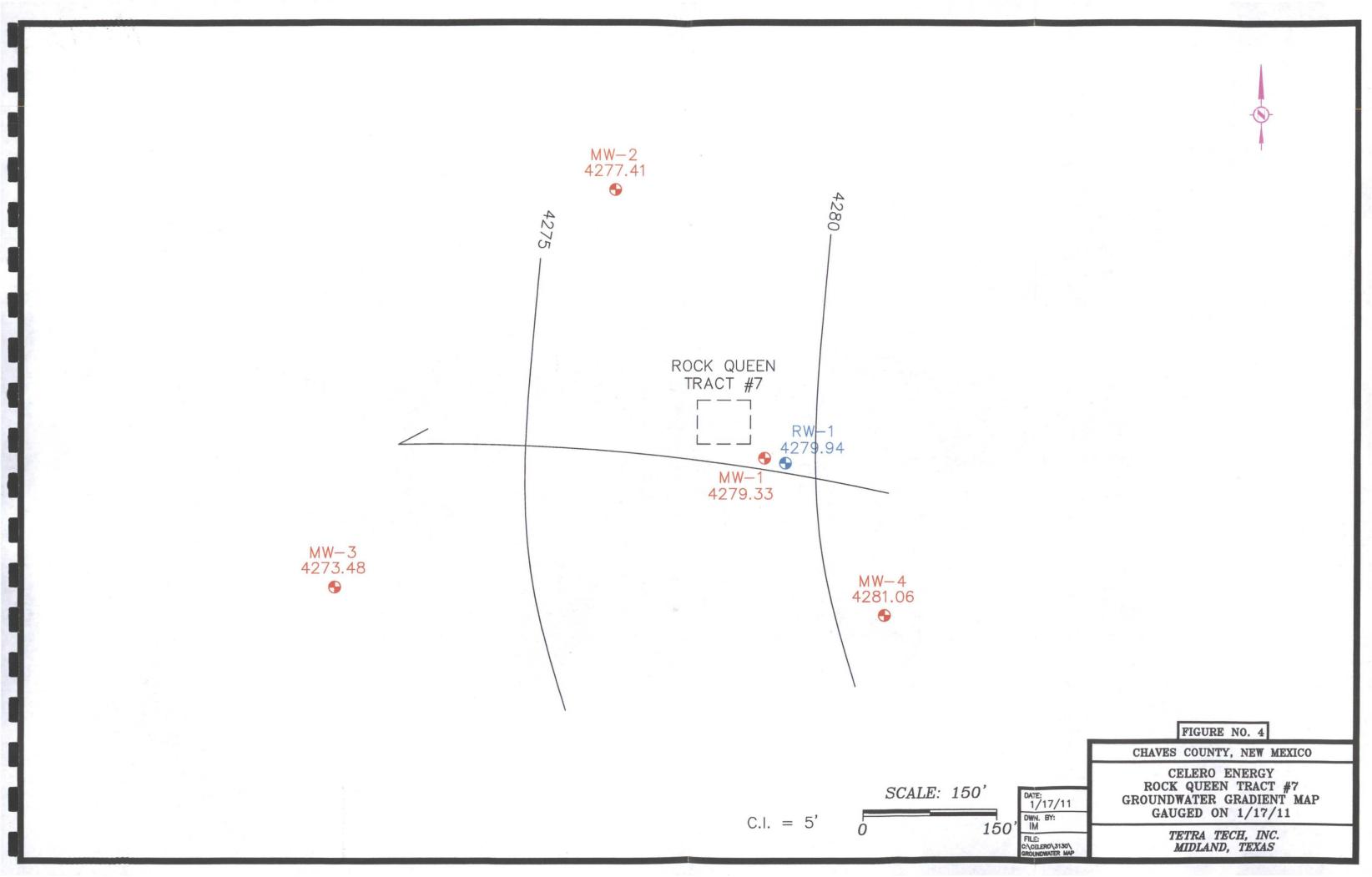
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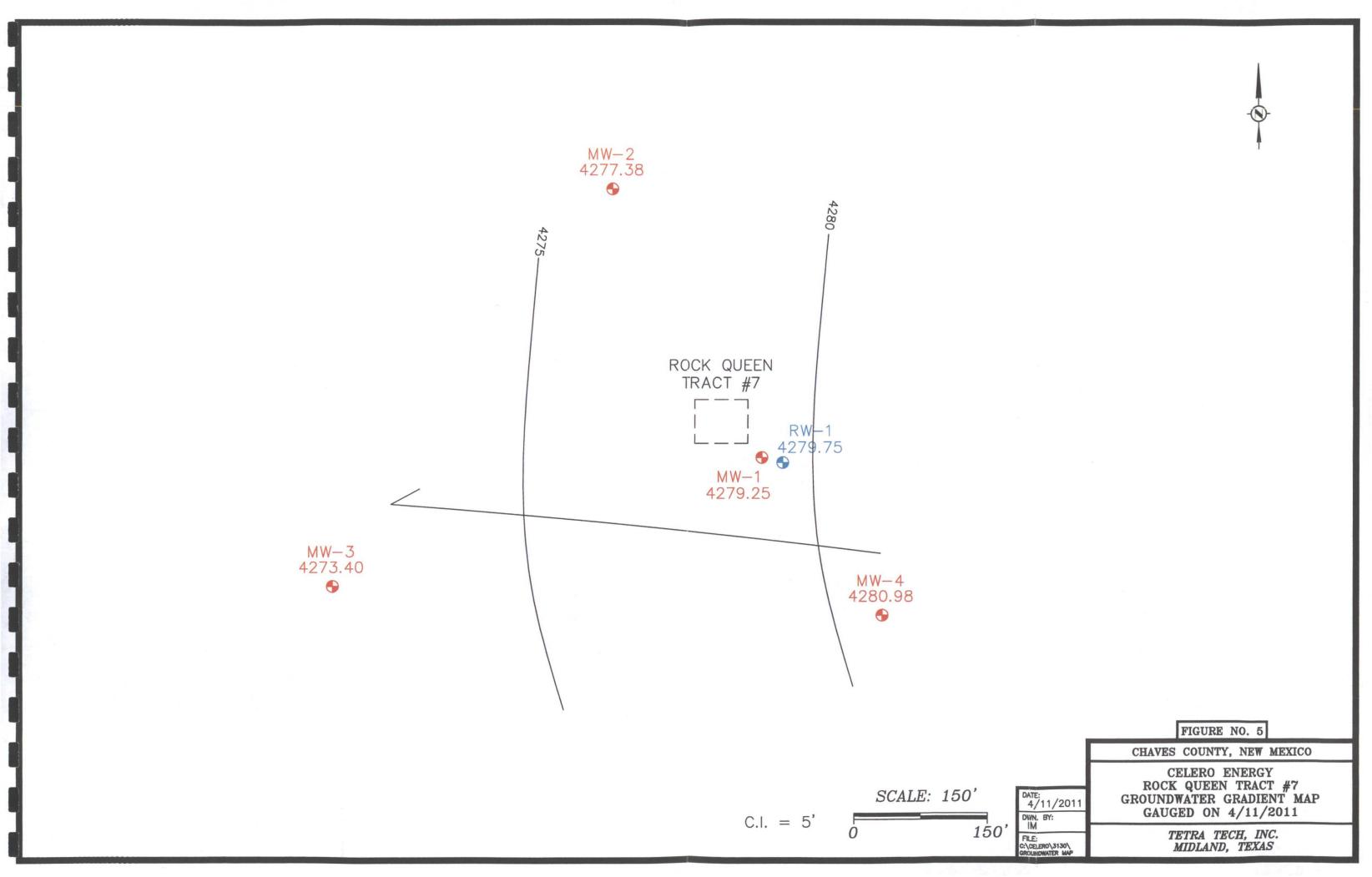
Data Zoom 9-2

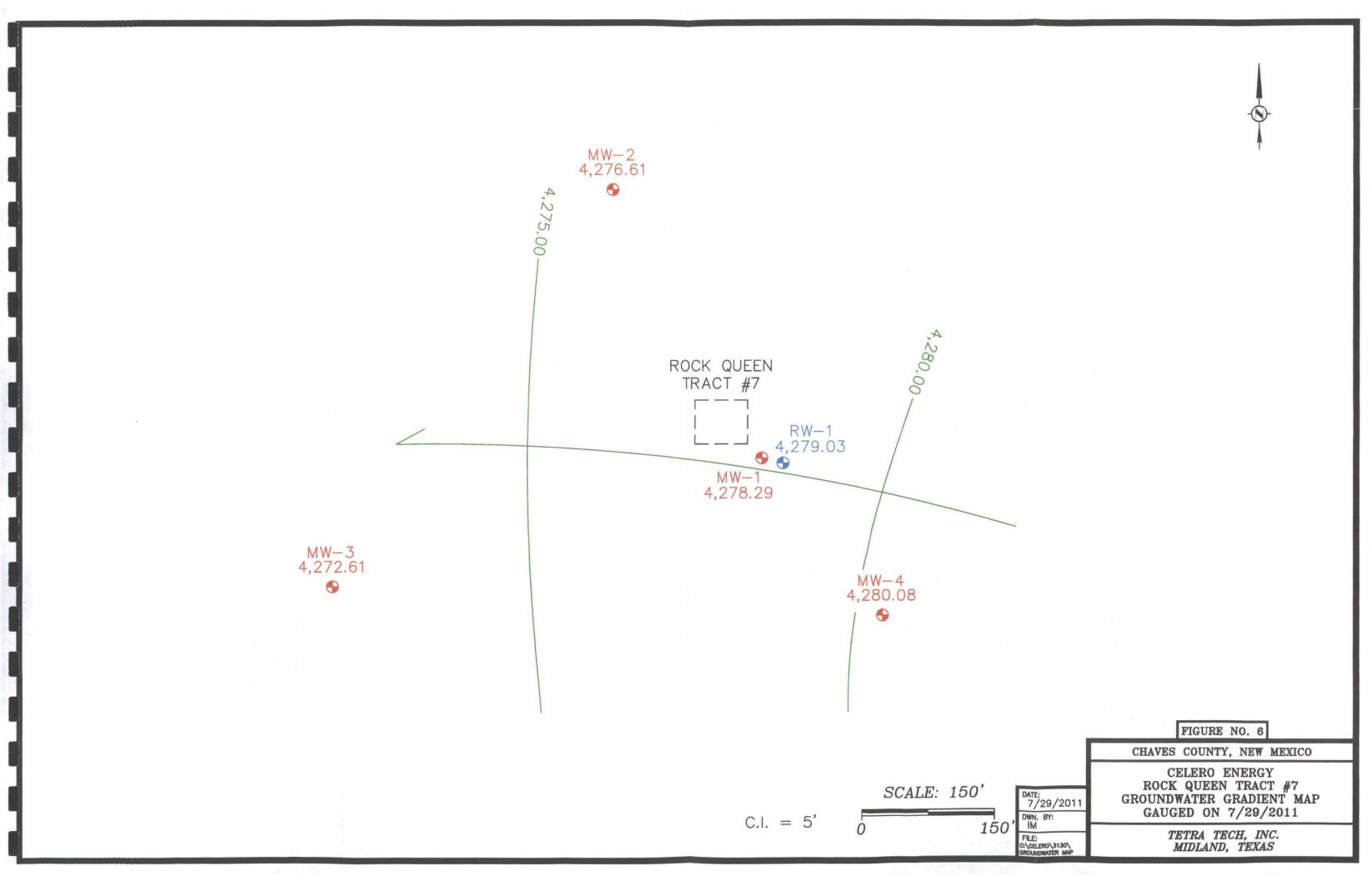


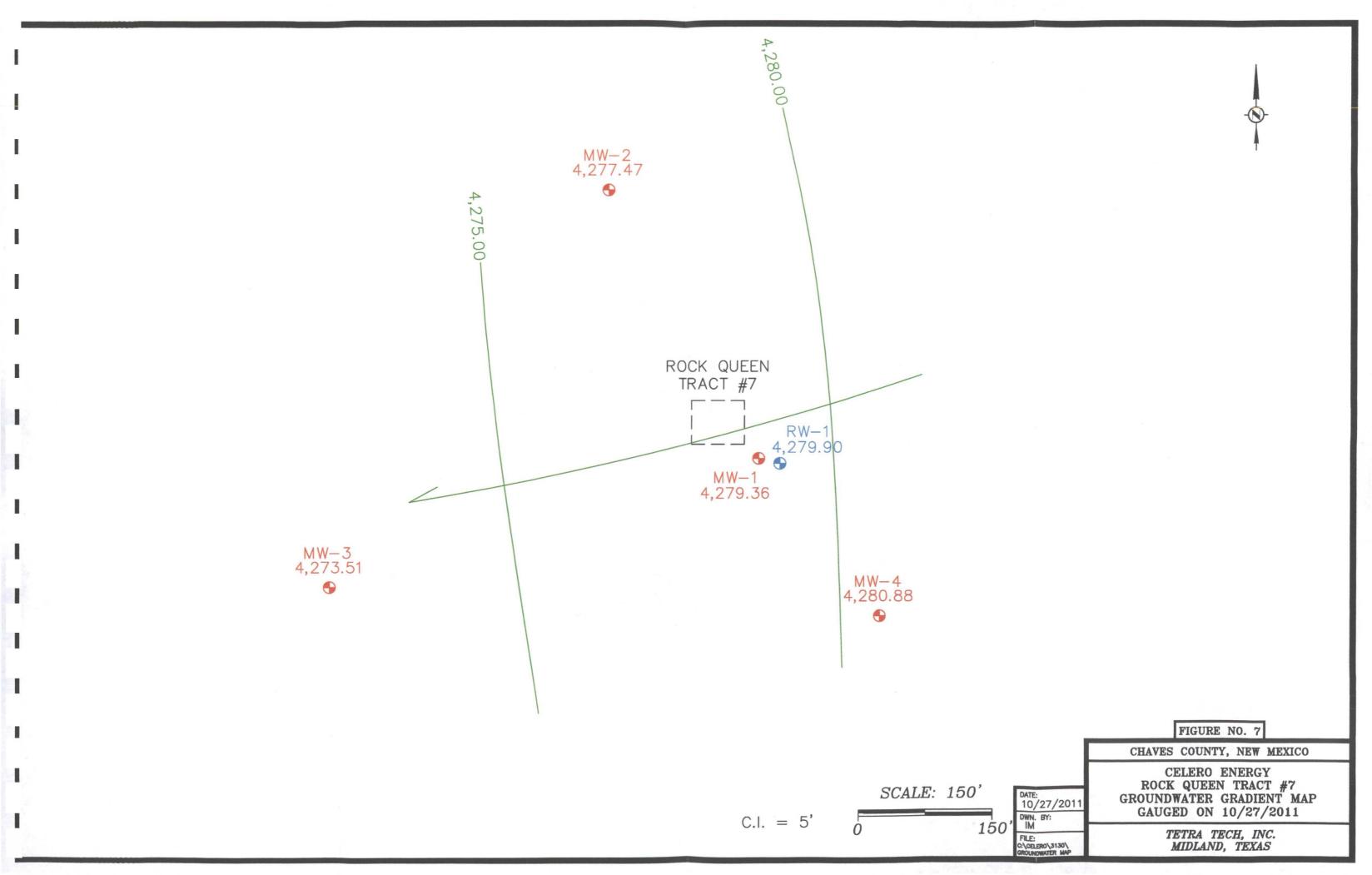


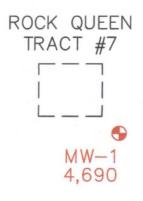
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	FIGURE NO. 3
	CHAVES COUNTY, NEW MEXICO
	CELERO ENERGY
DATE: 9/4/07	ROCK QUEEN TRACT #7
DWN. BY:	SITE MAP
JJ	TETRA TECH INC
FILE: C:\CELERO\3130\ RQ TRACT \$7	TETRA TECH, INC. MIDLAND, TEXAS
NO TRACT P/	-



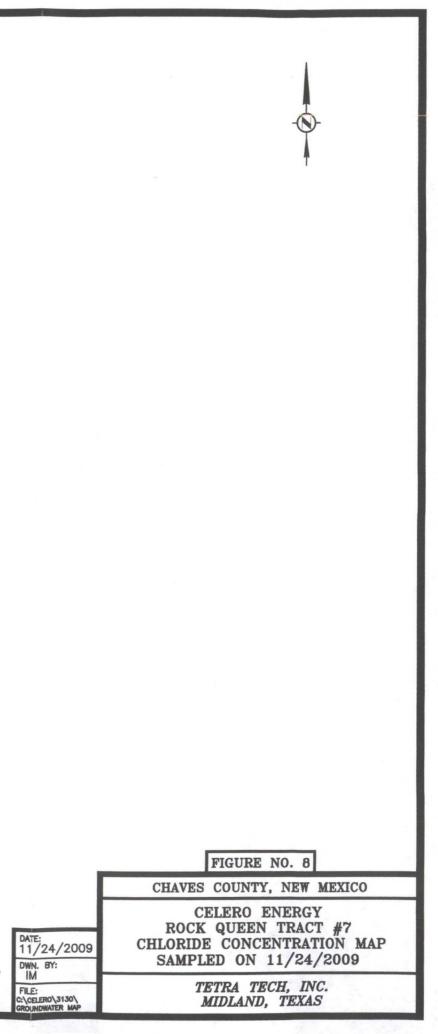


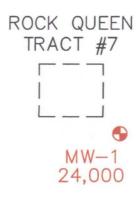






SCALE: 150' RESULTS IN mg/L 150' 0

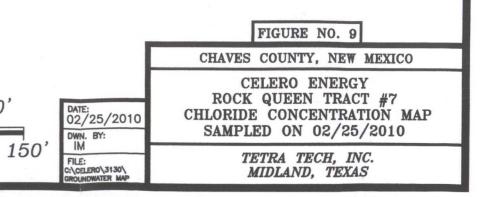




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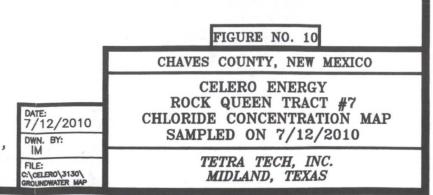
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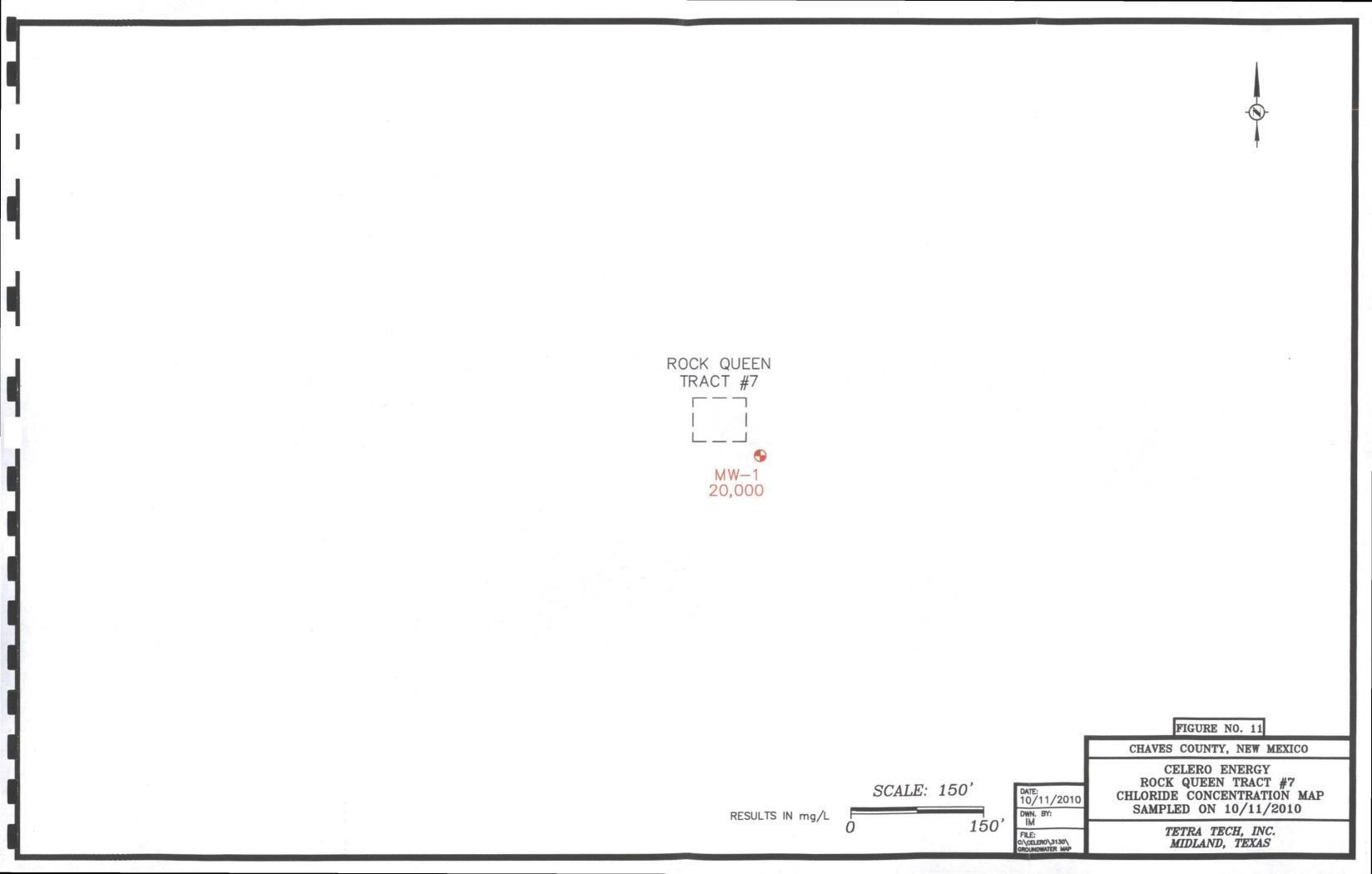
RESULTS IN mg/L

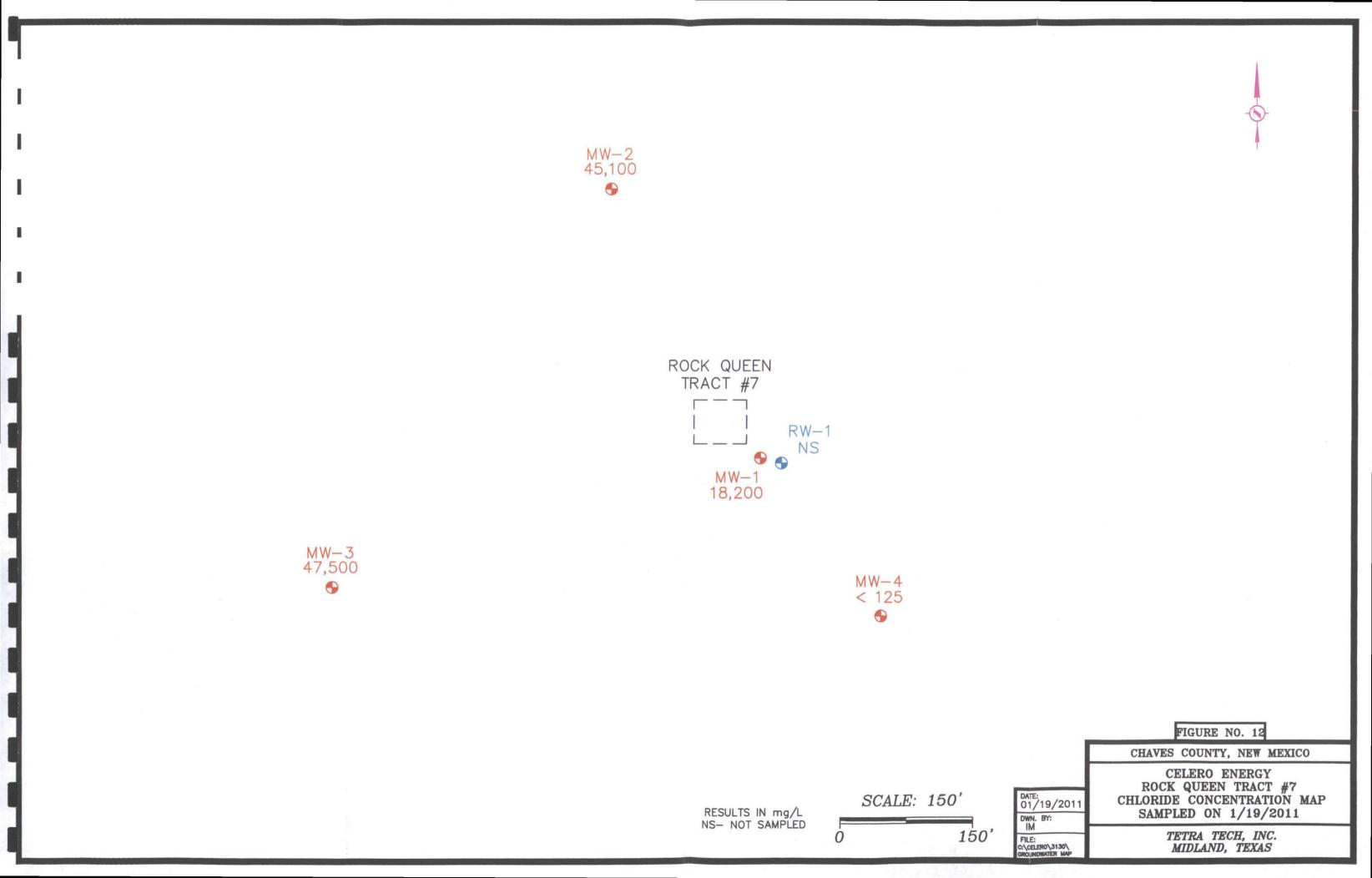


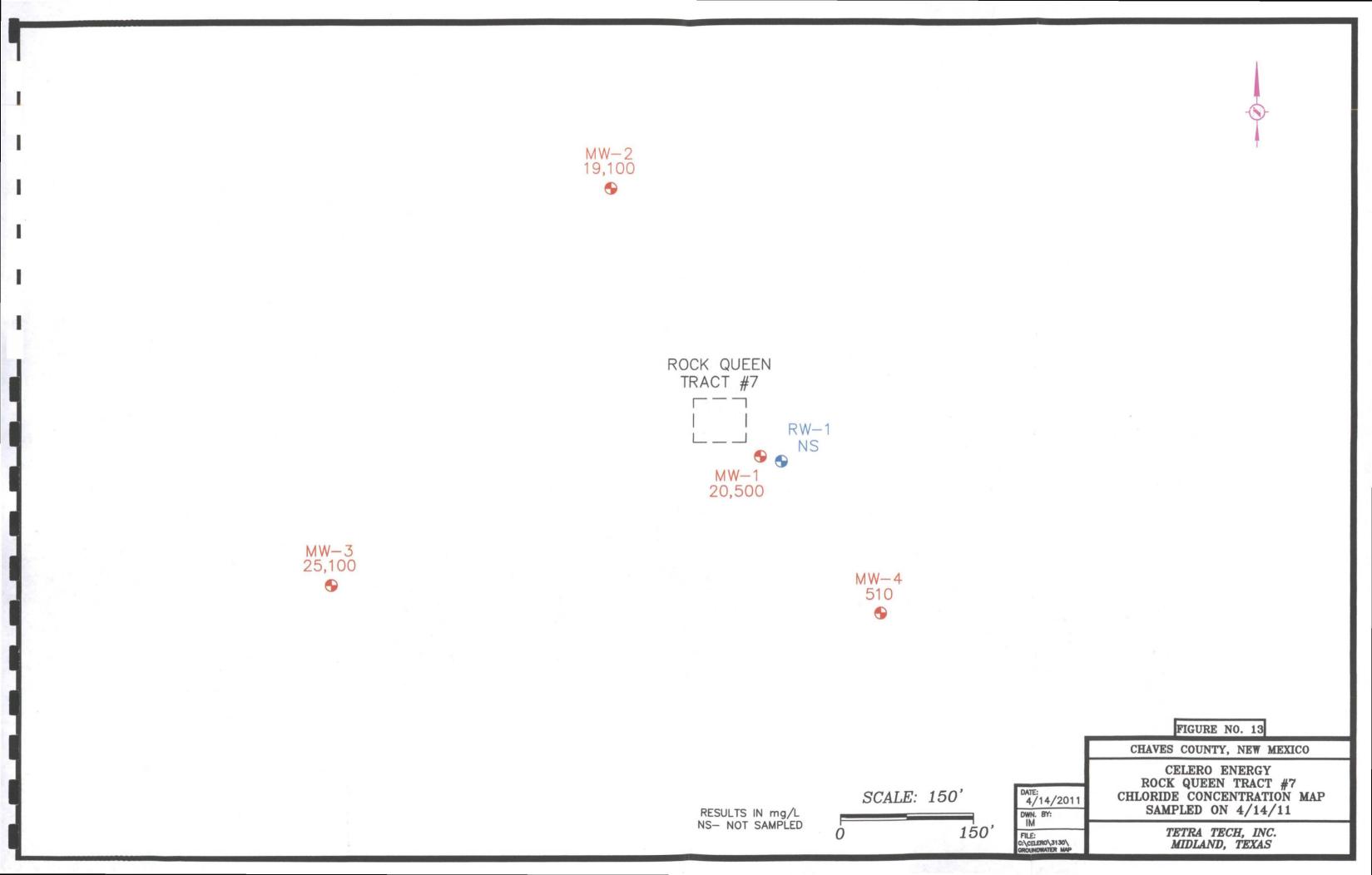


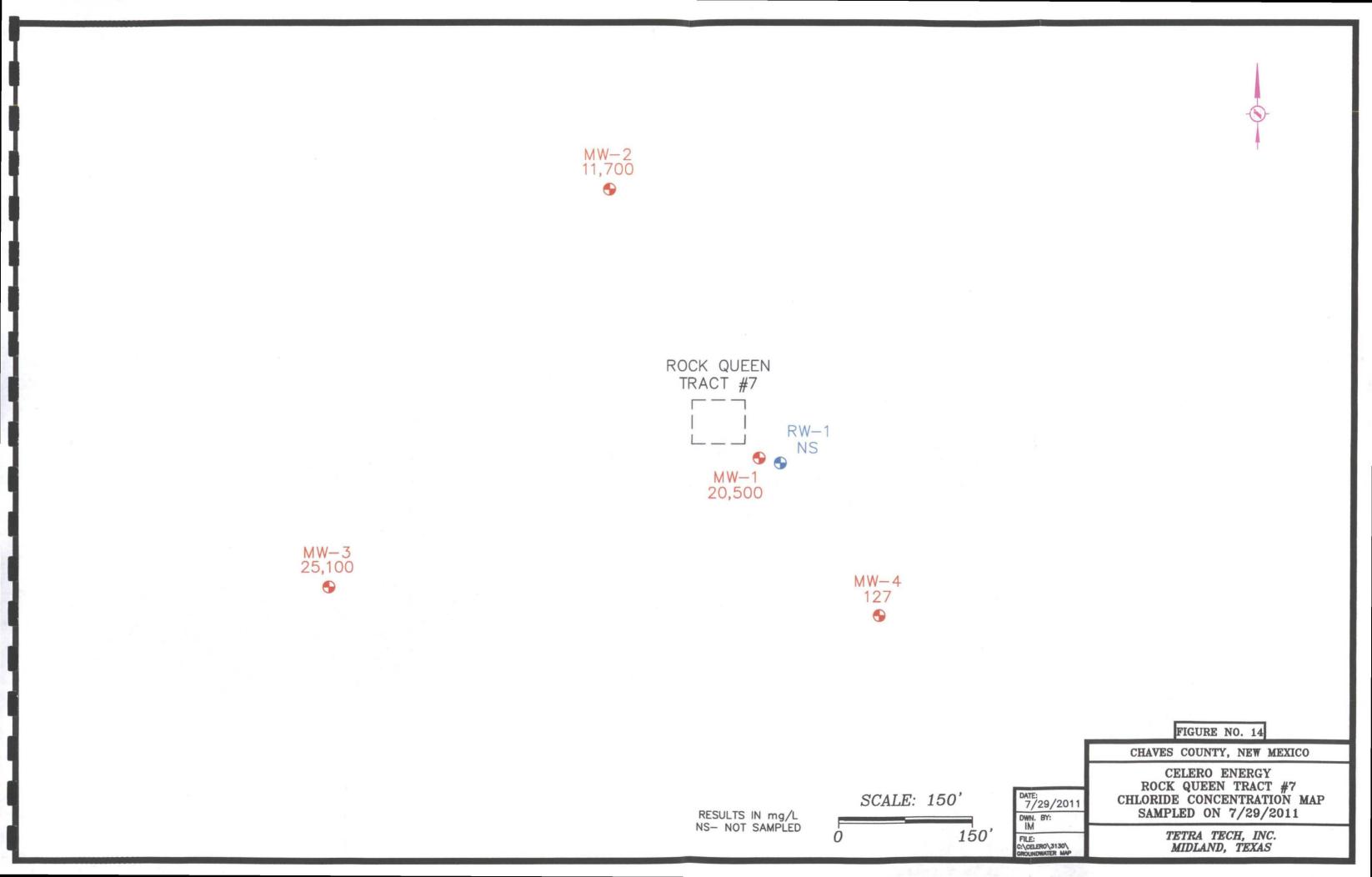
SCALE: 150' RESULTS IN mg/L 150'

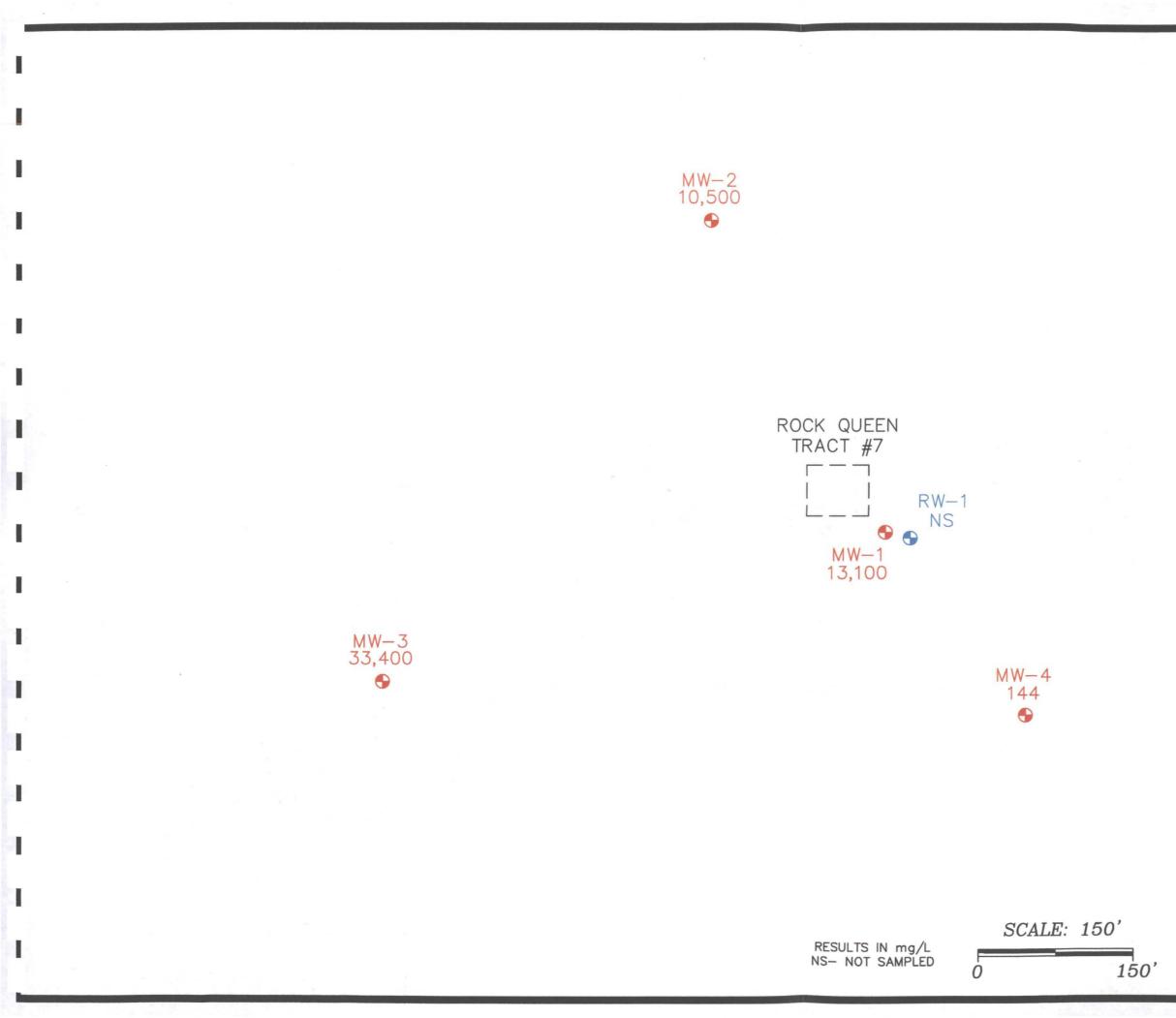


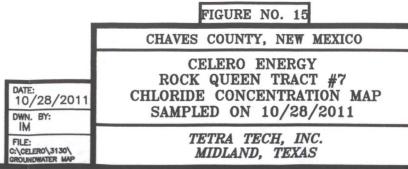












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TABLES

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Table 1 Celero Energy II, LP Groundwater Gauging Data Rock Queen Unit Tract #7 Chaves County, New Mexico

Monitor	. Date	Date Well	TOC Elevation	Depth of Well	Depth to Groundwater	Groundwater Elevation
Well	Gauged	Installation	(ft)	(bgs in ft)	(ft)	<u>(ft)</u>
MW-1	11/24/09	11/17/09	4,428.76	170.00	149.66	4,279.10
	02/25/10				149.43	4,279.33
	07/12/10		`		149.46	4,279.30
	10/11/10				149.44	4,279.32
	01/17/11				149.43	4,279.33
	04/11/11				149.51	4,279.25
	07/29/11				150.47	4,278.29
	10/27/11				149.40	4,279.36
MW-2	01/17/11	11/18/10	4,432.58	178.60	155.17	4,277.41
	04/11/11		`		155.20	4,277.38
	07/29/11				155.97	4,276.61
	10/27/11				155.11	4,277.47
MW-3	01/17/11	11/17/10	4,428.37	183.50	154.89	4,273.48
	04/11/11				154.97	4,273.40
	07/29/11				155.76	4,272.61
	10/27/11				154.86	4,273.51
MW-4	01/17/11	11/16/10	4,427.28	179.60	146.22	4,281.06
	04/11/11				146.30	4,280.98
	07/29/11	2			147.26	4,280.02
	10/27/11	·			146.40	4,280.88
RW-1	01/17/11	12/07/10	4,428.04	159.45	148.10	4,279.94
-	04/11/11				148.29	4,279.75
	07/29/11				149.07	4,278.97
	10/27/11		·····		148.14	4,279.90

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract #7

Chaves County, New Mexico

Monitor	Date	Dissolved Calcium	Dissolved Magnesium	Dissolved	Dissolved Potassium	Hydroxide Alkalinity	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Sulfate	Chloride :	TDS (mg/L)	Hardness	pН
Well	Sampled	(mg/L)	(mg/L)	(mg/L) ,	(mg/L)	(mg/L)	(mg/Ľ)	(mg/L)	(mg/Ŀ)	(mg/Ŀ)	(mg/L)		(mg/L)	
MW-1	11/24/09	1,730	430	585	15.3	<1.00	<1.00	114	114	150	4,690	9,100	6,100	7.55
	02/25/10	8,010	2,250	2,860	80.0	<1.00	<1.00	93	93	463	24,000	38,300	29,300	7.11
	07/12/10	-	-	-	-	-	-	-	-	316	3,060	3,060	-	-
	10/11/10	-	-	-	-	-	-	-	-	960	20,000	48,400	-	-
	01/19/11	-	-	-	-	-	-	-		<2500	18,200	38,600		-
	04/14/11	-	-	-	-	-	-	-	-	1,020	20,500	32,000	-	-
	07/29/11	-	-	-	-	-	-	-	-	1,170	20,500	33,700	-	-
	10/28/11	-	-	-	-	-	-	-	-	1,270	13,100	23,200	<u> </u>	•
MW-2	01/19/11	-	-	-	-	-	-	-	-	1,250	45,100	78,200	-	
	04/14/11	-	-	-	-	-	-	-	-	1,280	19,100	33,000	•	-
	07/29/11	-	-	-	-	-	-	-	-	1,570	11,700	25,900	-	-
	10/28/11	-	-		-	-	-	-	-	1,010	10,500	19,500	-	-
MW-3	01/19/11	-	-	-	-	<u> </u>	-	· -	-	1,750	47,500	81,800	-	-
	04/14/11	-	-	-	-	-	-	-	•	1,170	25,100	41,000	-	-
	07/29/11	-	-	-	-	-	-	-	-	1,420	25,100	52,400	-	· ·
	10/28/11	-	-	-	-	-	-	-	-	1,480	33,400	57,000	-	-
MW-4	01/19/11	-	-	-	-	-	-	-	-	279	<125	792	• <i>,</i>	-
	04/14/11	-	-	-	-	-		-	-	81	510	3,330	-	-
	07/29/11	-	-	-	-	-	-	-	-	114	127	648	-	-
	10/28/11	-	-	-	-	-	-	-	-	113	144	770	-	-
RW-1	01/19/11	NS	NS	NS	NS	NS	NS	NS	NS	NS .	NS	NS	NS	NS
	04/14/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/29/11	NS	NS	NS ·	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/28/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS - Not sampled

(-) Not analyzed

Table 3 Celero Energy II, LP Groundwater Analytical Results Rock Queen Unit Tract #7 Chaves County, New Mexico

		Benzene	Toluene	Ethyl-	Xylene	Total
v : Monitor Well - 25	Date Sampled	in 🦾 🗤	in in	Benzene	si in statistica	BTEX
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-1	11/24/09	<0.001	<0.001	<0.001	<0.001	<0.001
	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	0.0068	<0.001	<0.001	<0.001	0.0068
	07/29/11	0.0065	<0.001	<0.001	<0.001	0.0068
	10/28/11	` <0.001	<0.001	<0.001	<0.001	<0.001
MW-3	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
RW-1	01/19/11	ŃS	NS	NS	NS	NS
	04/14/11	NS	NS	NS	NS	NS
	07/29/11	NS	NS	NS	NS	NS
	10/28/11	NS	NS	NS	NS	NS ر

NS - Not sampled

APPENDIX A BORING LOGS

Boring/Well	MW-1					
GPS	N33.172564° W103.804064°					
Project Number	115-6403130A					
Client	Celero Energy II, LP					
Site Name	Rock Queen Unit Tract # 7 Tank Battery					
Site Location	Chaves County, New Mexico					
Letter I, Section 2	Letter I, Section 22, Township 13 South, Range 31 East					
Total Depth	170					
Date Installed	11/17/09					

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

Boring/Well	MW-1
GPS	N33.172564° W103.804064°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract # 7 Tank Battery
Site Location	Chaves County, New Mexico
Letter I, Section 2	22, Township 13 South, Range 31 East
Total Depth	170
Date Installed	11/17/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
128-130		Tan to brown fine grain well sorted sand
133-135		Tan to brown fine grain well sorted sand
138-140		Tan to brown fine grain well sorted sand
143-145		Tan to brown fine grain well sorted sand
148-150		Tan to brown fine grain well sorted sand
153-155		Red to brown sandy clay
158-160		Red to brown sandy clay
163-165		Red to brown sandy clay
168-170		Red to brown sandy clay
tal Depth:	170'	Depth to groundwater encountered unknown.

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MW-2
N33.17362° W103.80504°
115-6403130A
Celero Energy II, LP
Rock Queen Unit Tract #7 Tank Battery
Chaves, New Mexico
22, Township 13 South, Range 31 East
175'
11/18/10

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

Boring/Well	MW-2
GPS	N33.17362° W103.80504°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter I, Section 2	22, Township 13 South, Range 31 East
Total Depth	175'
Date Installed	11/18/10

Total Depth:	175'	Ground water depth not encountered while drilling.
175'		Red Bed
170-171'		Red Bed
165-166'		Red Bed
160-161'		Blue Brown Clay with Red Bed
155-156'		Blue Brown Clay with Angular Caliche
150-151'		Brown Fine Grain Well Sorted Sand with Rounded and Angular Caliche
145-146'		Brown Fine Grain Well Sorted Sand with Rounded and Angular Caliche
140-141'		Brown Fine Grain Well Sorted Sand with Rounded and Angular Caliche
135-136'		Brown Fine Grain Well Sorted Sand with Rounded and Angular Caliche
130-131'		Brown Fine Grain Well Sorted Sand with Rounded and Angular Caliche

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Boring/Well	MW-3
GPS	N33.17220° W103.80511°
Project Number:	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter J, Section	22, Township 13 South, Range 31 East
Total Depth	180'
Date Installed	11/17/10

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Depth (Ft)	OVM	Sample Description
5-6'		Caliche
10-11'		Caliche and Chert
15-16'		Caliche
20-21'		Light Brown Fine Grain Sand
25-26'		Light Tan Fine Grain Sand with 20% Caliche
30-31'		Light Tan Fine Grain Sand with 20% Caliche
35-36'		Light Tan Fine Grain Sand with 20% Caliche
40-41'	、	Light Tan Fine Grain Sand with 20% Caliche
45-46'		Light Tan Fine Grain Sand with 20% Caliche
50-51'		Light Tan Fine Grain Sand with 20% Caliche
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 with 10% Angular Gravel
90-91'		Light Brown Fine Grain Well Sorted Sand with 10% Angular Gravel
95-96'		Light Brown Fine Grain Well Sorted Sand with 5% Angular Gravel
100-101'		Light Brown Fine Grain Well Sorted Sand with 5% Angular Gravel
105-106'		Light Brown Fine Grain Well Sorted Sand with 5% Angular Gravel
110-111'		Light Brown Fine Grain Well Sorted Sand with 10% Angular Gravel
115-116'		Light Brown Fine Grain Well Sorted Sand with 10% Angular Gravel
120-121'		Light Brown Fine Grain Well Sorted Sand with 10% Angular Gravel
125-126'		Light Brown Fine Grain Well Sorted Sand with 10% Angular Gravel

Boring/Well	MW-3
GPS	N33.17220° W103.80511°
Project Number:	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter J, Section	22, Township 13 South, Range 31 East
Total Depth	180'
Date Installed	11/17/10

Total Depth:	175'	Ground water depth not encountered while drilling.
180		Red Bed
175-176'		Red Bed with Blue Green Clay
170-171'		Red Bed
165-166'		Light Brown Fine Grain Well Sorted Sand
160-161'		Light Brown Fine Grain Well Sorted Sand
155-156'		Light Brown Fine Grain Well Sorted Sand
150-151'		Light Brown Fine Grain Well Sorted Sand
145-146'		Light Brown Fine Grain Well Sorted Sand
140-141'		Light Brown Fine Grain Well Sorted Sand
135-136'		Light Brown Fine Grain Well Sorted Sand
130-131'		Light Brown Fine Grain Well Sorted Sand

Total Depth:

Boring/Well	MW-4
GPS	N33.17218° W103.80413°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter I, Section 2	22, Township 13 South, Range 31 East
Total Depth	175'
Date Installed	11/16/10

Depth (Ft)	OVM	Sample Description
5-6'		Caliche
10-11'		Caliche and Chert
15-16'		Caliche
20-21'		Light Brown Fine Grain Sand
25-26'		Light Tan Fine Grain Sand with 30% Caliche
30-31'		Light Tan Fine Grain Sand with 30% Caliche
35-36'		Light Tan Fine Grain Sand with 30% Caliche
40-41'		Light Tan Fine Grain Sand with 30% Caliche
45-46'		Light Brown Fine Grain 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 Medium Sorted Sand
125-126'		Light Brown Fine Grain Medium Sorted Sand

Boring/Well	MW-4
GPS	N33.17218° W103.80413°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter I, Section 2	22, Township 13 South, Range 31 East
Total Depth	175'
Date Installed	11/16/10

130-131'		Light Brown Fine Grain Medium Sorted Sand
135-136'		Light Brown Fine Grain Medium Sorted Sand
140-141'		Light Brown Fine Grain Medium Sorted Sand
145-146'	•••	Light Brown Fine Grain Medium Sorted Sand
150-151'		Light Brown Fine Grain Sand with Blue Grey Clay
155-156'		Light Brown Fine Grain Sand with Blue Grey Clay
160-161'		Light Brown Fine Grain Sand with Blue Grey Clay
165-166'		Red Bed
170-171'		Red Bed
175'	44 64	Red Bed

Total Depth:

175'

Ground water depth not encountered while drilling.

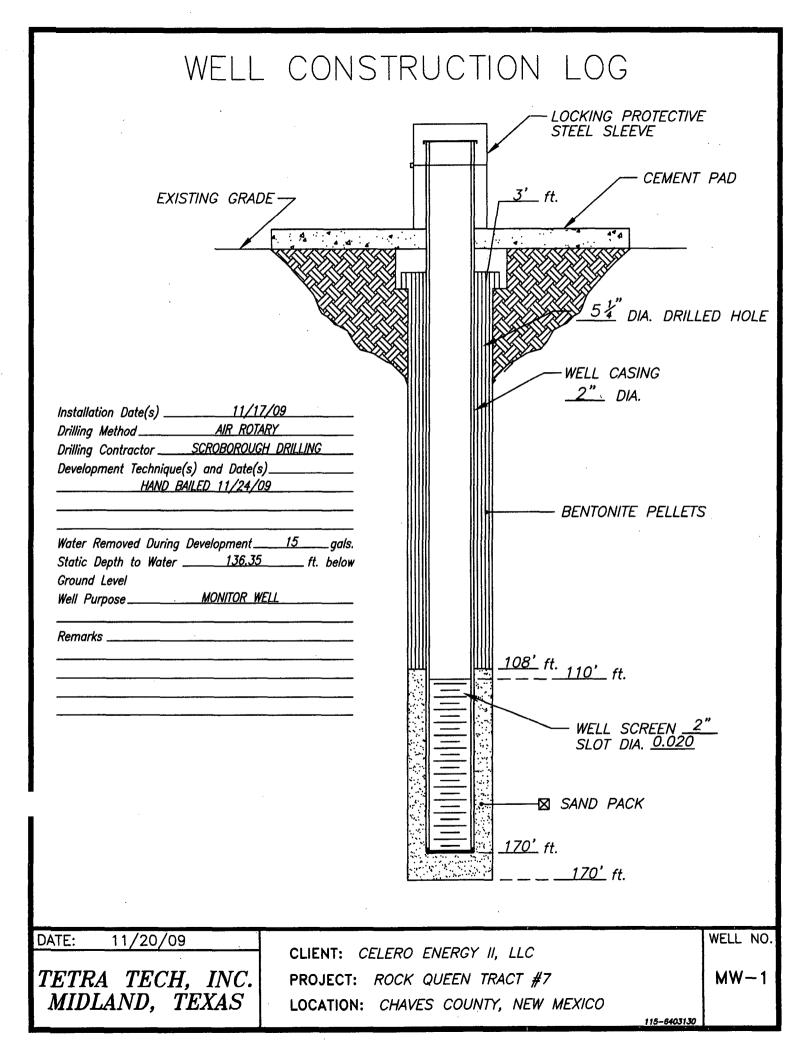
Boring/Well	RW-1
GPS	N33.172547° W103.803986°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter I, Section 2	2, Township 13 South, Range 31 East
Total Depth	155
Date Installed	12/7/10 to 12/8/10

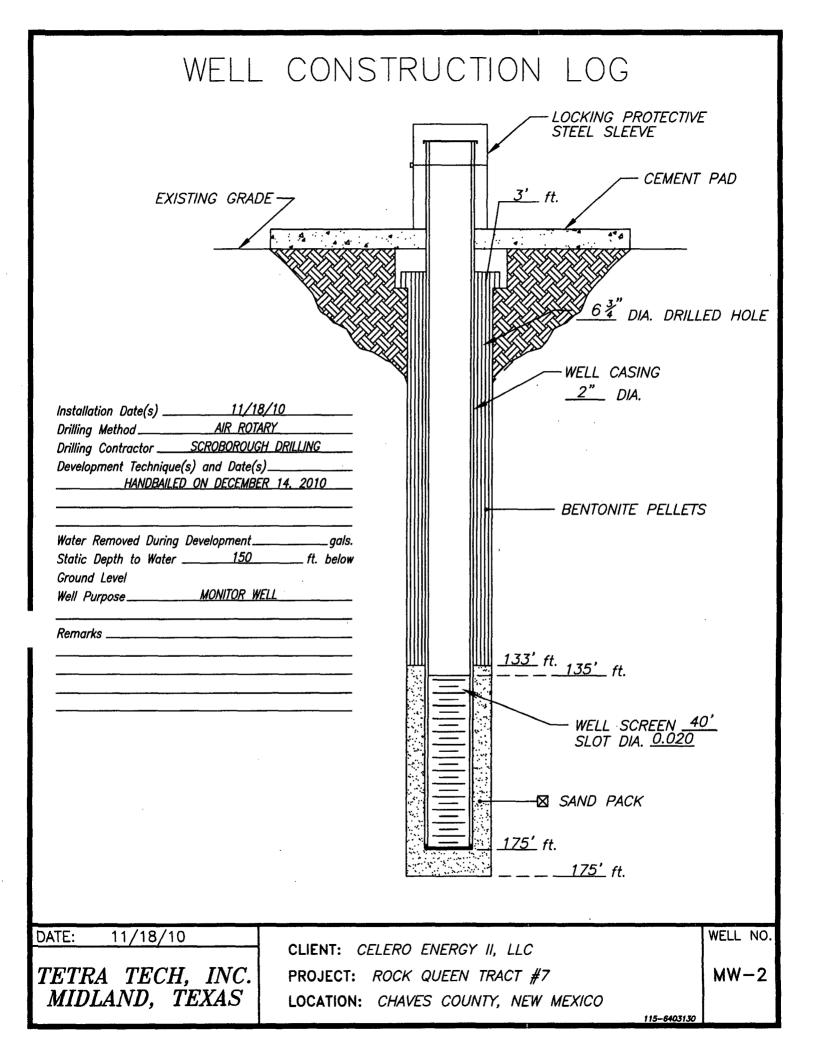
Depth (Ft)	OVM	Sample Description
5-6'		Buff limestone
10-11'		Buff to tan sandy limestone
15-16'		Tan to buff fine grain calcareous sand
20-21'		Tan fine grain well sorted calcareous sand
25-26'		Tan fine grain well sorted calcareous sand
30-31'		Tan fine grain well sorted calcareous sand
35-36'		Tan fine grain well sorted calcareous sand
40-41'	, 	Tan fine grain well sorted calcareous sand
45-46'		Tan fine grain well sorted sand
50-51'		Tan fine grain well sorted sand
55-56'		Tan fine grain well sorted sand
60-61'		Tan fine grain well sorted sand
65-66'	·	Tan fine grain well sorted sand
70-71'		Tan fine grain well sorted sand
75-76'		Tan fine grain well sorted sand
80-81'	N	Tan fine grain well sorted sand
85-86'		Tan fine grain well sorted sand
90-91'		Tan fine grain well sorted sand
95-96'		Tan fine grain well sorted sand
100-101'		Tan fine grain sand with gravel
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 with gravel
125-126'		Tan fine grain sand with gravel

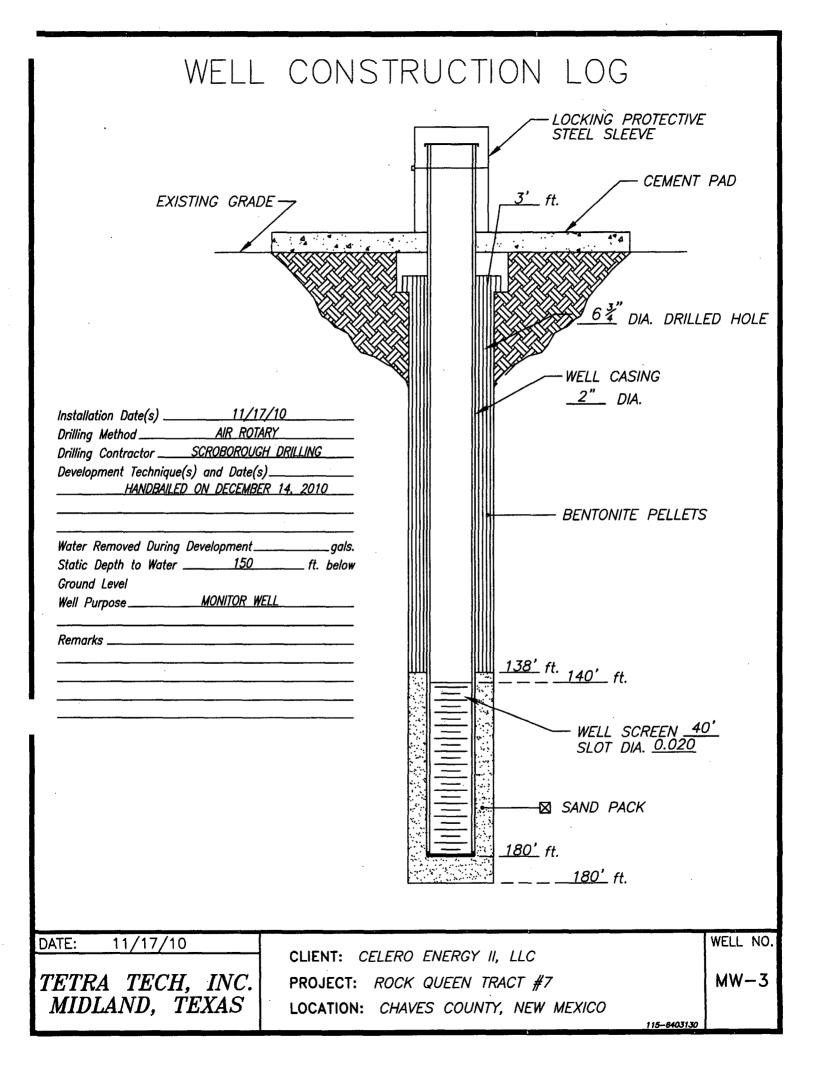
Boring/Well	RW-1
GPS	N33.172547° W103.803986°
Project Number	115-6403130A
Client	Celero Energy II, LP
Site Name	Rock Queen Unit Tract #7 Tank Battery
Site Location	Chaves, New Mexico
Letter I, Section 2	22, Township 13 South, Range 31 East
Total Depth	155
Date Installed	12/7/10 to 12/8/10

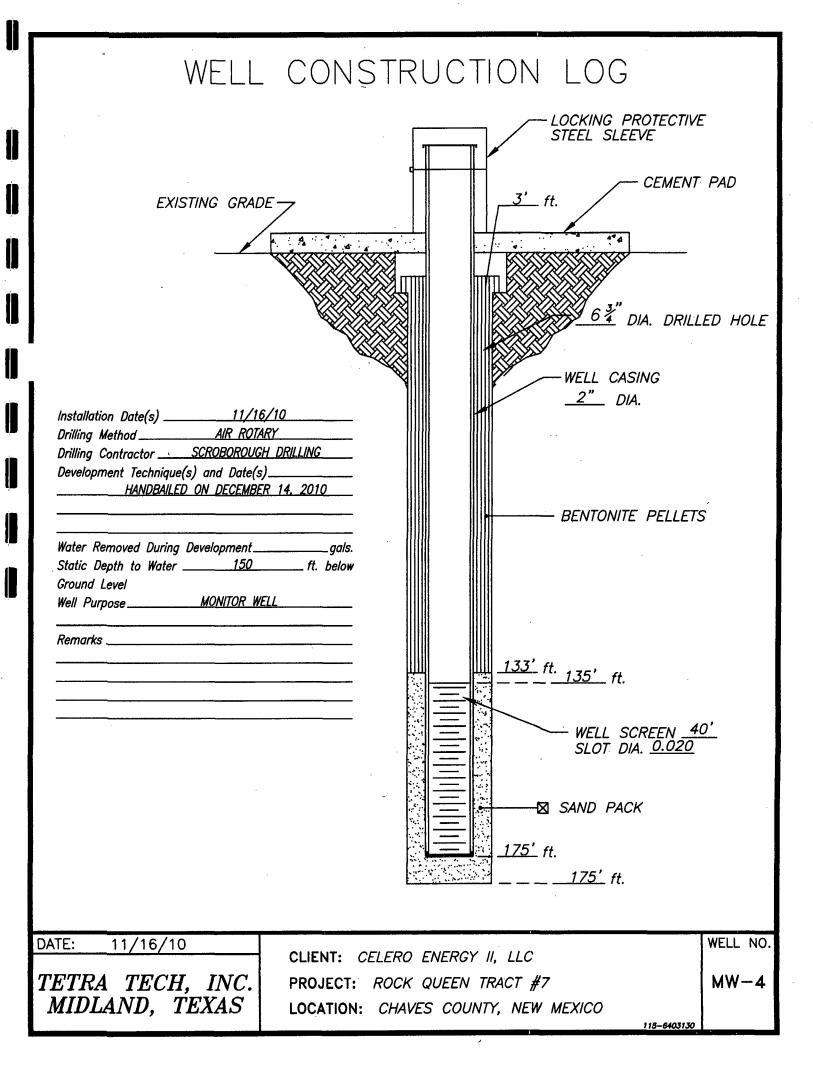
Total Depth:	155'	Ground water depth not encountered while drilling.
155-156'		Tan to red clay
150-151'		Tan to red clay
145-146'		Tan fine grain sand with gravel
140-141'		Tan fine grain sand with gravel
135-136'		Tan fine grain sand with gravel
130-131'		Tan fine grain sand with gravel

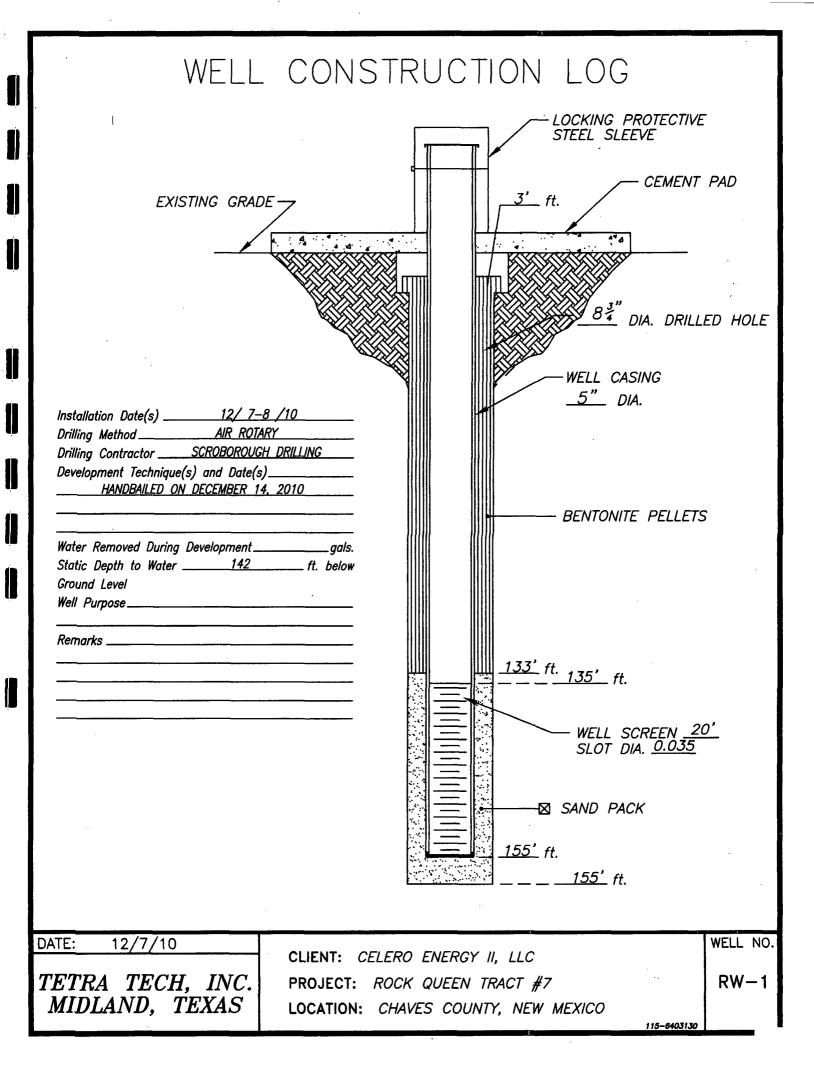
APPENDIX B MONITOR WELL INSTALLATION DIAGRAMS











APPENDIX C LABORATORY ANALYSIS

MULLING MULLING TRACEANALYSIS, INC. MULLING MULLING

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

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

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

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: December 7, 2009

Work Order: 9112520

Project Location:Chavez Co., NMProject Name:Celero/Tract 7Project Number:115-6403130A

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
215843	MW-1	water	2009-11-24	14:45	2009-11-25

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

Michael abul

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/Tract 7 were received by TraceAnalysis, Inc. on 2009-11-25 and assigned to work order 9112520. Samples for work order 9112520 were received intact without headspace and at a temperature of 3.2 deg. C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
Alkalinity	SM 2320B	56132	2009-12-01 at 10:04	65677	2009-12-01 at 16:04
BTEX	S 8021B	56178	2009-12-02 at 10:28	65725	2009-12-02 at 10:28
Ca, Dissolved	S 6010B	56137	2009-12-02 at 09:55	65745	2009-12-03 at 14:57
Chloride (IC)	E 300.0	56093	2009-11-30 at 12:22	65660	2009-12-01 at 08:59
Hardness	S 6010B	56137	2009-12-02 at 09:55	65745	2009-12-03 at 14:57
K, Dissolved	S 6010B	56137	2009-12-02 at 09:55	65745	2009-12-03 at 14:57
Mg, Dissolved	S 6010B	56137	2009-12-02 at 09:55	65745	2009-12-03 at 14:57
Na, Dissolved	S 6010B	56137	2009-12-02 at 09:55	65745	2009-12-03 at 14:57
$_{\rm pH}$	SM 4500-H+	56049	2009-11-25 at 11:09	65589	2009-11-25 at 12:09
SO4 (IC)	E 300.0	560 93	2009-11-30 at 12:22	65660	2009-12-01 at 08:59
TDS	SM 2540C	56115	2009-12-01 at 10:13	65808	2009-12-07 at 14:46

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 9112520 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.

Analytical Report

Sample: 215843 - MW-1

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	65677	Date Analyzed:	2009-12-01	Analyzed By:	AR
Prep Batch:	56132	Sample Preparation:	2009-12-01	Prepared By:	AR
		BL .			

Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Alkalinity	· · · · · · · ·	<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		114	mg/L as CaCo3	1	· 4.00
Total Alkalinity		114	mg/L as CaCo3	1	4.00

Sample: 215843 - MW-1

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 65725 56178		Analytical l Date Analy Sample Pre	zed:	S 8021B 2009-12-02 2009-12-02		Prep Meth Analyzed Prepared	By: tn
Benzene <0.00100 mg/L 1 0.00100 Toluene <0.00100				R	L				
Toluene <0.00100 mg/L 1 0.00100 Ethylbenzene <0.00100	Parameter	Fl	ag	Resu	lt	Units	D	lution	\mathbf{RL}
Toluene <0.00100 mg/L 1 0.00100 Ethylbenzene <0.00100	Benzene	· · · · · · · · · · · · · · · · · · ·		< 0.0010	0	mg/L		1	0.00100
Xylene<0.00100mg/L10.00100SpikePercentSpikePercentRecoverySurrogateFlagResultUnitsDilutionAmountRecoveryLimits	Toluene			< 0.0010	0			1	0.00100
Xylene<0.00100mg/L10.00100SurrogateFlagResultUnitsDilutionAmountRecoveryLimits	Ethylbenzene	2		< 0.0010	0	mg/L		1	0.00100
Surrogate Flag Result Units Dilution Amount Recovery Limits	Xylene			< 0.0010	0			1	0.00100
		,					Spike	Percent	Recovery
Trifluorotoluene (TFT) 0.103 mg/L 1 0.100 103 70.9 - 119.8	Surrogate		Flag	Result	Units	Dilution	. *	Recovery	Limits
	Trifluorotolue	ene (TFT)		0.103	mg/L	1	0.100	103	70.9 - 119.8
4-Bromofluorobenzene (4-BFB) 0.0881 mg/L 1 0.100 88 68.1 - 118.8	4-Bromofluor	obenzene (4-BFB)	0.0881		1	0.100	88	68.1 - 118.8

Sample: 215843 - MW-1

	•			continued	
Dissolved Calcium		1730	mg/L	10 .	1.00
Parameter	Flag	RL Result	Units	Dilution	\mathbf{RL}
Laboratory:LubbockAnalysis:CationsQC Batch:65745Prep Batch:56137		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method: Analyzed By: Prepared By:	RR

Report Date: December 7, 200 115-6403130A	9	Work Order Celero/T		0	nber: 5 of 15 wez Co., NM	
sample 215843 continued						
		RL				
Parameter	Flag	Result	Units	Dilution	RL	
Dissolved Potassium		15.3	mg/L	1	1.00	
Dissolved Magnesium		430	mg/L	10	1.00	
Dissolved Sodium		585	mg/L	10	1.00	

Sample: 215843 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 65660 56093	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2009-12-01 2009-11-30	Prep Method: Analyzed By: Prepared By:	AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		4690	mg/L	500	0.500

Sample: 215843 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Hardness 65745 56137	•	Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method: Analyzed By: Prepared By:	RR
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Hardness (by	ICP)		6100	mg eq CaCO3/L	1	0.00

Sample: 215843 - MW-1

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Laboratory: Analysis: QC Batch: Prep Batch:	pH 65589		Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2009-11-25 2009-11-25	Prep Method: Analyzed By: Prepared By:	AR
Danamatan	т	Place	RL	Unita	Dilution	RL
Parameter pH	1	Flag	Result 7.55	Units s.u.	1	0.00

Report Date: Decembe 115-6403130A	r 7, 2009		er: 9112520 /Tract 7		mber: 6 of 15 avez Co., NM
Sample: 215843 - M	W-1				
Laboratory: Midland Analysis: SO4 (IC) QC Batch: 65660 Prep Batch: 56093		Analytical Method: Date Analyzed: Sample Preparation	E 300.0 2009-12-01 : 2009-11-30	Prep Me Analyze Prepare	
~	1-1	RL	* * •.		DI
Parameter Sulfate	Flag	Result 150	Units mg/L	Dilution 5	RL 0.500
Sample: 215843 - M	W-1	,			
Laboratory: Midland Analysis: TDS QC Batch: 65808 Prep Batch: 56115		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2009-12-07 2009-12-01	Prep Me Analyze Prepare	d By: AR
Parameter Total Dissolved Solids	Flag	RL Result 9100	Units mg/L	Dilution 100	RL 10.0
Method Blank (1) QC Batch: 65660 Prep Batch: 56093	QC Batch: 65660	~	2009-12-01 2009-11-30		ed By: AR ed By: AR
Parameter	Flag	MD Resu		Units	RL
Chloride		<0.4		mg/L	0.5
Method Blank (1)	QC Batch: 65660				
QC Batch: 65660 Prep Batch: 56093		•	2009-12-01 2009-11-30	Analyze Prepare	
Parameter	Flag	MD Resu	ılt	Units	RL
Sulfate		< 0.2	17	mg/L	0.5

eport Date: December 7, 2009 15-6403130A		Work Order: 9112520 Celero/Tract 7			Page Number: 7 of 15 Chavez Co., NM		
ch: 65677							
							vzed By: AR ared By: AR
					T mit a		DI
Flag				ma			RL1
							1
							4
							4
ch: (65725					ì		
	Data An	olugod.	2000 12 04	ı		Ano	lunad Duy to
QC Batch: 65725 Prep Batch: 56178		•					lyzed By: tn bared By: tn
	QC 1 lep	arauon.	2009-12-02	2		1 161	area by. an
			MDL				
Flag							RL
							0.001
							$0.001 \\ 0.001$
							0.001
						,	
Flag	Result	Units	Dilutio				Recovery Limits
	0.108	mg/L	1				73.6 - 116.6
	0.0928	mg/L	1	0.100		93	70.6 - 107.5
ch: 65745							
	Date Ana	lyzed:	2009-12-03			Analy	zed By: RR
			2009-12-02			Prepa	red By: KV
			MDL				
Flag	5		Result				RL
			< 0.117				1
	•						1
							1 1
	ch: 65745	Flag Flag ch: 65725 Flag Flag Flag Result 0.108 0.0928 ch: 65745 Date Ana	Date Analyzed: QC Preparation: Flag Ra	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

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Report Date: December 115-6403130A	7, 2009		rder: 9112520 co/Tract 7		Page Number: Chavez C	
Method Blank (1)	QC Batch: 65808					
QC Batch: 65808 Prep Batch: 56115		Date Analyzed: QC Preparation:	2009-12-07 2009-12-01		Analyzed By: Prepared By:	
		ge i reparation.				
Parameter	ורו		MDL	Units		\mathbf{RL}
Total Dissolved Solids	Fla	g	Result	mg/L		<u>10</u>
		-			· · · · · · · · · · · · · · · · · · ·	
Duplicates (1) Dup	licated Sample: 2158	43				
QC Batch: 65589		Date Analyzed:	2009-11-25		Analyzed By:	AR
Prep Batch: 56049		QC Preparation:	2009-11-25		Prepared By:	
						מתת
Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	7.61	7.55	<u>S.u.</u>	1	1	1.5
•						
Duplicates (1) Dup	licated Sample: 2158	43		-		
QC Batch: 65677		Date Analyzed:	2009-12-01		Analyzed By:	
Prep Batch: 56132		QC Preparation:	2009-12-01		Prepared By:	AR
	Duplicat	e Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo	3 1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo		0	. 20
Bicarbonate Alkalinity	95.0	114	mg/L as CaCo		18	20
Total Alkalinity	95.0	114	mg/L as CaCo	3 · 1	18	20
Duplicates (1) Dup	licated Sample: 2158	43				
QC Batch: 65808		Date Analyzed:	2009-12-07		Analyzed By:	AR
Prep Batch: 56115		QC Preparation:	2009-12-01		Prepared By:	
~	Dupli			2013	DDD	RPD
Param	Resu			Dilution	RPD	Limit
Total Dissolved Solids	950	0 9100	mg/L	100	4	10
	pike (LCS-1)					
Laboratory Control S						٨D
1		Date Analyzed:	2009-12-01		Analyzed By:	An
Laboratory Control S QC Batch: 65660 Prep Batch: 56093		Date Analyzed: QC Preparation:	2009-12-01 2009-11-30		Analyzed By: Prepared By:	

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Report Date: December 7, 2009 115-6403130A				rder: 9112 ro/Tract 7	520		Page		r: 9 of 15 Co., NM
	\mathbf{LC}	S			Spike	Mat	trix		Rec.
Param	Rest		Units	Dil.	Amount	Res		ec.	Limit
Chloride	26.	1	mg/L	1	25.0	<0.4	475 1	04	90 - 110
Percent recovery is based on the sp	pike result.	RPD is	based on	the spike a	nd spike du	iplicate re	esult.		
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	26.0	mg/L	1	25.0	< 0.475	104	90 - 110	0	
Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093	·		nalyzed: eparation:	2009-12-0 2009-11-3				alyzed E pared E	
Dama an	LC		TT.::4-		Spike	Mat			Rec.
Param Sulfate	Resu 24.		Units	Dil.	Amount 25.0	Res <0.2		ec7	Limit 90 - 110
Sunate		ა	mg/L	1	20.0				90 - 110
n , , , , , , , , , , , , , , , , , , ,	•1 1. •		1 1	.1 .1	1 1 1				
Percent recovery is based on the sp	pike result.	RPD is	based on	the spike a	nd spike du	plicate re	esult.		
Percent recovery is based on the sp	pike result. I	RPD is	based on	the spike a Spike	nd spike du Matrix	plicate re	esult. Rec.		RPD
	-	RPD is Units	based on Dil.	Spike Amount	Matrix Result	Rec.		RPD	RPD Limit
Percent recovery is based on the sp Param Sulfate	LCSD			Spike	Matrix	-	Rec.	RPD 2	
Param Sulfate Percent recovery is based on the sj	LCSD Result 24.8 pike result.	Units mg/L	Dil.	Spike Amount 25.0	Matrix Result <0.217	Rec. 99	Rec. Limit 90 - 110		
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC	LCSD Result 24.8 pike result.	Units mg/L RPD is	Dil. 1 based on	Spike Amount 25.0	Matrix Result <0.217 nd spike du	Rec. 99	Rec. Limit 90 - 110 esult.	2	Limit
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725	LCSD Result 24.8 pike result.	Units mg/L RPD is Date A	Dil.	Spike Amount 25.0 the spike an 2009-12-0	Matrix Result <0.217 nd spike du	Rec. 99	Rec. Limit 90 - 110 esult.		Limit By: tn
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725	LCSD Result 24.8 pike result.	Units mg/L RPD is Date A	Dil. 1 based on nalyzed:	Spike Amount 25.0 the spike an 2009-12-0 2009-12-0	Matrix Result <0.217 nd spike du	Rec. 99 plicate re	Rec. Limit 90 - 110 esult.	2 nalyzed	Limit By: tn By: tn
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725 Prep Batch: 56178	LCSD Result 24.8 pike result. 2S-1)	Units mg/L RPD is Date A QC Pr	Dil. 1 based on nalyzed: eparation:	Spike Amount 25.0 the spike an 2009-12-0 2009-12-0 S	Matrix Result <0.217 nd spike du 02 02 pike	Rec. 99 plicate re	Rec. Limit 90 - 110 soult. An Pr	2 nalyzed epared	Limit By: tn By: tn Rec.
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725 Prep Batch: 56178 Param	LCSD Result 24.8 pike result. 2S-1) LCS Result	Units mg/L RPD is Date A QC Pro	Dil. 1 based on nalyzed: eparation: nits I	Spike Amount 25.0 the spike an 2009-12-0 2009-12-0 Spil. An	Matrix Result <0.217 nd spike du 02 02 pike nount	Rec. 99 plicate re Matrix Result	Rec. Limit 90 - 110 esult. An Pr Rec.	2 nalyzed epared 1	Limit By: tn By: tn Rec. Limit
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725 Prep Batch: 56178 Param Benzene	LCSD Result 24.8 pike result. 2S-1)	Units mg/L RPD is Date A QC Pro t U	Dil. 1 based on nalyzed: eparation: nits I g/L	Spike Amount 25.0 the spike an 2009-12-0 2009-12-0 2009-12-0 Spil. An 1 0	Matrix Result <0.217 nd spike du 02 02 pike nount .100	Rec. 99 plicate re	Rec. Limit 90 - 110 soult. An Pr Rec. 0 98	2 nalyzed epared 7 79.	Limit By: tn By: tn Rec.
Param Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 65725	LCSD Result 24.8 pike result. 2S-1) LCS Result 0.0980	Units mg/L RPD is Date A QC Pro t U) m 3 m	Dil. 1 based on nalyzed: eparation: nits I	Spike Amount 25.0 the spike an 2009-12-0 2009-12-0 Spil. An 1 0 1 0	Matrix Result <0.217 nd spike du 02 02 pike nount .100	Rec. 99 plicate re Matrix Result <0.000300	Rec. Limit 90 - 110 esult. An Pr Rec. 0 98 0 97	2 nalyzed repared 7 79. 79	Limit By: tn By: tn Rec. Limit 4 - 111.8

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

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Param	$\begin{array}{c} { m LCSD} \\ { m Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.100	mg/L	1	0.100	< 0.000300	100	79.4 - 111.8	2	20
Toluene	0.100	mg/L	1	0.100	< 0.000200	100	79.3 - 110	3	20
Ethylbenzene	0.0994	mg/L	1	0.100	< 0.000200	99	73.8 - 113.1	2	20
Xylene	0.296	mg/L	1	0.300	<0.000900	99	73.9 - 113.6	2	20

Report Date: December 7, 2009	Work Order: 9112520	Page Number: 10 of 15
115-6403130A	Celero/Tract 7	Chavez Co., NM

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)	0.104	0.102	mg/L	1	0.100	104	102	76.2 - 119.6
4-Bromofluorobenzene (4-BFB)	0.0938	0.0926	mg/L	1	0.100	94	93	77.9 - 109.8

Laboratory Control Spike (LCS-1)

QC Batch:	65745	Date Analyzed:	2009-12-03	Analyzed By:	\mathbf{RR}
Prep Batch:	56137	QC Preparation:	2009-12-02	Prepared By:	KV

Deveen	LCS	T T .,	וית	Spike	Matrix	D	Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	51.9	mg/L	1	50.0	< 0.117	104	85 - 115
Dissolved Potassium	50.7	mg/L	1	50.0	< 0.172	101	85 - 115
Dissolved Magnesium	50.5	mg/L	1	50.0	< 0.160	101	85 - 115
Dissolved Sodium	51.1	mg/L	1	50.0	< 0.0500	102	85 - 115

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Calcium	50.8	mg/L	1	50.0	< 0.117	102	85 - 115	2	20
Dissolved Potassium	50.0	mg/L	1	50.0	< 0.172	100	85 - 115	1	20
Dissolved Magnesium	49.7	mg/L	1	50.0	< 0.160	99	85 - 115	2	20
Dissolved Sodium	49.7	mg/L	1	50.0	< 0.0500	99	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)

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QC Batch:	65808	Date Analyzed:	2009-12-07	Analyzed By:	AR
Prep Batch:	56115	QC Preparation:	2009-12-01	Prepared By:	\mathbf{AR}

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	972	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.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1010	mg/L	1	1000	<9.75	101	90 - 110	4	10

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

Report Date: December 7, 115-6403130A	2009				der: 91125 o/Tract 7	520		Pa	age Num Cha	ber: 1 wez Co	
Matrix Spike (MS-1)	Spiked 3	Sample: 21	.5843								
QC Batch: 65660 Prep Batch: 56093				nalyzed: eparation:	2009-12-0 2009-11-3				Analyze Prepare	-	AR AR
		M	S			Spike	Mat	rix			Rec.
Param		Res	,	Units	Dil.	Amount	Res		Rec.		Limit
Chloride		533		mg/L	5	27.5		90	2327	90	- 110
Percent recovery is based or	n the spi	ike result.	RPD is	based on t	he spike a	nd spike du	plicate r	esult.			
Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limi		PD	RPD Limit
Chloride	2	5320	mg/L		27.5	4690	2291	90 - 1		0	Dimite
Percent recovery is based or	n the spi	ike result.	RPD is	based on t	he spike a	nd spike du	plicate r	esult.			•
Matrix Spike (MS-1)	Spiked !	Sample: 21	5843								
QC Batch: 65660 Prep Batch: 56093				nalyzed: paration:	2009-12-0 2009-11-3				Analyze Prepare	-	AR AR
		M	S			Spike	Mat	rix]	Rec.
2				** •.	D .1	-					
		Res	ult	Units	Dil.	Amount	Res	ult	Rec.	I	imit
Sulfate	3	Res 25	ult 4	mg/L	5	Amount 27.5	Res 15	ult 0	Rec. 378	I	imit
Sulfate		Res 25	ult 4	mg/L	5	Amount 27.5	Res 15	ult 0		I	imit
Sulfate		Res 25	ult 4	mg/L	5	Amount 27.5	Res 15	ult 0	378	1 90	imit
Param Sulfate Percent recovery is based or Param	n the spi	Res 25 ike result. MSD Result	ult 4 RPD is Units	mg/L based on t Diĺ.	5 he spike a Spike Amount	Amount 27.5 nd spike du Matrix Result	Res 15 plicate re Rec.	ult 0 esult. Rec. Limi	378 t Rl	<u>I</u> 90	imit - 110
Sulfate Percent recovery is based or Param Sulfate	n the spi	Res 25 ike result. MSD Result 256	ult 4 RPD is <u>Units</u> mg/L	mg/L based on t Dil. 5	5 he spike a Spike Amount 27.5	Amount 27.5 nd spike du Matrix Result 150	Res 15 plicate re <u>Rec.</u> 385	ult 0 esult. Rec. Limi 90 - 1	378 t Rl	<u>I</u> 90	imit - 110 RPD
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or	n the spi 4 n the spi	Res 25 ike result. MSD Result 256	ult 4 RPD is Units mg/L RPD is	mg/L based on t Dil. 5	5 he spike a Spike Amount 27.5	Amount 27.5 nd spike du Matrix Result 150	Res 15 plicate re <u>Rec.</u> 385	ult 0 esult. Rec. Limi 90 - 1	378 t Rl	1 90 2D	imit - 110 RPD
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725	n the spi 4 n the spi	Result ike result. MSD Result 256 ike result.	ult 4 RPD is Units mg/L RPD is 5919 Date A	mg/L based on t Dil. 5 based on t	5 he spike a Amount 27.5 he spike a 2009-12-	Amount 27.5 nd spike du Matrix Result 150 nd spike du	Res 15 plicate re <u>Rec.</u> 385	ult 0 esult. Rec. Limi 90 - 1	378 t RI 10 Analyz	L 90 PD 1	imit - 110 RPD Limit
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725	n the spi 4 n the spi	Result ike result. MSD Result 256 ike result.	ult 4 RPD is Units mg/L RPD is 5919 Date A	mg/L based on t Dil. 5 based on t	5 he spike a Amount 27.5 he spike a	Amount 27.5 nd spike du Matrix Result 150 nd spike du	Res 15 plicate re <u>Rec.</u> 385	ult 0 esult. Rec. Limi 90 - 1	378 t R1 10	L 90 PD 1	imit - 110 RPD Limit
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725	n the spi 4 n the spi	Result ike result. MSD Result 256 ike result.	ult 4 RPD is Units mg/L RPD is 5919 Date A	mg/L based on t Dil. 5 based on t	5 he spike a Amount 27.5 he spike a 2009-12- 2009-12-	Amount 27.5 nd spike du Matrix Result 150 nd spike du	Res 15 plicate re <u>Rec.</u> 385	ult 0 esult. Rec. Limi 90 - 1 esult.	378 t RI 10 Analyz	L 90 PD 1	imit - 110 RPD Limit tn
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725 Prep Batch: 56178 Param	n the spi 4 n the spi	Resi 25 ike result. MSD Result 256 ike result. Sample: 21 MS Resul	ult 4 RPD is Units mg/L RPD is 5919 Date A QC Pre-	mg/L based on t Dil. 5 based on t nalyzed: eparation: Jnits	5 he spike a <u>Spike</u> <u>Amount</u> 27.5 he spike a 2009-12- 2009-12- 2009-12-	Amount 27.5 nd spike du Matrix Result 150 nd spike du 02 02 Spike mount	Res 15 plicate re 385 plicate re Matrix Result	ult 0 esult. Rec. Limi 90 - 1 esult.	378 t RJ 10 Analyz Prepar	I 90 PD 1 sed By: red By: Re Lin	imit - 110 RPD Limit tn tn ec. nit
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725 Prep Batch: 56178 Param Benzene	n the spi 4 n the spi	Res 25 ike result. MSD Result 256 ike result. Sample: 21 MS Resul 13.9	ult 4 RPD is Units mg/L RPD is 5919 Date A QC Pro- ut U	mg/L based on t Dil. 5 based on t nalyzed: eparation: Units ng/L	5 he spike a <u>Spike</u> <u>Amount</u> 27.5 he spike a 2009-12- 2009-12- 2009-12- 009-12- 50	Amount 27.5 nd spike du Matrix Result 150 nd spike du 02 02 Spike mount 5.00	Res 15 plicate re 385 plicate re Matrix Result 8.779	ult 0 esult. Limi 90 - 1 esult. R 1	378 t Rl 10 Analyz Prepar Lec. .02	I 90 PD I sed By: red By: Re Lin 77.3 -	rimit - 110 RPD Limit timit tn ec. nit 117.4
Sulfate Percent recovery is based or Param Sulfate Percent recovery is based or Matrix Spike (MS-1) QC Batch: 65725 Prep Batch: 56178 Param	n the spi 4 n the spi	Resi 25 ike result. MSD Result 256 ike result. Sample: 21 MS Resul	ult 4 RPD is <u>Units</u> mg/L RPD is 5919 Date A QC Pro- lt U n n	mg/L based on t Dil. 5 based on t nalyzed: eparation: Jnits	5 he spike a <u>Spike</u> <u>Amount</u> 27.5 he spike a 2009-12- 2009-12- 2009-12-	Amount 27.5 nd spike du Matrix Result 150 nd spike du 02 02 Spike mount	Res 15 plicate re 385 plicate re Matrix Result	ult 0 esult. Limi 90 - 1 esult. R 1	378 t RJ 10 Analyz Prepar	I 90 PD 1 sed By: red By: Re Lin	imit - 110 RPD Limit timit tn ec. nit 117.4 i11.8

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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.

Report Date: December 7, 2009 115-6403130A				Order: 91 elero/Tract				Page I		12 of 15 Co., NM																																	
					- <u></u>	<u> </u>																																					
matrix spikes continued	MS	ł			Spike	M	atrix		•	Rec.																																	
Param	Resu		Units	Dil.	Amount		esult	Rec.		Limit																																	
Xylene	14.5		mg/L	50	15.0		.0450	97		.9 - 114																																	
Percent recovery is based on the																																											
	MSD			Spike	Matrix		-	Rec.		RPD																																	
Param	Result	Units	Dil.	Amount	Result	Rec.		imit	RPD	Limit																																	
Benzene	13.6	mg/L	50	5.00	8.779	96		- 117.4	2	20																																	
Toluene	4.72	mg/L	50	5.00	< 0.0100	94		- 111.8	3	20																																	
Ethylbenzene	5.08	mg/L	50	5.00	0.2906	96		- 106.6	3	20																																	
Xylene	14.1	mg/L	50	15.0	< 0.0450	94	68.	9 - 114	3	20																																	
Percent recovery is based on the s	spike result.	RPD is	s based o	on the spik	e and spike	duplica	te resu	lt.																																			
	MS	1	MSD		S	pike	MS	MSI)	Rec.																																	
										r · · ·																																	
	Resu		tesult	Units	Dil. An	nount	Rec.	Rec.		Limit																																	
Trifluorotoluene (TFT)	Resu 5.43	lt R	tesult 5.26	mg/L	50	nount 5	109	105	76.	3 - 109.8																																	
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike	Resu	lt R 3 4	tesult						76.																																		
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	Resu 5.43 4.74 d Sample: 21	lt R 3 4 4 15149 Date A	tesult 5.26	mg/L mg/L l: 2009-1	50 50	5	109	105 93 Ana	76.	3 - 109.8 2 - 112.8 y: RR																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745	Resu 5.43 4.74 d Sample: 21	lt R 3 4 15149 Date A QC Pr	tesult 5.26 4.63 Analyzed	mg/L mg/L l: 2009-1	50 50 12-03 12-02	5	109 95	105 93 Ana Pre	76.: 75.: alyzed B	3 - 109.8 2 - 112.8 y: RR y: RR																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 65745 Prep Batch: 56137	Resu 5.43 4.74 d Sample: 21	11t R 3	tesult 5.26 4.63 Analyzed eparatio	mg/L mg/L l: 2009-1 on: 2009-1	50 50 12-03 12-02 Spike	5	109 95 Matrix	105 93 Ana Pre	76.: 75.: alyzed Bj pared By	3 - 109.8 2 - 112.8 y: RR y: KV Rec.																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 65745 Prep Batch: 56137 Param	Resu 5.43 4.74 d Sample: 21 MS Resu	llt R 3 4 15149 Date A QC Pr S ult	tesult 5.26 4.63 Analyzed eparatio Units	mg/L mg/L l: 2009-1 on: 2009-1 Dil.	50 50 12-03 12-02 Spike Amoun	5	109 95 Matrix Result	105 93 Ana Pre	76.: 75.: alyzed B pared By ec.	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 65745 Prep Batch: 56137	Resu 5.43 4.74 d Sample: 21 MS Resu 10	lt R 3 4 15149 Date A QC Pr S ult	tesult 5.26 4.63 Analyzed eparatio Units mg/L	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1	50 50 12-03 12-02 Spike Amoun 50.0	5	109 95 Matrix Result 54.7	105 93 Ana Pre Ra 9	76.: 75.: alyzed B pared B pared B 9	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium	Resu 5.43 4.74 d Sample: 21 MS Resu 10 53.	lt R 3 . 4 . 15149 Date A QC Pr S ult 4 .0	Analyzed eparatio Units mg/L mg/L	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1	50 50 12-03 12-02 Spike Amoun 50.0 50.0	5	109 95 Matrix Result 54.7 2.85	105 93 Ana Pre Ra 9 10	76.: 75.: alyzed By pared By ec. 9 00	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium	Resu 5.43 4.74 d Sample: 21 MS Resu 10	It R 3 4 4 4 15149 0 Date A QC Pr S ult 0 .0	tesult 5.26 4.63 Analyzed eparatio Units mg/L	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1	50 50 12-03 12-02 Spike Amoun 50.0	5	109 95 Matrix Result 54.7	105 93 Ana Pre Ra 9	76.: 75.: pared By pared By ec. 9 00 6	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium	Resu 5.43 4.74 d Sample: 21 MS Resu 10 53. 88. 19	lt R 3 4 15149 Date A QC Pr S ult 4 .0 .0 99	Analyzed eparatio Units mg/L mg/L mg/L	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0	5 5	109 95 Matrix Result 54.7 2.85 40 150	105 93 Ana Pre Ra 9 10 9 9	76.: 75.: pared By pared By ec. 9 00 6	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium	Resu 5.43 4.74 d Sample: 21 MS Resu 10 53. 88. 19	lt R 3 4 15149 Date A QC Pr S ult 4 .0 .0 99	Analyzed eparatio Units mg/L mg/L mg/L	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 0 n the spike	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 e and spike	5 5 ut duplica	109 95 Matrix Result 54.7 2.85 40 150 .te resul	105 93 Ana Pre Ra 9 10 9 9	76.: 75.: pared By pared By ec. 9 00 6	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium	Resu 5.43 4.74 d Sample: 21 M Resu 10 53. 88. 19 spike result.	lt R 3 4 15149 Date A QC Pr S ult 4 .0 .0 99	Analyzed eparatio Units mg/L mg/L mg/L s based o	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 0n the spike Spike	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 e and spike Matrix	5 5 ut duplica	109 95 Matrix Result 54.7 2.85 40 150 te result	105 93 Ana Pre Ra 9 10 9 11 9	76.: 75.: pared By pared By ec. 9 00 6	3 - 109.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125																																	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium	Resu 5.43 4.74 d Sample: 21 MS 88 19 spike result. MSD	It R 3 - 4 - 15149 - Date A QC Pr S - ult - 14 - .0 - <tr td=""> <tr td=""> <t< td=""><td>Analyzed eparatio Units mg/L mg/L mg/L s based o</td><td>mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 0n the spike Spike</td><td>50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 e and spike Matrix</td><td>5 5 ut duplica</td><td>109 95 Matrix Result 54.7 2.85 40 150 te result c. 1 5 75</td><td>105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1</td><td>76.: 75.: alyzed B pared By ec. 9 00 6 8</td><td> 3 - 109.8 2 - 112.8 2 - 125 7 - 125 7</td></t<></tr><tr><td>Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Calcium</td><td>Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 19 spike result. MSD Result 102 53.3</td><td>It R 15149 Date A QC Pr S ult 4 .0 .0 9 RPD is mg/L mg/L</td><td>Analyzed eparatio Units mg/L mg/L mg/L mg/L g based c i Dil. 1 1</td><td>mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 50.0 50.0 50.0</td><td>50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 e and spike matrix nt Result</td><td>5 5 duplica</td><td>109 95 Matrix Result 54.7 2.85 40 150 te result c. 1 5 78 1 78</td><td>105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1</td><td>76. 75. 75. pared By pared By ec. 9 00 6 8 RPD</td><td>8 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20</td></tr><tr><td>Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Potassium Dissolved Potassium Dissolved Potassium Dissolved Potassium Dissolved Magnesium</td><td>Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 10 53. 88. 19 spike result. MSD Result 102 53.3 86.5</td><td>It R 15149 Date A QC Pr S ult 04 .0 .0 .9 RPD is <u>Units</u> mg/L mg/L</td><td>Analyzed eparatio Units mg/L mg/L mg/L g based c i Dil. 1 1 1 1</td><td>mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 50.0 50.0 50.0 50.0</td><td>50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.</td><td>5 5 duplica c 2 8 95 10 93</td><td>109 95 Matrix Result 54.7 2.85 40 150 te result 5 78 1 78 3 75</td><td>105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1</td><td>76.: 75.: alyzed B; pared B; ec. 9 00 6 8 8 RPD 2</td><td>3 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20 20</td></tr><tr><td>Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Calcium</td><td>Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 19 spike result. MSD Result 102 53.3</td><td>It R 15149 Date A QC Pr S ult 4 .0 .0 9 RPD is mg/L mg/L</td><td>Analyzed eparatio Units mg/L mg/L mg/L g based c i Dil. 1 1 1 1</td><td>mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 50.0 50.0 50.0</td><td>50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.</td><td>5 5 duplica c c Re 9 10</td><td>109 95 Matrix Result 54.7 2.85 40 150 te result 5 78 1 78 3 75</td><td>105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1</td><td>76.: 75.: alyzed B pared B ec. 9 00 6 8 8 RPD 2 1</td><td>8 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. 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MSD Result 102 53.3 86.5	It R 15149 Date A QC Pr S ult 04 .0 .0 .9 RPD is <u>Units</u> mg/L mg/L	Analyzed eparatio Units mg/L mg/L mg/L g based c i Dil. 1 1 1 1	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 50.0 50.0 50.0 50.0	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.	5 5 duplica c 2 8 95 10 93	109 95 Matrix Result 54.7 2.85 40 150 te result 5 78 1 78 3 75	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76.: 75.: alyzed B; pared B; ec. 9 00 6 8 8 RPD 2	3 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20 20	Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Calcium	Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 19 spike result. 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Analyzed eparatio Units mg/L mg/L mg/L s based o	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 0n the spike Spike	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 e and spike Matrix	5 5 ut duplica	109 95 Matrix Result 54.7 2.85 40 150 te result c. 1 5 75	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76.: 75.: alyzed B pared By ec. 9 00 6 8	 3 - 109.8 2 - 112.8 2 - 125 7 - 125 7	Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Calcium	Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 19 spike result. MSD Result 102 53.3	It R 15149 Date A QC Pr S ult 4 .0 .0 9 RPD is mg/L mg/L	Analyzed eparatio Units mg/L mg/L mg/L mg/L g based c i Dil. 1 1	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 50.0 50.0 50.0	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 e and spike matrix nt Result	5 5 duplica	109 95 Matrix Result 54.7 2.85 40 150 te result c. 1 5 78 1 78	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76. 75. 75. pared By pared By ec. 9 00 6 8 RPD	8 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20	Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Potassium Dissolved Potassium Dissolved Potassium Dissolved Potassium Dissolved Magnesium	Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 10 53. 88. 19 spike result. MSD Result 102 53.3 86.5	It R 15149 Date A QC Pr S ult 04 .0 .0 .9 RPD is <u>Units</u> mg/L mg/L	Analyzed eparatio Units mg/L mg/L mg/L g based c i Dil. 1 1 1 1	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 50.0 50.0 50.0 50.0	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.	5 5 duplica c 2 8 95 10 93	109 95 Matrix Result 54.7 2.85 40 150 te result 5 78 1 78 3 75	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76.: 75.: alyzed B; pared B; ec. 9 00 6 8 8 RPD 2	3 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20 20	Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spiked QC Batch: 65745 Prep Batch: 56137 Param Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the s Param Dissolved Calcium Dissolved Calcium Dissolved Calcium	Resul 5.43 4.74 d Sample: 21 d Sample: 21 MS 88 19 spike result. MSD Result 102 53.3	It R 15149 Date A QC Pr S ult 4 .0 .0 9 RPD is mg/L mg/L	Analyzed eparatio Units mg/L mg/L mg/L g based c i Dil. 1 1 1 1	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 50.0 50.0 50.0	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.	5 5 duplica c c Re 9 10	109 95 Matrix Result 54.7 2.85 40 150 te result 5 78 1 78 3 75	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76.: 75.: alyzed B pared B ec. 9 00 6 8 8 RPD 2 1	8 - 109.8 2 - 112.8 2 - 112.8 y: RR y: KV Rec. Limit 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 RPD Limit 20 20			
Analyzed eparatio Units mg/L mg/L mg/L s based o	mg/L mg/L l: 2009-1 on: 2009-1 Dil. 1 1 1 1 1 0n the spike Spike	50 50 12-03 12-02 Spike Amoun 50.0 50.0 50.0 50.0 e and spike Matrix	5 5 ut duplica	109 95 Matrix Result 54.7 2.85 40 150 te result c. 1 5 75	105 93 Ana Pre Ra 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 1	76.: 75.: alyzed B pared By ec. 9 00 6 8	 3 - 109.8 2 - 112.8 2 - 125 7 - 125 7																																				
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Report Dat 115-640313	te: December 7 30A	7, 2009	,	Work Order: 91 Celero/Trac		Page Number: 13 of 15 Chavez Co., NM				
Param pH	Flag	Units s.u.	ICVs True Conc. 7.00	ICVs Found Conc. 6.85	ICVs Percent Recovery 98	Percent Recovery Limits 98 - 102	Date Analyzed 2009-11-25			
Standard	(CCV-1)	**************************************								
QC Batch:			Date An	alyzed: 2009-1	1-25	Anal	lyzed By: AR			
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed			
pH	T.005	s.u.	7.00	7.15	102	98 - 102	2009-11-25			
Standard QC Batch:	•		Date An	alyzed: 2009-1	2-01	Anal	lyzed By: AR			
	_,		ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date			
Param Chloride	Flag	Units mg/L	<u> </u>	Conc. 25.0	Recovery 100	Limits 90 - 110	Analyzed 2009-12-01			
				20.0	100	90 - 110	2009-12-01			
Standard ((ICV-1)									
QC Batch:	65660		Date An	alyzed: 2009-1	2-01	Anal	lyzed By: AR			
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed			
Sulfate	1° 105	mg/L	25.0	24.4	<u>98</u>	90 - 110	2009-12-01			
Standard QC Batch:	•		Date An	alyzed: 2009-1	2-01	Anal	yzed By: AR			
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date			
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
Chloride Standard (QC Batch:		mg/L	25.0 Date Ana	24.9 alyzed: 2009-11	100 2-01	90 - 110 Anal	2009-12-01 yzed By: AR			

Report Da 115-640313	te: December 30A	7, 2009		Work Order: 9 Celero/Trac	Page Number: 14 of 15 Chavez Co., NM					
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date			
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
Sulfate	Sulfate mg/L			fate mg/L			24.0	96	90 - 110	2009-12-01

Standard (ICV-1)

QC Batch: 65677	Batch: 65677 Date Analyzed: 2009-12-01						zed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00	•	0 - 200	2009-12-01
Carbonate Alkalinity		mg/L as CaCo3	0.00	224		0 - 200	2009-12-01
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	25.0		0 - 200	2009-12-01
Total Alkalinity		mg/L as CaCo3	250	249	100	90 - 110	2009-12-01

Standard (CCV-1)

QC Batch: 65677		Date Anal	Analy	zed By: AR			
			CCVs	CCVs	\overline{CCVs}	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2009-12-01
Carbonate Alkalinity		mg/L as CaCo3	0.00	224		0 - 200	2009-12-01
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	26.0		0 - 200	2009-12-01
Total Alkalinity		mg/L as CaCo3	250	250	100	90 - 110	2009-12-01

Standard (CCV-2)

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QC Batch: 6	5725		Date Analy	zed: 2009-12-	Analyzed By: tn					
	×		CCVs	CCVs	CCVs	Percent				
			True	Found	Percent	Recovery	Date			
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
Benzene		mg/L	0.100	0.0896	90	80 - 120	2009-12-02			
Toluene		mg/L	0.100	0.0895	90	80 - 120	2009-12-02			
Ethylbenzene		mg/L	0.100	0.0883	88	80 - 120	2009-12-02			
Xylene		mg/L	0.300	0.263	88	80 - 120	2009-12-02			

Standard (CCV-3)

QC Batch: 65725

Date Analyzed: 2009-12-02

Analyzed By: tn

Report Date: De 115-6403130A	ecember 7, 20	09	Wo	ork Order: 911 Celero/Tract	Page Number: 15 of 15 Chavez Co., NM				
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Benzene	0	mg/L	0.100	0.0977	98	80 - 120	2009-12-02		
Toluene		mg/L	0.100	0.0975	98	80 - 120	2009-12-02		
Ethylbenzene		mg/L	0.100	0.0962	96	80 - 120	2009-12-02		
Xylene		mg/L	0.300	0.286	95	80 - 120	2009-12-02		

Standard (ICV-1)

QC Batch: 65745	Γ	Date Analyzed:	2009-12-03		Analy	zed By: RR	
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	52.2	104	90 - 110	2009-12-03
Dissolved Potassium		mg/L	50.0	51.2	102	90 - 110	2009-12-03
Dissolved Magnesium		mg/L	50.0	52.4	105	90 - 110	2009-12-03
Dissolved Sodium		mg/L	50.0	50.5	· 101	90 - 110	2009-12-03

Standard (CCV-1)

QC Batch: 65745		Γ	Date Analyzed:	2009-12-03		Analy	zed By: RR
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Dissolved Calcium		mg/L	50.0	52.4	105	90 - 110	2009-12-03
Dissolved Potassium		mg/L	50.0	49.7	99	90 - 110	2009-12-03
Dissolved Magnesium		mg/L	50.0	52.4	105	90 - 110	2009-12-03
Dissolved Sodium		mg/L	50.0	50.5	101	90 - 110	2009-12-03

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					R		TE 1910 Midla (432) 6	N. E Ind,	3ig S Tex	Spri as 7	ing 797	St. 05											E (Evt to C36)	1	r Pb Hg	1 Vr Pd Hg Se							hod		DS ¹		
CLIENT NAM									IAGEI							RS F	Τ	PF			ATIV	E	100	2	3a Cc	Ba Cd			/624	0/625					Hid		
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LAB I.D. NUMBER	DATE 2009		MATRIX									Co. FICAT				NUMBER OF CONTAINERS	FILTERED (V/N)	HCL	HN03	ICE	AONE		BTEX 8021B J	PAH 8270	RCRA Metals Ag As Ba Cd C	TCLP Metals Ag	TCLP Volatiles	RCI 38111	GC.MS Vol. 8	GC.MS Semi. Vol. 8270/625	PCB's 8080/	L'Entrude	Gamma Spec.	Alpha Beta (PLM (Asbestos) Major Anions/Cations, pHj (105		
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6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800+378+1296 806+794+1296 FAX 806+794+1298

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

El Paso, Texas 79922 888-588-3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com 806-794-1296 FAX 8 915-585-3443 FAX 9 432-689-6301 FAX 4 817-201-5260

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

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 9, 2010

Work Order: 10022632

Project Location:Chavez County, NMProject Name:Celero/Rock Queen #7 TBProject Number:115-6403130

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
223829	MW-1 .	water	2010-02-25	16:40	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 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

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

Standard Flags

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

Page 2 of 15

Case Narrative

Samples for project Celero/Rock Queen #7 TB were received by TraceAnalysis, Inc. on 2010-02-26 and assigned to work order 10022632. Samples for work order 10022632 were received intact without headspace and at a temperature of 2.6 C.

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
Alkalinity	SM 2320B	58086	2010-03-01 at 08:24	67894	2010-03-01 at 15:26
BTEX	S 8021B	58101	2010-03-01 at 15:45	67911	2010-03-01 at 17:11
Ca, Dissolved	S 6010B	58109	2010-03-02 at 12:55	67940	2010-03-02 at 16:17
Chloride (IC)	E 300.0	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	58087	2010-03-01 at 12:28	67932	2010-03-02 at 11:58
TDS	SM 2540C	58134	2010-03-03 at $08:46$	68076	2010-03-08 at 16:06

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

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10022632 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 115-6403130 Work Order: 10022632 Celero/Rock Queen #7 TB Page Number: 4 of 15 Chavez County, NM

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4.00

4.00

Analytical Report

Sample: 223829 - MW-1

Laboratory:	Midland					
Analysis:	Alkalinity		Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	67894		Date Analyzed:	2010-03-01	Analyzed By:	AR
Prep Batch:	58086		Sample Preparation:	2010-03-01	Prepared By:	AR
			· RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Al	lkalinity		<1.00	mg/L as CaCo3	1	1.00
\cdot Carbonate Al	lkalinity		<1.00	mg/L as CaCo3	1	1.00

mg/L as CaCo3

mg/L as CaCo3

93.0

93.0

Sample: 223829 - MW-1

Bicarbonate Alkalinity

Total Alkalinity

Laboratory:MidlandAnalysis:BTEXQC Batch:67911Prep Batch:58101		Analytical M Date Analyz Sample Prep	zed:	S 8021B 2010-03-01 2010-03-01		Prep Metl Analyzed Prepared	By: AG
		RI	Ĺ,			·•	
Parameter Flag		Resul	t	Units	D	ilution	\mathbf{RL}
Benzene		< 0.0010	0	mg/L		1	0.00100
Toluene		< 0.0010	0	mg/L		1	0.00100
Ethylbenzene		< 0.0010	0	mg/L		1	0.00100
Xylene		< 0.0010	0	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0983	mg/L	1	0.100	98	65.9 - 129.8
4-Bromofluorobenzene (4-BFB)		0.101	mg/L	1	0.100	101	51.1 - 118.8

Sample: 223829 - MW-1

			continued	
Dissolved Calcium	8010	mg/L	1000	0.100
Parameter 1	RL - Flag Result	Units	Dilution	RL
Laboratory: Lubbock Analysis: Cations QC Batch: 67940 Prep Batch: 58109	Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2010-03-02 2010-03-02	Prep Method: Analyzed By: Prepared By:	RR

	Work Order: 1 Celero/Rock Que		Page Number: 5 of 15 Chavez County, NM						
sample 223829 continued									
	RL								
Flag	Result	Units	Dilution	RL					
	80.0	mg/L	1	0.100					
	2250	mg/L	1000	0.100					
	2860	mg/L	1000	0.100					
-	Flag	RL Flag Result 80.0 2250	RL Flag Result Units 80.0 mg/L 2250 mg/L	RL Flag Result Units Dilution 80.0 mg/L 1 2250 mg/L 1000					

Analysis: QC Batch: Prep Batch:	Chloride (IC) 67932 58087	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-03-02 2010-03-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Chloride	······································	24000	mg/L	500	0.500

Sample: 223829 - MW-1

Hardness (by	ICP)		29300	mg eq CaCO3/L	1	0.00
Parameter		Flag	RL Result	Units	Dilution	\mathbf{RL}
Prep Batch:	58109		Sample Preparation:	2010-03-02	v v	KV
Laboratory: Analysis: QC Batch:	Lubbock Hardness 67940		Analytical Method: Date Analyzed:	S 6010B 2010-03-02	Prep Method: Analyzed By:	N/A RR

Sample: 223829 - MW-1

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Analysis: QC Batch:	u .		Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2010-02-26 2010-02-26	Prep Method: Analyzed By: Prepared By:	AG
Davamatar		Fla #	RL	T: 4 -	Diation	DI
Parameter		Flag	Result	Units	Dilution	RL
pH			7.11	s.u.	1	0.00

Report Date: March 9, 20 115-6403130)10	Work Order: Celero/Rock Qu		Page Number Chavez Cou	
Sample: 223829 - MW	-1				
Laboratory: Midland					
Analysis: SO4 (IC)		Analytical Method:	E 300.0	Prep Method	l: 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		١	
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		463	mg/L	50	0.500
Sample: 223829 - MW	-1				
Laboratory Midland					
Laboratory: Midland Analysis: TDS		Analytical Method:	SM 2540C	Prep Method	l: N/A
QC Batch: 68076		Date Analyzed:	2010-03-08	Analyzed By	
Prep Batch: 58134		Sample Preparation:	2010-03-08	Prepared By	
11cp Daten. 00104		Sample i Teparadon.	2010-05-05	T Tepateu By	. Alt
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		38300	mg/L	100	10.0
	00 0 4 1 65004		· .		
Method Blank (1)	QC Batch: 67894				
QC Batch: 67894		Date Analyzed: 2)10-03-01	Analyzed B	y: AR
Prep Batch: 58086		•)10-03-01	Prepared B	
-				-	
		MD		TT 1.	
Parameter	Flag	Resu		Units	RL
Hydroxide Alkalinity		<1.(mg/L as CaCo3	1
Carbonate Alkalinity Bicarbonate Alkalinity		<1.0 <4.0		mg/L as CaCo3	1
Total Alkalinity		<4.(<4.(mg/L as CaCo3 mg/L as CaCo3	4 4
Method Blank (1)	QC Batch: 67911				
QC Batch: 67911		Date Analyzed: 20)10-03-01	Analyzed B	: AG
Prep Batch: 58101		•)10-03-01	Prepared By	
TTOP DURING OCTOT		wo i roparation. 20	10-00-01	Tropared D	
Deveneeten	T 21			Tinita	זת
Parameter Benzene	Flag	Res <0.000		Units mg/L	$\frac{\text{RL}}{0.001}$
DEUZEIIE		< 11 (16)		(110 / L.	111011

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Report Date: March 9, 115-6403130	, 2010		er: 10022632 Queen #7 TB	Page Number: 7 of 1 Chavez County, NM				
method blank continued	!							
			MDL					
Parameter	Flag		Result	Uni			RL	
Toluene			00200	mg			0.001	
Ethylbenzene			00200	mg_{i}			0.001	
Xylene		<0.0	00900	mg,	/L		0.001	
Surrogate	Flag	Result Units	Dilution	Spike Amount	Percent Recovery	Reco Lin	overy nits	
Irifluorotoluene (TFT)		0.0991 mg/L	· ·	0.100	99	73.6 -	126.6	
-Bromofluorobenzene (4-BFB)		0.102 mg/L		0.100	102	62.6 -	117.5	
			offern or	··· · · · · · · · · · · · · · · · · ·				
Method Blank (1)	QC Batch: 67932							
QC Batch: 67932		Date Analyzed:	2010-03-02		Analy	zed By:	\mathbf{AR}	
Prep Batch: 58087		QC Preparation:	2010-03-01			ared By:	AR	
			(D.)					
Parameter	Flow		1DL	TT:	4-		זס	
Chloride	Flag		sult .475	Uni mg,			$\frac{\text{RL}}{0.5}$	
		<0	.410	iiig,	Б		0.0	
Method Blank (1)	QC Batch: 67932			•				
QC Batch: 67932		Date Analyzed:	2010-03-02		Analy	zed By:	AR	
Prep Batch: 58087		QC Preparation:				ared By:	AR	
•		v				J	_	
			IDL					
Parameter	Flag		sult	Uni			RL	
Sulfate		<0	.217	mg	L		0.5	
Method Blank (1)	QC Batch: 67940							
QC Batch: 67940		Date Analyzed:	2010-03-02		Anal	zed By:	RR	
Prep Batch: 58109		QC Preparation:	2010-03-02			ared By:	KV	
					11000		*	
	,		MDL					
Parameter	Flag	·	Result		Units		RL	
Dissolved Calcium			< 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	1	mg/L		0.1	

Report Date: March 9, 2 115-6403130	010		er: 10022632 Queen #7 TB	· · · · · · · · · · · · · · · · · · ·	Page Number: 8 of 15 Chavez County, NM		
Method Blank (1)	QC Batch: 68076						
QC Batch: 68076 Prep Batch: 58134		Date Analyzed: QC Preparation:	2010-03-08 2010-03-03			Analyzed By: Prepared By:	AR AR
Parameter	Flag	;	MDL Result		Units		RL
Total Dissolved Solids			<9.75	·]	mg/L		10
Duplicates (1) Dupli	icated Sample: 223824	4	•			. ·	
QC Batch: 67873 Prep Batch: 58060		Date Analyzed: QC Preparation:	2010-02-26 2010-02-26			Analyzed By: Prepared By:	AG AG
Param	Duplicate Result	Sample Result	Units	Dilution		RPD	RPD Limit
pH	6.22	6.24	s.u.	1 .		0	1.5
QC Batch: 67894 Prep Batch: 58086		Date Analyzed: QC Preparation:	2010-03-01 2010-03-01			Analyzed By: Prepared By:	AR AR
Param	Duplicate Result	Sample Result	Units	Dih	ition	RPD	RPD Limit
Hydroxide Alkalinity Carbonate Alkalinity	<1.00 <1.00	<1.00 <1.00	mg/L as CaCo mg/L as CaCo	o3 o3	1 1	0 0	20 20
Bicarbonate Alkalinity Total Alkalinity	192 192	194 194	mg/L as CaCo mg/L as CaCo		1 1	1 1	20 20
Duplicates (1) Dupli QC Batch: 68076 Prep Batch: 58134		3 Date Analyzed: QC Preparation:	2010-03-08 2010-03-03			Analyzed By: Prepared By:	AR AR
Param	Duplica Result			Dilutio	n	RPD	RPD Limit
Total Dissolved Solids	2240	2310	mg/L	5		3	10
Laboratory Control Sp	oike (LCS-1)						
QC Batch: 67911 Prep Batch: 58101		Date Analyzed: QC Preparation:	2010-03-01 2010-03-01			Analyzed By: Prepared By:	AG AG

Teparea Dy.

Report Date: March 9, 2010 115-6403130	Work Order: 10022632 Celero/Rock Queen #7 TB						Page Number: 9 of 15 Chavez County, NM		
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	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.

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	C Batch: 67932 rep Batch: 58087			Date Analyzed: 2010-03-02 QC Preparation: 2010-03-01				Analyzed By: AR Prepared By: AR		
Param			LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	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.

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	67932 58087		Analyzed: reparation:			Analyzed E Prepared E		
Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		23.2	mg/L	1	25.0	< 0.217	93	90 - 110

Report Date: March 9, 2010Work Order: 10022632Page Number: 10 of 15115-6403130Celero/Rock Queen #7 TBChavez County, NM

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
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:	\mathbf{RR}
Prep Batch:	58109	QC Preparation:	2010-03-02	Prepared By:	\mathbf{KV}

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit
Dissolved Calcium	52.9	mg/L	1	50.0	< 0.00216	106	85 - 115
Dissolved Potassium	51.6	mg/L	1	50.0	< 0.00645	103	85 - 115
Dissolved Magnesium	53.9	mg/L	1	50.0	< 0.00594	108	85 - 115
Dissolved Sodium	50.6	mg/L	1	50.0	< 0.00548	101	85 - 115

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit	RPD	\mathbf{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)

1

QC Batch:	68076	Date Analyzed:	2010-03-08	Analyzed By:	AR
Prep Batch:	58134	QC Preparation:	2010-03-03	Prepared By:	AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1010	mg/L	1	1000	<9.75	101	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	0	10

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

Report Date: March 9, 2 115-6403130	010	Work Order: 10022632 Celero/Rock Queen #7 TB				Page Number: 11 of 1 Chavez County, NN		
Matrix Spike (MS-1)	Spiked Sample: 22385	3						
QC Batch: 67911 Prep Batch: 58101		e Analyzed Preparatio			yzed By: AG ared By: AG			
,	MS			Spike	Matrix		Rec.	
Param	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{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. RPI) is based o	n the spike	e and spike d	uplicate resu	lt.		
	MSD		Spike	Matrix]	Rec.	RPD	

Param Result Units Dil. Amount Result Rec. Limit RPD Limit Benzene 10.6 mg/L 50 5.005.9567 93 77.3 - 117.4 3 20 Toluene 5.98501.503890 75 - 111.8 $\mathbf{5}$ 20 mg/L 5.00Ethylbenzene 4.799 20 mg/L 505.000.507286 78.8 - 106.6 Xylene 13.50.6358 8 20mg/L 50 15.086 68.9 - 114

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	\mathbf{Result}	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	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: 223829

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

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	1	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	2	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.

Report Date: March 9, 201 115-6403130	0	Work Order: 10022632 Celero/Rock Queen #7 TB						Page Number: 12 of 15 Chavez County, NM			
Matrix Spike (MS-1)	Spiked Sa	mple: 22	3829								
QC Batch: 67932 Prep Batch: 58087				nalyzed: paration:	2010-03-02 2010-03-02					lyzed B bared B	•
		M				Spike		atrix			Rec.
Param	3	Res		Units	Dil.	Amount		sult	Re		Limit
Sulfate		150		mg/L	50	1380		63	75)	90 - 110
Percent recovery is based or	n the spike	e result.	RPD is	based on t	the spike an	d spike du	plicate	result.			
		MSD			Spike	Matrix		Re	c.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Lim		RPD	Limit
Sulfate	4	1590	mg/L	50	1380	463	82	90 - 1	110	6	
Percent recovery is based or	-			based on 1	the spike an	d spike du	plicate 1	result.			
Matrix Spike (MS-1)	Spiked Sa	mple: 22	3817								
QC Batch: 67940			Date A	nalyzed:	2010-03-02	2			Ana	lyzed B	y: RR
Prep Batch: 58109				paration:	2010-03-02	2			Prep	bared B	y: 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	\mathbf{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)

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QC Batch: 67873

Date Analyzed: 2010-02-26

Analyzed By: AG

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.

Report Date: March 9, 115-6403130	2010		rk Order: 10 o/Rock Que	Page Number: 13 of 15 Chavez County, NM			
		ICVs	ICVs	IC	Vs	Percent	
		True	Found	Pere	cent	Recovery	Date
Param Flag	Units	Conc.	Conc.	' Reco		Limits	Analyzed
pН	s.u.	7.00	6.99	1(00	98 - 102	2010-02-20
Standard (CCV-1)	٨						
QC Batch: 67873		Date Anal	lyzed: 2010)-02-26		Analy	zed By: AG
		CCVs	CCVs	CC		Percent	
D D		True	Found	Perc		Recovery	Date
Param Flag pH	Units	Conc.	Conc.	Reco		Limits	Analyzed
	<u>s.u.</u>	7.00	6.93	9	<u> </u>	98 - 102	2010-02-26
Standard (ICV-1)							
QC Batch: 67894		Date Anal	lyzed: 2010	-03-01		Analy	zed By: AR
			ICVs	ICVs	ICVs	Percent	_
D		** •.	True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity Carbonate Alkalinity		mg/L as CaCo3	0.00	17.0		0 - 200 0 - 200	2010-03-01
Bicarbonate Alkalinity		mg/L as CaCo3 mg/L as CaCo3	0.00 0.00	244		0 - 200	2010-03-01
Total Alkalinity		mg/L as CaCo3 mg/L as CaCo3	$\frac{0.00}{250}$	$<\!$	104	0 - 200 90 - 110	2010-03-01 2010-03-01
Standard (CCV-1)		0,					
QC Batch: 67894		Date Anal	yzed: 2010	-03-01		Analy	zed By: AR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
lydroxide 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-1)		•					

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Report Date 115-6403130	: March 9, 201	0		rk Order: 10022 Ark Queen #			Number: 14 of 15 avez County, NM		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	• Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Benzene		mg/L	0.100	0.0875	88	80 - 120	2010-03-01		
Toluene		mg/L	0.100	0.0857	86	80 - 120	2010-03-01		
Ethylbenzene	9	mg/L	0.100	0.0823	82	80 - 120	2010-03-01		
Xylene		mg/L	0.300	0.249	83	80 - 120	2010-03-01		
Standard (CCV-2)								
QC Batch:	67911		Date Anal	yzed: 2010-03	-01	Anal	yzed By: AG		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Benzene		mg/L	0.100	0.0945	. 94	80 - 120	2010-03-01		
Toluene		mg/L	0.100	0.0943	94	80 - 120	2010-03-01		
Ethylbenzene	9	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 (1	(CV-1)								
QC Batch:	67932		Date Anal	yzed: 2010-03	-02	Analyzed By: AR			
			ICVs	ICVs	ICVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Chloride		mg/L	25.0	23.4	94	90 - 110	2010-03-02		
Standard (I	CV-1)								
QC Batch:	67932		Date Anal	yzed: 2010-03	-02	Anal	yzed By: AR		
			ICVs	ICVs	ICVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Sulfate		mg/L	25.0	25.3	101	90 - 110	2010-03-02		

Standard (CCV-1)

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QC Batch: 67932

Date Analyzed: 2010-03-02

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Analyzed By: AR

Report Date										
Report Date: March 9, 2010 115-6403130			C	Work Ord Celero/Rock	ler: 100226 « Queen #7		Page Number: 15 of 15 Chavez County, NM			
,			CCVs	C	CVs	CCVs	Percent	•		
			True		ound	Percent	Recovery	Date		
Param	Flag	Units	Conc.		onc.	Recovery	Limits	Analyzed		
Chloride		mg/L	25.0	2	3.0	92	90 - 110	2010-03-02		
Standard ((CCV-1)	·								
QC Batch:	67932		Date	Analyzed:	2010-03-0	2	Analy	yzed By: AR		
			CCVs	CC	CVs	CCVs	Percent			
			True		und	Percent	Recovery	Date .		
Param	Flag	Units	Conc.	Co	onc.	Recovery	Limits	Analyzed		
Sulfate		mg/L	25.0	24	1.9	100	90 - 110	2010-03-02		
QC Batch:	67940		Date	Analyzed:				yzed By: RR		
	67940	_		ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date		
Param		Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Param Dissolved Ca	alcium	Flag	Units mg/L	ICVs True Conc. 50.0	ICVs Found Conc. 51.3	ICVs Percent Recovery 103	Percent Recovery Limits 90 - 110	Date Analyzed 2010-03-02		
Param Dissolved Ca Dissolved Po	alcium otassium	Flag	Units mg/L mg/L	ICVs True Conc. 50.0 50.0	ICVs Found Conc. 51.3 50.3	ICVs Percent Recovery 103 101	Percent Recovery Limits 90 - 110 90 - 110	Date Analyzed 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved Po Dissolved M	alcium otassium (agnesium	Flag	Units mg/L mg/L mg/L	ICVs True Conc. 50.0 50.0 50.0 50.0	ICVs Found Conc. 51.3 50.3 51.6	ICVs Percent Recovery 103 101 103	Percent Recovery Limits 90 - 110 90 - 110 90 - 110	Date Analyzed 2010-03-02 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved Po Dissolved M Dissolved Sc	alcium otassium (agnesium odium	Flag	Units mg/L mg/L	ICVs True Conc. 50.0 50.0	ICVs Found Conc. 51.3 50.3	ICVs Percent Recovery 103 101	Percent Recovery Limits 90 - 110 90 - 110	Date Analyzed 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved Pa Dissolved M Dissolved Sc Standard (alcium otassium (agnesium odium (CCV-1)	Flag	Units mg/L mg/L mg/L mg/L	ICVs True Conc. 50.0 50.0 50.0 50.0	ICVs Found Conc. 51.3 50.3 51.6 49.8	ICVs Percent Recovery 103 101 103 100	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved Po Dissolved M Dissolved Sc	alcium otassium (agnesium odium (CCV-1)	Flag	Units mg/L mg/L mg/L mg/L	ICVs True Conc. 50.0 50.0 50.0 50.0	ICVs Found Conc. 51.3 50.3 51.6	ICVs Percent Recovery 103 101 103 100	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110	Date Analyzed 2010-03-02 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved Pa Dissolved M Dissolved Sc Standard (alcium otassium (agnesium odium (CCV-1)	Flag	Units mg/L mg/L mg/L mg/L	ICVs True Conc. 50.0 50.0 50.0 50.0 Analyzed: CCVs	ICVs Found Conc. 51.3 50.3 51.6 49.8 2010-03-0 CCVs	ICVs Percent <u>Recovery</u> 103 101 103 100 2 2 CCVs	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 Analy Percent	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02		
Param Dissolved Ca Dissolved M Dissolved So Standard (QC Batch:	alcium otassium (agnesium odium (CCV-1)		Units mg/L mg/L mg/L Date	ICVs True Conc. 50.0 50.0 50.0 50.0 Analyzed: CCVs True	ICVs Found Conc. 51.3 50.3 51.6 49.8 2010-03-0 CCVs Found	ICVs Percent Recovery 103 101 103 100 2 2 CCVs Percent	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 Analy Percent Recovery	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02 yzed By: RR		
Param Dissolved Ca Dissolved M Dissolved So Standard (QC Batch: Param	alcium otassium lagnesium odium (CCV-1) 67940	Flag	Units mg/L mg/L mg/L Date Units	ICVs True Conc. 50.0 50.0 50.0 50.0 Analyzed: CCVs True Conc.	ICVs Found Conc. 51.3 50.3 51.6 49.8 2010-03-0 CCVs Found Conc.	ICVs Percent Recovery 103 101 103 100 2 2 2 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 Analy Percent Recovery Limits	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02 yzed By: RR Date Analyzed		
Param Dissolved Ca Dissolved M Dissolved Sc Standard (QC Batch: Param Dissolved Ca	alcium otassium lagnesium odium (CCV-1) 67940 alcium		Units mg/L mg/L mg/L Date Units mg/L	ICVs True Conc. 50.0 50.0 50.0 50.0 50.0 CCVs True Conc. 51.0	ICVs Found Conc. 51.3 50.3 51.6 49.8 2010-03-0 CCVs Found Conc. 50.5	ICVs Percent Recovery 103 101 103 100 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 Analy Percent Recovery Limits 90 - 110	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02 yzed By: RR Date Analyzed 2010-03-02		
Param Dissolved Ca Dissolved M Dissolved So Standard (QC Batch: Param	alcium otassium lagnesium odium (CCV-1) 67940 alcium otassium		Units mg/L mg/L mg/L Date Units	ICVs True Conc. 50.0 50.0 50.0 50.0 Analyzed: CCVs True Conc.	ICVs Found Conc. 51.3 50.3 51.6 49.8 2010-03-0 CCVs Found Conc.	ICVs Percent Recovery 103 101 103 100 2 2 2 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110 Analy Percent Recovery Limits	Date Analyzed 2010-03-02 2010-03-02 2010-03-02 2010-03-02 yzed By: RR Date Analyzed		

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El Paso, Texas 79922 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com 806 • 794 • 1296 FAX 915 • 585 • 3443 FAX 432 • 689 • 6301 FAX 817 • 201 • 5260

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

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DBE: VN 20657

NELAP Certifications

Certifications

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

Analytical and Quality Control Report

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

Report Date: July 27, 2010

Work Order: 10071412

Project Location:Chavez County, NMProject Name:Celero/Rock Queen #7 TBProject Number:115-6403130

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
237456	MW-1	water	2010-07-13	13:45	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 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

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

Standard Flags

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

Case Narrative

Samples for project Celero/Rock Queen #7 TB were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071412. Samples for work order 10071412 were received intact without headspace and at a temperature of 3.9 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	61451	2010-07-14 at 16:00	71724	2010-07-14 at 16:42
Chloride (IC)	E 300.0	61482	2010-07-15 at 09:54	71929	2010-07-16 at 03:27
SO4 (IC)	E 300.0	61482	2010-07-15 at 09:54	71929	2010-07-16 at 03:27
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 10071412 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.

Analytical Report

Sample: 237456 - MW-1

Laboratory:	Midland								
Analysis:	BTEX			Analytical M	ethod:	S 8021B		Prep Method	: S 5030B
QC Batch:	71724			Date Analyze	ed:	2010-07-14		Analyzed By	: AG
Prep Batch:	61451		1	Sample Prep	aration:	2010-07-14		Prepared By	AG
				RL					
Parameter		Flag		Result		Units	Dil	ution	\mathbf{RL}
Benzene				< 0.00100		mg/L	ter näre en stadden stadden stad	1	0.00100
Toluene				< 0.00100		mg/L		1	0.00100
Ethylbenzene	е			< 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

Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.104	mg/L	1	0.100	104	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0877	mg/L	1	0.100	88	51.1 - 128

Sample: 237456 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (IC) 71929	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-16 2010-07-15	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	\mathbf{Result}	Units	Dilution	RL
Chloride	**************************************	3060	mg/L	500	2.50

Sample: 237456 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 71929	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-16 2010-07-15	Prep Method: Analyzed By: Prepared By:	AR
Description	וסו	RL			DI
Parameter Sulfate	Fl	ag Result 316	Units mg/L	Dilution 50	$\frac{\text{RL}}{2.50}$

Report Date: July 27, 2010 115-6403130	Work Order: 1 Celero/Rock Que			Page Numb Chavez C	ber: 5 of 10 Sounty, NM
Sample: 237456 - MW-1					
Laboratory: Midland					
Analysis: TDS	Analytical Method:	SM 2540C		Prep Meth	,
QC Batch: 72039	Date Analyzed:	2010-07-26		Analyzed I	
Prep Batch: 61516	Sample Preparation:	2010-07-16		Prepared I	By: AR
	\mathbf{RL}				
Parameter Flag	Result	Units	I	Dilution	\mathbf{RL}
Total Dissolved Solids	5910	mg/L		5	10.0
Method Blank (1) QC Batch: 71724					
QC Batch: 71724	Date Analyzed: 20	10-07-14		Analyzed	By: AG
Prep Batch: 61451	•	10-07-14		Prepared	
					J
	MI)L			
Parameter Flag	Resu		Units		\mathbf{RL}
Benzene	< 0.0006		mg/L		0.001
Foluene	< 0.0006	00	mg/L		0.001
Ethylbenzene	< 0.0008	00	mg/L		0.001
Xylene	< 0.0007	67	mg/L		0.001
			Spike	Percent	Recovery
Surrogate Flag	Result Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	0.0973 mg/L	1	0.100		70.2 - 118
-Bromofluorobenzene (4-BFB).	0.0848 mg/L	. 1	0.100	. 85	47.3 - 116
Method Blank (1) QC Batch: 71929					
QC Batch: 71929	Date Analyzed: 20	10-07-16		Analyzed	By: AR
Prep Batch: 61482	QC Preparation: 20			Prepared 3	
	MDL				
Parameter Flag	Result		Units		\mathbf{RL}
Chloride	0.462		mg/L		2.5
//////////////////////////////////////	0.402		ш5/ Ц	······································	
Vethod Blank (1) OC Batch: 71020		<i>,</i>			
Method Blank (1) QC Batch: 71929		,			
Method Blank (1) QC Batch: 71929 QC Batch: 71929 Prep Batch: 61482	Ū.	10-07-16 10-07-15	•	Analyzed F Prepared 1	

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				78		2.0
Batch: 72039						
Date	Analyzed:	2010-07-26		Anal	yzed By:	AR
	•	2010-07-15				
		MDL				
Flag						RL
		10.0		mg/L		10
ed Sample: 237468						
Date	Analyzed:	2010-07-26		Anal	vzed Bv:	AR
	•	2010-07-15				
	-		n Dilutic	- DD	D	RPD Limit
					<u> </u>	<u>10</u>
109000				7		10
(LCS-1)						
	Analyzed:	2010-07-14		Anal	vzed Bv:	AG
		2010-07-14				
LCS		Spil	ke Matr	ix	1	Rec.
Result	Units					imit
0.100	mg/L					9 - 108
						7 - 107
						8 - 106
					79.	3 - 106
-						
LCSD		-	atrix	Rec.	DDD	RPD
Result Unit			esult Rec.	Limit	RPD	Limit
	r - 1 - 4		000600 101	82.9 - 108	1	20
0.101 mg/1						90
	L 1 ().100 <0.0	000600 101 000600 101 000800 97	82.7 - 107 78.8 - 106	$\frac{1}{2}$	20 20
	Flag Batch: 72039 Data QC Flag ed Sample: 237468 Duplicate Result 109000 109000 (LCS-1) Date QC LCS Result 0.100 0.0992 0.0949 0.287 the spike result. RPD	Celero/Rock M Flag Re 2 Batch: 72039 Date Analyzed: QC Preparation: Flag ed Sample: 237468 Date Analyzed: QC Preparation: Duplicate Sample Result Result 109000 5910 109000 5910 109000 102000 (LCS-1) Date Analyzed: QC Preparation: LCS Result Units 0.100 mg/L 0.0992 mg/L 0.0949 mg/L 0.287 mg/L the spike result. RPD is based on t	MDL ResultFlagResult < 0.177 Batch: 72039Date Analyzed: 2010-07-26 QC Preparation: 2010-07-15MDL FlagFlagResultID00ed Sample: 237468Date Analyzed: 2010-07-26 QC Preparation: 2010-07-15Duplicate ResultSample ResultResultResultUnitsID00005910mg/I 1090001090005910mg/I 109000102000mg/IICCS-1)LCSSpi ResultLCSSpi ResultResultUnits 0.1000.100mg/L0.100mg/L10.100.100mg/L10.100.287mg/L10.30the spike result.RPD is based on the spike and spike	Celero/Rock Queen #7 TB MDL MDL Flag Result Un <0.177	Celero/Rock Queen #7 TB Čha MDL MDL Units Flag Result Units 2 Batch: 72039 Date Analyzed: 2010-07-26 Anal QC Preparation: 2010-07-15 Prep MDL Flag Result Units Page MDL NDL Prep Flag Result Units Note MDL Flag Result Units MDL State Analyzed: 2010-07-15 Prep Age Preparation: 2010-07-15 Prep Duplicate Sample Result Units Duplicate Sample Result 100 7 109000 5910 mg/L 100 7 (LCS-1) Date Analyzed: 2010-07-14 Anal QC Preparation: 2010-07-14 Prep LCS Spike Matrix Result Result	Celero/Rock Queen #7 TB Chavez Coun MDL MDL Units Flag Result Units < 0.177 mg/L Batch: 72039 Date Analyzed: 2010-07-26 Analyzed By: QC Preparation: 2010-07-15 Flag Result Units Flag Result Units MDL Flag Result Units IO.0 mg/L mg/L Mg/L ed Sample: 237468 Date Analyzed: 2010-07-26 Analyzed By: QC Preparation: 2010-07-15 Prepared By: Duplicate Sample Result Units Dilution RPD 109000 5910 mg/L 100 7 (LCS-1) Date Analyzed: 2010-07-14 Analyzed By: QC Preparation: 2010-07-14 Prepared By: LCS Spike Matrix I QC Preparation: 2010-07-14 Prepared By: I Ucc Preparation: 2010-07-14 Prepared By: I QC Preparation: 2010-07-14 Prepared By: I QC Preparation: 2010-07-14 Prepared By: I QC Preparation: 2010-07-14 <t< td=""></t<>

115-6403130			/Rock Qu	1007141 ieen #7			Pa	Chavez	County, NM
Surrogate	LCS Result	LCSE Resul	t Unit			unt 1	Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	$\begin{array}{c} 0.103 \\ 0.0966 \end{array}$	0.0996					103 97	100 94	67.3 - 113 68.2 - 124
Laboratory Control Spike (LC	 [S-1]		91						
QC Batch: 71929	D	ate Analy		010-07-1				Analyzeo	•
Prep Batch: 61482	Q	C Prepar	ation: 2	010-07-1	5		ł	Prepareo	d By: AR
Param	LCS Result	: Un	ite	Dil.	Spike Amount		trix sult	Rec.	Rec. Limit
Chloride	25.6	mg		$\frac{DII}{1}$	25.0		.265	102	90 - 110
Percent recovery is based on the s			·	-				102	00 - 110
recent recovery is based on the s	-	D is base		-	-	pricate i			
Param	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units		Spike mount	Matrix Result	Rec.	Rec. Limit	תס	RPD Limit
Chloride		mg/L		25.0	<0.265	<u>100</u>	<u>90 - 11</u>	$\frac{RP}{0}$	
Laboratory Control Spike (LC	CS-1)			-	-	plicate r			
Laboratory Control Spike (LC QC Batch: 71929	C S-1)	PD is bas ate Analy C Prepara	rzed: 20	e spike ar 010-07-1 010-07-1	6	plicate r	ŀ	Analyzed Prepared	ł By: AR l By: AR
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482	CS-1) Da Q LCS	ate Analy C Prepara	rzed: 20 ation: 20	010-07-1 010-07-1	6 5 Spike	Ma	/ F trix	Prepared	By: AR Rec.
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param	CS-1) Di Q LCS Result	ate Analy C Prepar Un	rzed: 20 ation: 20 its 1	010-07-1 010-07-1 Dil.	6 5 Spike Amount	Ma Res	/ F trix sult	Prepared Rec.	l By: AR Rec. Limit
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate	CS-1) Di Q LCS Result 24.9	ate Analy C Prepara Un mg	rzed: 20 ation: 20 its 1	010-07-1 010-07-1 Dil. 1	6 5 Spike Amount 25.0	Ma Res <0.	F F trix sult 177	Prepared	By: AR Rec.
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate	CS-1) Da Q LCS Result 24.9 pike result. RI	ate Analy C Prepara Un mg	rzed: 20 ation: 20 its 1 ./L ed on the	010-07-1 010-07-1 Dil. 1 spike ar	6 5 Amount 25.0 nd spike du	Ma Res <0.	F F trix sult 177 result.	Prepared Rec.	l By: AR Rec. Limit 90 - 110
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate Percent recovery is based on the sp	CS-1) D Q LCS Result 24.9 pike result. RF LCSD	ate Analy C Prepara Un mg PD is base	rzed: 20 ation: 20 its 1 :/L ed on the	010-07-1 010-07-1 Dil. 1 spike ar Spike	6 5 Amount 25.0 nd spike du Matrix	Ma Res <0. plicate r	F F trix sult 177 esult. Rec.	Prepared Rec. 100	l By: AR Rec. Limit 90 - 110 RPD
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate Percent recovery is based on the sp Param	CS-1) D Q LCS Result 24.9 pike result. RI LCSD Result	ate Analy C Prepara Un mg PD is base Units	rzed: 20 ation: 20 its 1 :/L ed on the Dil. At	010-07-1 010-07-1 Dil. 1 spike ar Spike mount	6 5 Amount 25.0 nd spike du Matrix Result	Ma Res 20. plicate r Rec.	F trix sult 177 esult. Rec. Limit	Prepared Rec. 100 RP	l By: AR Rec. Limit 90 - 110 RPD D Limit
•	CS-1) Di Q LCS Result 24.9 pike result. RH LCSD Result N 25.0 r	ate Analy C Prepara Un PD is base Units 1 ng/L	$\begin{array}{ccc} \text{zed:} & 2\text{(}\\ \text{ation:} & 2\text{(}\\ \text{its} & 1 \\ \hline /L \\ \text{ed on the} \\ \\ \hline \\ \text{Dil.} & \text{Ai} \\ \hline \\ 1 \\ \end{array}$	010-07-1 010-07-1 Dil. 1 spike ar Spike mount 25.0	6 5 Amount 25.0 nd spike du Matrix Result <0.177	Ma Res <0. plicate r Rec. 100	f F trix sult 177 esult. Rec. Limit 90 - 110	Prepared Rec. 100 RP	l By: AR Rec. Limit 90 - 110 RPD D Limit
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate Percent recovery is based on the sp Param Sulfate Param Sulfate	CS-1) Da Q LCS Result 24.9 pike result. RF LCSD Result 25.0 r pike result. RF CS-1) Da	ate Analy C Prepara Un PD is base Units 1 ng/L	rzed: 20 ation: 20 its 1 /L ed on the <u>5</u> Dil. An 1 ed on the	010-07-1 010-07-1 Dil. 1 spike ar Spike mount 25.0	6 5 Amount 25.0 nd spike du Matrix Result <0.177 nd spike du	Ma Res <0. plicate r Rec. 100	f F Sult 177 esult. Rec. Limit 90 - 110 esult.	Prepared Rec. 100 RP 0 0	l By: AR Rec. Limit 90 - 110 RPD D Limit
Laboratory Control Spike (LC QC Batch: 71929 Prep Batch: 61482 Param Sulfate Percent recovery is based on the sp Sulfate Param Sulfate Percent recovery is based on the sp Sulfate Percent recovery is based on the sp Sulfate Percent recovery is based on the sp Laboratory Control Spike (LC QC Batch: 72039	CS-1) Da Q LCS Result 24.9 pike result. RF LCSD Result 25.0 r pike result. RF CS-1) Da	ate Analy C Prepara Un PD is base Units 1 ng/L PD is base ate Analy C Prepara	rzed: 20 ation: 20 its 2 ed on the Dil. An 1 ed on the rzed: 20 ation: 20	010-07-1 010-07-1 Dil. 1 spike ar Spike mount 25.0 spike ar	6 5 Amount 25.0 nd spike du Matrix Result <0.177 nd spike du	Ma Res <0. plicate r Rec. 100	f F trix sult 177 result. Rec. Limit 90 - 110 esult. A F trix	Prepared Rec. 100 RP 0 0	l By: AR Rec. Limit 90 - 110 RPD D Limit 20

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Report Date: July 27, 2010	Work Order: 10071412	Page Number: 8 of 10
115-6403130	Celero/Rock Queen #7 TB	Chavez County, NM

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

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

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

Matrix Spike	(MS-1)	Spiked Sau	nple: 237430
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QC Batch:	71724	Date Analyzed:	2010-07-14	Analyzed By:	\mathbf{AG}
Prep Batch:	61451	QC Preparation:	2010-07-14	Prepared By:	\mathbf{AG}

		MS			Spike	Matrix	۰.	Rec.
Param		Result	Units	Dil.	Amount	\mathbf{Result}	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)	67	0.0434	0.0551	mg/L	1	0.1	43	55	68.3 - 107
4-Bromofluorobenzene (4-BFB)	89.	0.0418	0.0525	mg/L	1	0.1	42	52	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 237459

QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	QC Preparation:	2010-07-15	Prepared By:	AR

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.

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.

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.

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

Report Date: July 2 115-6403130	27, 2010				er: 1007141 Queen #7					r: 9 of 10 unty, NM
			MS			Spike	Mo	trix		Rec.
Param		1	Result	Units	Dil.	Spike Amount			ec.	Limit
Chloride			15500	mg/L	100	2750			14	<u>90 - 110</u>
							· · · · ·		14	90 - 110
Percent recovery is l	based on the	e spike resul	t. RPD is	based on	the spike ai	id spike duj	plicate r	esult.		
		MSI)		Spike	Matrix		Rec.		RPD
Param		Resu		Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		11 1550	0 mg/L	100	2750	12350	114	90 - 110	0	20
Percent recovery is h	hased on the	spike resul	t RPD is	hased on	the spike at	nd spike du	olicate r	esult		
1 creent recovery is t	babed on the	opine rebui		oused on	one spine ai	ia spine au	Jincuse I	court.		
Matrix Spike (MS	5-1) Spik	ed Sample:	237459							
QC Batch: 71929			Date Ar	aluradi	2010-07-1	G		1 -	alyzed B	v: AR
Prep Batch: 61482				paration:					pared B	•
110p Datch. 01402			QUITE	paration.	2010-07-1	J		116	pareu D	y. An
				,						
			MS			Spike	Ma	trix		Rec.
Param			Result	Units	Dil.	Amount			ec.	Limit
Sulfate	·	12	2500	mg/L	100	2750	18	31 8	34	90 - 110
Percent recovery is h	based on the	e spike resul	t. RPD is	based on	the spike ar	nd spike du	olicate r	esult.		
	based on the			based on	-		olicate r			
Percent recovery is b	based on the	MSI)		Spike	Matrix		Rec.		RPD
Percent recovery is b Param	based on the	MSI Resul) lt Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	Limit
Percent recovery is b	based on the	MSI) lt Units		Spike	Matrix		Rec.	RPD 0	
Percent recovery is b Param		MSI Resul) lt Units) mg/L	Dil. 100	Spike Amount 2750	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110		Limit
Percent recovery is b Param Sulfate		MSI Resul) lt Units) mg/L	Dil. 100	Spike Amount 2750	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110		Limit
Percent recovery is b Param Sulfate Percent recovery is b	based on the	MSI Resul) lt Units) mg/L	Dil. 100	Spike Amount 2750	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110		Limit
Percent recovery is b Param Sulfate	based on the	MSI Resul) lt Units) mg/L	Dil. 100	Spike Amount 2750	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110		Limit
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1	based on the	MSI Resul) lt Units) mg/L t. RPD is l	Dil. 100 based on	Spike Amount 2750 the spike ar	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110 esult.	0	Limit 20
Percent recovery is b Param Sulfate Percent recovery is b	based on the	MSI Resul) lt Units) mg/L	Dil. 100 based on	Spike Amount 2750	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110 esult.		Limit 20
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1	based on the	MSI Resul) <u>lt Units</u> <u>mg/L</u> t. RPD is l Date An CCVs	Dil. 100 based on halyzed:	Spike Amount 2750 the spike ar	Matrix Result 181	Rec. 84	Rec. Limit 90 - 110 esult.	0	Limit 20
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1	based on the	MSI Resul) lt Units) mg/L t. RPD is l Date An	Dil. 100 based on nalyzed:	Spike Amount 2750 the spike ar 2010-07-14	Matrix Result 181 Id spike dup	Rec. 84 olicate re	Rec. Limit 90 - 110 esult. Ana	0	Limit 20
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1	based on the	MSI Resul ¹³ 2500 spike resul Units) lt Units) mg/L t. RPD is l Date An CCVs True Conc.	Dil. 100 based on halyzed: F	Spike Amount 2750 the spike ar 2010-07-14 CCVs Found Conc.	Matrix Result 181 ad spike dup CCVs Percent Recovery	Rec. 84 olicate re	Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits	0 alyzed B	Limit 20 y: AG Date nalyzed
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1 QC Batch: 71724	pased on the	MSI Resul) <u>lt Units</u>) mg/L t. RPD is l Date An CCVs True Conc. 0.100	Dil. 100 based on halyzed: (F (0	Spike Amount 2750 the spike ar 2010-07-14 CCVs Found Conc. 0.0986	Matrix Result 181 ad spike dup CCVs Percent	Rec. 84 olicate re	Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120	0 alyzed B <u>A</u> 20	Limit 20 y: AG Date nalyzed 10-07-14
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1 QC Batch: 71724 Param Benzene Toluene	pased on the	MSI Resul ¹³ 2500 e spike resul <u>Units</u> mg/L mg/L) <u>lt Units</u>) mg/L t. RPD is l Date An CCVs True Conc. 0.100 0.100	Dil. 100 based on halyzed: F C 0 0 0	Spike Amount 2750 the spike ar 2010-07-14 CCVs Found Conc. 0.0986 0.0974	Matrix Result 181 Id spike dup CCVs Percent Recovery 99 97	Rec. 84 Dicate re	Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120 80 - 120	0 alyzed B A 20 20	Limit 20 y: AG Date nalyzed 10-07-14 10-07-14
Percent recovery is b Param Sulfate Percent recovery is b Standard (CCV-1 QC Batch: 71724 Param Benzene	pased on the	MSI Resul ¹³ 2500 e spike resul Units mg/L) <u>lt Units</u>) mg/L t. RPD is l Date An CCVs True Conc. 0.100	Dil. 100 based on halyzed: F C 0 0 0 0 0 0 0 0	Spike Amount 2750 the spike ar 2010-07-14 CCVs Found Conc. 0.0986	Matrix Result 181 ad spike dup CCVs Percent Recovery 99	Rec. 84 Dlicate re	Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120	0 alyzed B <u>A</u> 20 20 20	Limit 20 y: AG Date nalyzed 10-07-14

Standard (CCV-2)

QC Batch: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

 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 occured properly.
 ¹²Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 ¹³MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date 115-6403130	e: July 27, 2010			k Order: 10071 /Rock Queen #			umber: 10 of 10 /ez County, NM
			aau	COL	COL		
			CCVs	CCVs	CCVs	Percent	
D	E 1	Ŧ Ť : 4	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
Ethylbenzen	e	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 (ICV_1)	•					
	·		Data Anal		10	A a 1	· · · · · · · · · · · · · · · · · · ·
QC Batch:	(1929		Date Anal	yzed: 2010-07	-10	Anar	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	* •••6	mg/L	25.0	27.3	109	90 - 110	2010-07-16
			Date Anal	vzed: 2010-07	-16	Anal	vzed Bv AB
				yzed: 2010-07			yzed By: AR
			ICVs	ICVs	ICVs	Percent	
QC Batch:	71929		ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
QC Batch: Param		Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
QC Batch: Param	71929	Units mg/L	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
QC Batch: Param Sulfate	71929 Flag		ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
QC Batch: Param Sulfate Standard (1	71929 Flag CCV-1)		ICVs True Conc. 25.0	ICVs Found Conc.	ICVs Percent Recovery 96	Percent Recovery Limits 90 - 110	Date Analyzed
QC Batch: Param Sulfate Standard (1	71929 Flag CCV-1)		ICVs True Conc. 25.0 Date Anal	ICVs Found Conc. 23.9	ICVs Percent Recovery . 96	Percent Recovery Limits 90 - 110	Date Analyzed 2010-07-16
QC Batch: Param Sulfate Standard (71929 Flag CCV-1)		ICVs True Conc. 25.0 Date Anal CCVs	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs	ICVs Percent Recovery 96 -16 CCVs	Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2010-07-16
QC Batch: Param Sulfate Standard (QC Batch:	71929 Flag CCV-1) 71929		ICVs True Conc. 25.0 Date Anal	ICVs Found Conc. 23.9 yzed: 2010-07-	ICVs Percent Recovery 96 -16 CCVs Percent	Percent Recovery Limits 90 - 110 Anal	Date Analyzed 2010-07-16 yzed By: AR
QC Batch: Param Sulfate Standard (QC Batch: Param	71929 Flag CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found	ICVs Percent Recovery 96 -16 CCVs	Percent Recovery Limits 90 - 110 Anal Percent Recovery	Date Analyzed 2010-07-16 yzed By: AR Date
QC Batch: Param Sulfate Standard (QC Batch: Param	71929 Flag CCV-1) 71929	mg/L	ICVs True Conc. 25.0 Date Anal CCVs True Conc.	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found Conc.	ICVs Percent <u>Recovery</u> 96 -16 -16 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed
QC Batch: Param Sulfate Standard (QC Batch: Param Chloride	71929 Flag CCV-1) 71929 Flag	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True Conc.	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found Conc.	ICVs Percent <u>Recovery</u> 96 -16 -16 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed 2010-07-16
QC Batch: Param Sulfate Standard (QC Batch: Param Chloride Standard (71929 Flag CCV-1) 71929 Flag CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found Conc.	ICVs Percent Recovery 96 -16 -16 CCVs Percent Recovery 108	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed 2010-07-16
Standard (QC Batch: Param Sulfate Standard (QC Batch: Param Chloride Standard (QC Batch:	71929 Flag CCV-1) 71929 Flag CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found Conc. 26.9	ICVs Percent Recovery 96 -16 -16 CCVs Percent Recovery 108	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed 2010-07-16
QC Batch: Param Sulfate Standard (QC Batch: Param Chloride Standard (71929 Flag CCV-1) 71929 Flag CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0 Date Anal	ICVs Found Conc. 23.9 yzed: 2010-07- CCVs Found Conc. 26.9 yzed: 2010-07-	ICVs Percent Recovery 96 -16 CCVs Percent Recovery 108	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed 2010-07-16
QC Batch: Param Sulfate Standard (QC Batch: Param Chloride Standard (71929 Flag CCV-1) 71929 Flag CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0 Date Anal CCVs	ICVs Found Conc. 23.9 yzed: 2010-07 CCVs Found Conc. 26.9 yzed: 2010-07 CCVs	ICVs Percent Recovery 96 -16 CCVs Percent Recovery 108 -16 -16 CCVs	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2010-07-16 yzed By: AR Date Analyzed 2010-07-16

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An	alvs	sis F	?e	a	U	est of Cha	ain of Cust	odv	R	le	CC	or	d									PA	GE:	1			OF	: [
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			L		R	TETRA 1910 N. Big Midland, Tex (432) 682-4559	Spring St.								6 (Evt to C36)	a levi: in coul	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	d Vr Pd Hg Se										8	
CLIENT NAM				-		SITE MANAGE Jeff Kin			ERS			SER IETH	VATIV IOD	E	17/1005		8 B C	Ba			30/624	70/625						Yud 's	
PROJECT N 115-64	0.:				ECT	NAME:			CONTAIN	2	Т	l			BOZTES	202	s Ag As	s Ag As	88 Intatilae		3240/82	. Vol. 82	808	2	ن	Ai-)	tos)	S/Cauon	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	(Rock Queen Chaver Co, SAMPL	かべ LE IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N) HCL	HNO3	ICE	NONE		STEX BOZTB	PAH 8270	RCRA Metal	TCLP Metal	TCLP Volatil	RCI	GC.MS Vol. 8	GC.MS Sem	PCB's 8080/	Pest. 808/608	Gamma Spe	Alpha Beta (Air)	PLM (Asbes	Major Anions/Cations, pH,(US)	
23749		1345	w		X	MW-1			4	NX	i l	×			×	T			T	T				K			Π.	* *	
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Please fill out all copies - Laboratory etains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Plnk copy - Accounting receives Gold copy.

MULLIUM TRACEANALYSIS, INC. MULLIUM

 6701 Aberdeen Avenue, Suite 9
 L

 200 East Sunset Road, Suite E
 E

 5002 Basin Street, Suite A1
 M

 6015 Harris Parkway, Suite 110
 Ft.

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

6 FAX 806•794•1298 8 FAX 915•585•4944 6 FAX 432•689•6313

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: November 10, 2010

Work Order: 10101414

Project Location:Chavez County, NMProject Name:Celero/Rock Queen #7 TBProject Number:115-6403130

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
247533	MW-1	water	2010-10-13	09:15	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 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

Standard Flags

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

Case Narrative

Samples for project Celero/Rock Queen #7 TB were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101414. Samples for work order 10101414 were received intact without headspace and at a temperature of 3.5 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	63840	2010-10-14 at 13:40	74557	2010-10-14 at 18:04
Chloride (IC)	E 300.0	64403	2010-11-03 at 10:35	75072	2010-11-03 at 20:21
SO4 (IC)	E 300.0	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 10101414 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: November 10, 2010 115-6403130 Work Order: 10101414 Celero/Rock Queen #7 TB Page Number: 4 of 10 Chavez County, NM

Analytical Report

Sample: 247533 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 74557 63840			Analytical M Date Analyze Sample Prep	ed:	S 8021B 2010-10-14 2010-10-14		Prep Metho Analyzed B Prepared B	y: AG
				RL	r				
Parameter		Flag		Result	,	Units		Dilution	\mathbf{RL}
Benzene				< 0.00100		mg/L		1	0.00100
Toluene				< 0.00100	1	mg/L		1	0.00100
Ethylbenzene	9			< 0.00100)	mg/L		1	0.00100
Xylene				< 0.00100)	mg/L		1	0.00100
							Spike	Percent	Recovery
Surrogate			Flag	\mathbf{Result}	Units	Dilutio	n Amoun	t Recovery	Limits
Trifluorotolu	ene (TFT)			0.0886	mg/L	1	0.100	89	66.2 - 107
4-Bromofluor	obenzene (4-B	FB)		0.0727	mg/L	1	0.100	. 73	39 - 138

Sample: 247533 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 75072 64403	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-11-03 2010-11-03	Prep Method: Analyzed By: Prepared By:	PĠ
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		20000	mg/L	1000	2.50

Sample: 247533 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 75231	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-11-09 2010-11-09	Prep Method: Analyzed By: Prepared By:	\mathbf{PG}
		\mathbf{RL}			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Sulfate		960	mg/L	50	2.50

Report Date: November 10 115-6403130), 2010			er: 10101414 Queen #7 TB	Page Number: 5 of 10 Chavez County, NM			
Sample: 247533 - MW-	L							
Laboratory: Midland								
Analysis: TDS		Analytical		SM 2540C		Prep M		N/A
QC Batch: 74622		Date Anal		2010-10-21		Analyze		AR
Prep Batch: 63873		Sample Pr	eparation:	2010-10-15		Prepare	a By:	AR
			\mathbf{RL}					
Parameter	Flag		Result	Units		Dilution		R
Total Dissolved Solids		4	8400	mg/L		100		10.
Method Blank (1) QC Batch: 74557 Prep Batch: 63840	2C Batch: 74557	Date Ana QC Prepa		010-10-14 010-10-14		Analyz Prepar		AG AG
			М	IDL				
Parameter	Flag			sult	Units			RL
Benzene			< 0.000		mg/I			0.00
Toluene Ethelhemene			< 0.000		mg/I			0.00 0.00
Ethylbenzene Xylene			<0.000 <0.000		mg/I mg/I			0.00 0.00
Ayıcııc			<u> </u>	400				0.00
_					Spike	Percent	Reco	
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Lin	
Trifluorotoluene (TFT)	רמית	0.0893	mg/L	1	0.100	89	61.8 48.5	
4-Bromofluorobenzene (4-B	FB)	0.0784	mg/L	1	0.100	78	40.0	- 12
Method Blank (1)	C Batch: 74622							
QC Batch: 74622 Prep Batch: 63873		Date Ana QC Prepa	lyzed: 2 aration: 2	010-10-21 010-10-15			ed By: ed By:	AR AR
Parameter	IST	.		MDL	TT.	nits		R
Total Dissolved Solids	F1	ag		Result 11.0		g/L		- n.
	2C Batch: 75072					<u></u>		

QC Batch:	75072	Date Analyzed:	2010-11-03	Analyzed By:	\mathbf{PG}
Prep Batch:	64403	QC Preparation:	2010-11-03	Prepared By:	\mathbf{PG}

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Report Date: November 115-6403130	er 10, 2010		Work C Celero/Ro	order: 10 ock Quee				Page Number: 6 of 10 Chavez County, NM			
-				MDL		* -					
Parameter	Flag			esult			nits			RL	
Chloride			<0	.0350		mį	g/L			2.5	
Method Blank (1)	QC Batch: 75231										
QC Batch: 75231		Date	Analyzed:	2010-1	1-09			Anal	yzed By	: PG	
Prep Batch: 64531			reparation:						ared By		
		- Q	- · F - · · · · · · · · · · · · · · · · · ·					• •	aroa 25		
De	The second			ADL		T	· · _			זת	
Parameter Sulfate	Flag			esult .596		Un				$\frac{\text{RL}}{2.5}$	
Juliate					<u>. </u>	mg	/L			2.0	
Duplicates (2) Dup QC Batch: 74622	plicated Sample: 247		Analyzed:	2010-1	0-91			4.0.21	yzed By	: AR	
Prep Batch: 63873			reparation:						ared By		
	Dupl	icate	Sampl	e						RPD	
Param	Res		Resul		Units	Dilutio	n	RPI	D	Limit	
Total Dissolved Solids	466		11700		mg/L	100		4		10	
Total Dissolved Solids	466	500	48400)	mg/L	100		4		10	
Laboratory Control QC Batch: 74557 Prep Batch: 63840	Spike (LCS-1)		Analyzed: reparation:	2010-1 2010-1					yzed By ared By:		
		cs			Spike	Matri	x			Rec.	
Param	Res	ult	Units	Dil.	Amount	Resu	lt	Rec.	I	Jimit	
Benzene	0.09		mg/L	1	0.100	< 0.000		94		7 - 117	
Foluene	0.09		mg/L	1	0.100	< 0.000		95		5 - 117	
Ethylbenzene	0.09		mg/L	1	0.100	< 0.000		95		2 - 117	
-	0.2	77	mg/L	1	0.300	< 0.000		92	74.	1 - 120	
Xylene		י מתת		тпе зрікі	e ana spike au	ipiicate i	esuit.				
Xylene		. RPD i	s based on	one opine	•						
Xylene Percent recovery is base	ed on the spike result LCSD			Spike	Matrix		Rec			RPD	
Xylene Percent recovery is base Param	ed on the spike result LCSD Result	Units	Dil. A	Spike mount	Matrix Result	Rec.	Lim	it	RPD	Limit	
Xylene Percent recovery is base Param Benzene	ed on the spike result LCSD Result 0.0950	Units mg/L	Dil. A	Spike mount 0.100	Matrix Result <0.000400	95	Lim 80.7 -	it 117	1	Limit 20	
Xylene Percent recovery is base Param Benzene Foluene	ed on the spike result LCSD Result 0.0950 0.0975	Units mg/L mg/L	Dil. A 1 1	Spike mount 0.100 0.100	Matrix Result <0.000400 <0.000800	95 98	Lim 80.7 - 80.5 -	it 117 117	$\frac{1}{3}$	Limit 20 20	
Kylene Percent recovery is base Param Benzene	ed on the spike result LCSD Result 0.0950	Units mg/L	Dil. A 1 1 1	Spike mount 0.100	Matrix Result <0.000400	95	Lim 80.7 -	it 117 117 117 117	1	Limit 20	

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Report Date: November 10, 20 115-6403130	010		Order: 101 Rock Queen				ber: 7 of 10 County, NM
a	LCS	LCSD	TT 1.	Spik		LCSD	Rec.
Surrogate Trifluorotoluene (TFT)	Result 0.0875	Result		Dil. Amou 1 0.10		Rec. 90	Limit 72.5 - 126
4-Bromofluorobenzene (4-BFB)		0.0904 0.0847	mg/L mg/L	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		85	48.3 - 135
Laboratory Control Spike ((LCS-2)						
QC Batch: 74622	. ,	te Analyzed	: 2010-10	-21		Analyzed	i By: AR
Prep Batch: 63873	QC	Preparatio	n: 2010-10	-15		Prepared	l 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 th	-	D is based o	_				PDD
	LCSD		Spike	Matrix	R	.ec.	RPD D Limit
Percent recovery is based on th Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (OC Batchy 75072	LCSD Result U 1010 m he spike result. RP (LCS-1)	nits Dil. g/L 1 D is based c	Spike Amount 1000 n the spike	Matrix Result <9.75 and spike duy	R Rec. Li 101 90 -	ec. mit RP - 110 1	D Limit 10
Param Total Dissolved Solids Percent recovery is based on th	LCSD Result U 1010 m he spike result. RP (LCS-1) Da	nits Dil. g/L 1	Spike Amount 1000 n the spike 2010-11	Matrix Result <9.75 and spike dup	R Rec. Li 101 90 -	ec. mit RP - 110 1	D Limit 10
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403	LCSD Result U 1010 m he spike result. RP (LCS-1) Da	nits Dil. g/L 1 D is based o te Analyzed	Spike Amount 1000 n the spike 2010-11	Matrix Result <9.75 and spike dup	R Rec. Li 101 90 -	ec. mit RP - 110 1 Analyzeo	D Limit 10 1 By: PG 1 By: PG Rec.
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param	LCSD Result U 1010 m he spike result. RP (LCS-1) Da QC LCS Result	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units	Spike <u>Amount</u> 1000 n the spike : 2010-11 n: 2010-11 Dil.	Matrix Result <9.75 and spike duj -03 -03 Spike Amount	R Rec. Li 101 90 - plicate result. Matrix Result	ec. mit RP - 110 1 Analyzec Preparec Rec.	D Limit 10 18y: PG 1 By: PG Rec. Limit
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride	LCSD Result U 1010 m he spike result. RP (LCS-1) Da QC LCS Result 24.4	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L	Spike <u>Amount</u> 1000 n the spike 2010-11 n: 2010-11 Dil. 1	Matrix Result <9.75 and spike dup -03 -03 Spike Amount 25.0	Rec. Li 101 90 - plicate result. Matrix Result <0.0350	ec. mit RP - 110 1 Analyzeo Prepareo Rec. 98	D Limit 10 1 By: PG 1 By: PG Rec.
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param	LCSD Result U 1010 m he spike result. RP (LCS-1) Da QC LCS Result 24.4 he spike result. RP	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L	Spike <u>Amount</u> 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike	Matrix Result <9.75 and spike dup -03 -03 -03 Spike Amount 25.0 and spike dup	Rec. Li 101 90 plicate result. Matrix Result <0.0350 plicate result.	ec. mit RP - 110 1 Analyzeo Prepareo Rec. 98	D Limit 10 18y: PG 1By: PG Rec. Limit 90 - 110
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U	nits Dil.	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount	Matrix Result <9.75 and spike dup -03 -03 -03 Spike Amount 25.0 and spike dup Matrix Result	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li	ec. mit RP - 110 1 - 1	D Limit 10 10 H By: PG H By: PG Rec. Limit 90 - 110 PD Limit
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Param Chloride	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0	Matrix Result <9.75 and spike dup -03 -03 -03 -03 Spike Amount 25.0 and spike dup Matrix Result <0.0350	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 - 110 1 - 110 1 Analyzec Preparec Rec. 98 - 110 2	D Limit 10 10 H By: PG H By: PG Rec. Limit 90 - 110 PD Limit
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0	Matrix Result <9.75 and spike dup -03 -03 -03 -03 Spike Amount 25.0 and spike dup Matrix Result <0.0350	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 - 110 1 - 110 1 Analyzec Preparec Rec. 98 - 110 2	D Limit 10 10 H By: PG H By: PG Rec. Limit 90 - 110 PD Limit
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Param Chloride	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m he spike result. RP	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0	Matrix Result <9.75 and spike dup -03 -03 -03 -03 Spike Amount 25.0 and spike dup Matrix Result <0.0350	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 - 110 1 - 110 1 Analyzec Preparec Rec. 98 - 110 2	D Limit 10 10 H By: PG H By: PG Rec. Limit 90 - 110 PD Limit
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 75231	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m he spike result. RP (LCS-1)	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1 D is based of state	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0 n the spike	Matrix Result <9.75 and spike duj -03 -03 -03 -03 -03 -03 -03 -03 -03 -03	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 Analyzec Preparec Rec. 98 tec. mit RP - 110 2	D Limit 10 10 10 PG PG Rec. Limit 90 - 110 PD Limit 20 d By: PG
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 75231	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m he spike result. RP (LCS-1)	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1 D is based of	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0 n the spike	Matrix Result <9.75 and spike duj -03 -03 -03 -03 -03 -03 -03 -03 -03 -03	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 Analyzec Preparec Rec. 98 tec. mit RP - 110 2	D Limit 10 10 H By: PG H By: PG Rec. Limit 90 - 110 PD Limit 20
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 75231	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m he spike result. RP (LCS-1) Da QC	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1 D is based of state	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0 n the spike	Matrix Result <9.75 and spike dup -03 -03 -03 -03 -03 -03 -03 -03 -03 -03	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90 plicate result.	ec. mit RP - 110 1 Analyzec Preparec Rec. 98 tec. mit RP - 110 2	D Limit 10 10 10 Rec. Limit 90 - 110 PD Limit 20 1 By: PG 1 By: PG 1 By: PG
Param Total Dissolved Solids Percent recovery is based on th Laboratory Control Spike (QC Batch: 75072 Prep Batch: 64403 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 75231	LCSD Result U 1010 m he spike result. RP (LCS-1) LCS Result 24.4 he spike result. RP LCSD Result U 23.8 m he spike result. RP (LCS-1)	nits Dil. g/L 1 D is based of te Analyzed Preparatio Units mg/L D is based of nits Dil. g/L 1 D is based of state	Spike Amount 1000 n the spike 2010-11 n: 2010-11 Dil. 1 n the spike Spike Amount 25.0 n the spike	Matrix Result <9.75 and spike duj -03 -03 -03 -03 -03 -03 -03 -03 -03 -03	Rec. Li 101 90 - plicate result. Matrix Result <0.0350 plicate result. Rec. Li 95 90	ec. mit RP - 110 1 Analyzec Preparec Rec. 98 tec. mit RP - 110 2	D Limit 10 10 10 PG PG Rec. Limit 90 - 110 PD Limit 20 d By: PG

115-6403130 Celero/Rock Queen #7 TB Chavez County, NM	Report Date: November 10, 2010	Work Order: 10101414	Page Number: 8 of 10
	115-6403130	Celero/Rock Queen #7 TB	Chavez County, NM

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
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
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QC Batch:	74557	Date Analyzed:	2010-10-14	Analyzed By:	\mathbf{AG}
Prep Batch:	63840	QC Preparation:	2010-10-14	Prepared By:	AG

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

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	1	0.0817	mg/L	1	0.100	0.0048	77	60.9 - 132	27	20
Toluene	2	0.0712	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

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 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

Matrix Spike (MS-1) Spiked Sample: 248210

QC Batch:	75072	Date Analyzed:	2010-11-03	Analyzed By:	\mathbf{PG}
Prep Batch:	64403	QC Preparation:	2010-11-03	Prepared By:	\mathbf{PG}

continued ...

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.

Report Date: November 10, 2 115-6403130	2010			Order: 1010 ock Queen ;				avez Co	inty, NM
matrix spikes continued									
	Μ	IS			Spike		trix		Rec.
Param	Res	sult	Units	Dil.	Amount	Res	sultR	ec.	Limit
	М	IS			Spike	Ma	trix		Rec.
Param	Res		Units	Dil.	Amount			ec.	Limit
Chloride	13		mg/L	50	1250			04	90 - 110
Percent recovery is based on t	the spike result.	RPD is		the spike a	nd spike duj	olicate r	esult.		
	. MSD			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 t	the spike result.	RPD is	based on	the spike a	nd spike duj	olicate r	esult.		
Matrix Spike (MS-1) Sp	piked Sample: 24	49831							
									50
OC Batch: 75231		Date A	nalvzed	2010-11-0	19		An	alvzed B	v: PG
			nalyzed:	2010-11-0 2010-11-6				alyzed B pared B	•
•			nalyzed: paration					alyzed B epared B	•
		QC Pre	•)9	Ma	Pre	• .	y: PG
Prep Batch: 64531	M	QC Pre	eparation	: 2010-11-0	99 Spike	Ma	Pre	epared B	y: PG Rec.
Prep Batch: 64531 Param	Res	QC Pre	paration	: 2010-11-0 Dil.	99 Spike Amount	Res	Pre trix sultRe	ec.	y: PG Rec. Limit
Prep Batch: 64531 Param Sulfate	Res 12	QC Pre	Units mg/L	: 2010-11-0 Dil. 50	99 Spike Amount 1250	Res <2	Pre trix sult Ra 9.8 10	epared B	y: PG Rec. Limit
Prep Batch: 64531 Param Sulfate	Res 12 the spike result.	QC Pre	Units mg/L	: 2010-11-0 Dil. 50 the spike a	99 Spike Amount 1250 nd spike dup	Res <2	Pre trix sult Ra 9.8 10 esult.	ec.	y: PG Rec. Limit 90 - 110
Prep Batch: 64531 Param Sulfate Percent recovery is based on t	Res 12 the spike result. MSD	QC Pre	Units mg/L based on	: 2010-11-0 Dil. 50 the spike a Spike	99 Spike <u>Amount</u> 1250 nd spike dup Matrix	Res <2 olicate r	Pre trix sult Ra 9.8 10 esult. Rec.	ec. 03	y: PG Rec. Limit 90 - 110 RPD
Prep Batch: 64531 Param Sulfate Percent recovery is based on t	Res 12 the spike result. MSD Result	QC Pre Soult 90 RPD is Units	Units mg/L based on Dil.	: 2010-11-0 Dil. 50 the spike a Spike Amount	99 Spike Amount 1250 nd spike dup Matrix Result	Res <2 blicate r Rec.	Pre trix sult Ra 9.8 10 esult. Rec. Limit	epared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate	Res 12 the spike result. MSD Result 1290	QC Pressult 90 RPD is Units mg/L	Units mg/L based on Dil. 50	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250	Spike Amount 1250 nd spike dup Matrix Result <29.8	Res <2 blicate r Rec. 103	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110	ec. 03	y: PG Rec. Limit 90 - 110 RPD
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate	Res 12 the spike result. MSD Result 1290	QC Pressult 90 RPD is Units mg/L	Units mg/L based on Dil. 50	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250	Spike Amount 1250 nd spike dup Matrix Result <29.8	Res <2 blicate r Rec. 103	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110	epared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
	Res 12 the spike result. MSD Result 1290	QC Pressult 90 RPD is Units mg/L	Units mg/L based on Dil. 50	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250	Spike Amount 1250 nd spike dup Matrix Result <29.8	Res <2 blicate r Rec. 103	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110	epared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPD Limit
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2)	Res 12 the spike result. MSD Result 1290	QC Pressult 90 RPD is <u>Units</u> mg/L RPD is	Units mg/L based on Dil. 50 based on	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup	Res <2 blicate r Rec. 103	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult.	epared B ec. 03 RPD	y: PG Rec. Limit 90 - 110 RPD Limit 20
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2)	Res 12 the spike result. MSD Result 1290	QC Pressult 90 RPD is <u>Units</u> mg/L RPD is	Units mg/L based on Dil. 50 based on	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250 the spike a	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup	Res <2 blicate r Rec. 103	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult.	ec. 03 RPD 0	y: PG Rec. Limit 90 - 110 RPD Limit 20
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2) QC Batch: 74557	Res 12 the spike result. MSD Result 1290 the spike result.	QC Pressult 90 RPD is <u>Units</u> <u>mg/L</u> RPD is Date An	Units mg/L based on Dil. 50 based on	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250 the spike a 2010-10-14 CCVs Found	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup CCVs Percent	Res <2 plicate r Rec. 103 plicate r	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult. Ana Percent Recovery	ec. 03 RPD 0 alyzed B	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: AG Date
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2) QC Batch: 74557 Param Flag	Res 12 the spike result. MSD Result 1290 the spike result. Units	QC Pressult 90 RPD is <u>Units</u> mg/L RPD is Date An CCVs True Conc.	Units mg/L based on Dil. 50 based on nalyzed:	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250 the spike a 2010-10-14 CCVs Found Conc.	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup CCVs Percent Recovery	Res <2 plicate r Rec. 103 plicate r	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits	ec. 03 RPD 0 alyzed B	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: AG Date nalyzed
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2) QC Batch: 74557 Param Flag Benzene	Res 12 the spike result. MSD Result 1290 the spike result. Units mg/L	QC Pressult 90 RPD is <u>Units</u> <u>mg/L</u> RPD is Date An CCVs True Conc. 0.100	Units mg/L based on Dil. 50 based on nalyzed:	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250 the spike a 2010-10-14 CCVs Found Conc. 0.0941	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup CCVs Percent Recovery 94	Res <2 plicate r Rec. 103 plicate r	Prest trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120	ec. 03 RPD 0 alyzed B A 20	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: AG Date nalyzed 10-10-14
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2) QC Batch: 74557 Param Flag Benzene Foluene	Res 12 the spike result. MSD Result 1290 the spike result. Units mg/L mg/L	QC Pressult 90 RPD is <u>Units</u> mg/L RPD is Date An CCVs True Conc. 0.100 0.100	Units mg/L based on Dil. 50 based on nalyzed:	: 2010-11-0 Dil. 50 the spike a: Spike Amount 1250 the spike a: 2010-10-14 CCVs Found Conc. 0.0941 0.0958	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup CCVs Percent Recovery 94 96	Res <2 plicate r Rec. 103 plicate r	Pre trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120 80 - 120	ec. 03 RPD 0 alyzed B A 20 20	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: AG Date nalyzed 10-10-14 10-10-14
Prep Batch: 64531 Param Sulfate Percent recovery is based on t Param Sulfate Percent recovery is based on t Standard (CCV-2) QC Batch: 74557	Res 12 the spike result. MSD Result 1290 the spike result. Units mg/L	QC Pressult 90 RPD is <u>Units</u> <u>mg/L</u> RPD is Date An CCVs True Conc. 0.100	Units mg/L based on Dil. 50 based on nalyzed:	: 2010-11-0 Dil. 50 the spike a Spike Amount 1250 the spike a 2010-10-14 CCVs Found Conc. 0.0941	Spike Amount 1250 nd spike dup Matrix Result <29.8 nd spike dup CCVs Percent Recovery 94	Res <2 plicate r Rec. 103 plicate r	Prest trix sult Ra 9.8 10 esult. Rec. Limit 90 - 110 esult. Ana Percent Recovery Limits 80 - 120	epared B ec. 03 RPD 0 alyzed B A 20 20 20 20	y: PG Rec. Limit 90 - 110 RPD Limit 20 y: AG Date nalyzed 10-10-14

QC Batch: 74557

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Date Analyzed: 2010-10-14

Analyzed By: AG

Report Date: No 115-6403130	ovember 10	, 2010		Vork Order: 101 ero/Rock Queer			umber: 10 of 10 vez County, NM
			CCVs	CCVs	CCVs	Percent	Data
Param	Flag	Units	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
Benzene	1 105	mg/L	0.100	0.0998	100	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.100	100	80 - 120	2010-10-14
Ethylbenzene		mg/L	0.100	0.0964	96	80 - 120	2010-10-14
Xylene		mg/L	0.300	0.288	96	80 - 120	2010-10-14
Standard (CC	V-1)						
QC Batch: 750'	72		Date Anal	yzed: 2010-11	-03	Anal	yzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
	0						
Standard (CC)	,	mg/L	25:0 Date Anal	25.0 yzed: 2010-11	-03	90 - 110 Anal	2010-11-03 yzed By: PG
Standard (CC) QC Batch: 750	72	Units	** <u>*</u>				
Standard (CC QC Batch: 750 Param	,		Date Anal CCVs True	yzed: 2010-11 CCVs Found	-03 CCVs Percent	Anal Percent Recovery	yzed By: PG Date
Chloride Standard (CC) QC Batch: 750 Param Chloride Standard (CC) QC Batch: 752	72 Flag V-1)	Units	Date Anal CCVs True Conc. 25.0	yzed: 2010-11 CCVs Found Conc.	-03 CCVs Percent Recovery 99	Anal Percent Recovery Limits 90 - 110	yzed By: PG Date Analyzed
Standard (CC QC Batch: 750 Param Chloride Standard (CC)	72 Flag V-1)	Units	Date Anal CCVs True Conc. 25.0	yzed: 2010-11 CCVs Found Conc. 24.7	-03 CCVs Percent Recovery 99	Anal Percent Recovery Limits 90 - 110	yzed By: PG Date Analyzed 2010-11-03
Standard (CC QC Batch: 750 Param Chloride Standard (CC	72 Flag V-1)	Units	Date Anal CCVs True Conc. 25.0 Date Anal	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11-	-03 CCVs Percent Recovery 99	Anal Percent Recovery Limits 90 - 110 Anal	yzed By: PG Date Analyzed 2010-11-03
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752 Param H	72 Flag V-1)	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc.	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found Conc.	-03 CCVs Percent Recovery 99 -09 -09 -CCVs Percent Recovery	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752 Param H	72 Flag V-1) 31	Units mg/L	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found	-03 CCVs Percent Recovery 99 -09 -09 -CCVs Percent	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752 Param H Sulfate	72 Flag V-1) 31 Flag	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc.	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found Conc.	-03 CCVs Percent Recovery 99 -09 -09 -CCVs Percent Recovery	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752	72 Flag V-1) 31 Flag V-2)	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found Conc.	-03 CCVs Percent Recovery 99 -09 -09 CCVs Percent Recovery 95	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752 Param H Sulfate Standard (CC	72 Flag V-1) 31 Flag V-2)	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0	yzed: 2010-11- CCVs Found Conc. 24.7 yzed: 2010-11- CCVs Found Conc. 23.7	-03 CCVs Percent Recovery 99 -09 -09 CCVs Percent Recovery 95	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed 2010-11-09
Standard (CC QC Batch: 750 Param Chloride Standard (CC QC Batch: 752 Param H Sulfate Standard (CC	72 Flag V-1) 31 Flag V-2)	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0 Date Anal	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found Conc. 23.7 yzed: 2010-11	-03 CCVs Percent Recovery 99 -09 CCVs Percent Recovery 95	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed 2010-11-09
Standard (CCN QC Batch: 750 Param Chloride Standard (CCN QC Batch: 752 Param H Sulfate Standard (CCN QC Batch: 752	72 Flag V-1) 31 Flag V-2)	Units mg/L Units	Date Anal CCVs True Conc. 25.0 Date Anal CCVs True Conc. 25.0 Date Anal CCVs	yzed: 2010-11 CCVs Found Conc. 24.7 yzed: 2010-11 CCVs Found Conc. 23.7 yzed: 2010-11 CCVs	-03 CCVs Percent Recovery 99 -09 CCVs Percent Recovery 95 -09 CCVs	Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent	yzed By: PG Date Analyzed 2010-11-03 yzed By: PG Date Analyzed 2010-11-09 yzed By: PG

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PROJECT N			PR	OJI	ст (', I,:	NAME	Rou	k C	harrish	#	7 k*						CONTAINERS	(N/X)					Part - F		MON	S AG A	9 49 A	loa Aotatiles		8240/82	608		0	Ar)	(e)		
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB		Çı				DENT		ATIO	N			NI MAFR OF	FILTERED O	HCL	HNOS	ICE	NONE		QUEX 8021	PAH 8270	RCRA Metals Ag As B	TCLP Metal	TCLP Semi Volatiles	RCI	GC.MS Vol.	PCB's 8080/	Peest. 808/608	Chloride Gamma Soec	Alpha Beta (Air)	PLM (Asbestos)	KILLER CITERIO	J 121110
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Lubbock, Texas 79424 6701 Aberdeen Avenue, Suite 9 800 • 378 • 1296 806 • 794 • 1296 FAX 806 • 794 • 1298 888 • 588 • 3443 200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944 5002 Basin Street, Suite A1 Midland, Texas 79703 432 • 689 • 6301 FAX 432 • 689 • 6313 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817 • 201 • 5260 E-Mail: lab@traceanalysis.com Certifications **WBENC:** 237019 HUB: 1752439743100-86536 **DBE**: VN 20657 NCTRCA WFWB38444Y0909 **NELAP** Certifications **El Paso:** T104704221-08-TX Lubbock: Midland: T104704392-08-TX T104704219-08-TX LELAP-02003 LELAP-02002 Kansas E-10317 Analytical and Quality Control Report Jeff Kindley Report Date: February 3, 2011 Tetra Tech 1910 N. Big Spring Street Work Order: 11012129 Midland, TX, 79705 Chavez County, NM Project Location: **Project Name:** Celero/Rock Queen #7 TB

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

115-6403130

Project Number:

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
255903	MW-1	water	2011-01-20	18:19	2011-01-21
255904	MW-2	water	2011-01-20	18:00	2011-01-21
255905	MW-3	water	2011-01-20	18:12	2011-01-21
255906	MW-4	water	2011-01-20	18:16	2011-01-21
255907	Rinseate	water	2011-01-20	16:45	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 18 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.

Page 2 of 18

Samples for project Celero/Rock Queen #7 TB were received by TraceAnalysis, Inc. on 2011-01-21 and assigned to work order 11012129. Samples for work order 11012129 were received intact without headspace and at a temperature of 12.3 C.

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

		Prep	Prep	$\mathbf{Q}\mathbf{C}$	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	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66364	2011-02-01 at 10:33	77367	2011-02-01 at 12:49
TDS	SM 2540C	66128	2011-01-24 at 11:48	77161	2011-01-26 at 15:20
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 11012129 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 3, 2011 115-6403130

Work Order: 11012129 Celero/Rock Queen #7 TB Page Number: 4 of 18 Chavez County, NM

Analytical Report

Sample: 255903 - MW-1

Laboratory: Midland Analysis: BTEX QC Batch: 77124 Prep Batch: 66157	Analytical Method Date Analyzed: Sample Preparatio	2011-01-24		Prep Method: Analyzed By: Prepared By:	S 5030B AG AG
	RL				
Parameter Flag	\mathbf{Result}	Units	Dilut	ion	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 Ur	its Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	0.108 mg	/L 1	0.100	108	67.8 - 126
4-Bromofluorobenzene (4-BFB)	0.100 mg		0.100	100	51.1 - 128
Sample:255903 - MW-1Laboratory:LubbockAnalysis:Chloride (IC)QC Batch:77266Prep Batch:66273ParameterFlag	Analytical Me Date Analyze Sample Prepa RL Result	l: 2011-01-30	Dilu	Prep Meth Analyzed I Prepared F tion	3y: PG
Chloride	18200	mg/L		1000	2.50
Sample: 255903 - MW-1 Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 77266	Analytical Meth Date Analyzed:		,	Prep Meth Analyzed I	od: N/A
Prep Batch: 66273	Sample Prepara			Prepared E	
	RL	 	Dil		זמ
Parameter Flag Sulfate	Result <2500	Units mg/L		ition 1000	RL
	<2500	· III異/ LJ		1000	2.00

Report Date: February 3, 2011 115-6403130				: 11012129 Queen #7 TB		Page Numl Chavez (ber: 5 of 18 County, NM
Sample: 255903 - MW-1							
Laboratory: Midland							
Analysis: TDS		Analytical		SM 2540C		Prep Meth	,
QC Batch: 77161		Date Analy		2011-01-26		Analyzed	
Prep Batch: 66128		Sample Pre	eparacion:	2011-01-24		Prepared	By: AR
			\mathbf{RL}	r 1			
Parameter	Flag	R	lesult	Units		Dilution	\mathbf{RL}
Total Dissolved Solids		3	8600	mg/L		100	10.0
· · ·	•			ι 1			
				1			
Sample: 255904 - MW-2				• •			
Laboratory: Midland				<u>}</u>			
Analysis: BTEX		Analytical M	ethod:	5 8021B		Prep Method:	S 5030B
QC Batch: 77124		Date Analyze		2011-01-24		Analyzed By:	AG
Prep Batch: 66157		Sample Prep		2011-01-24		Prepared By:	AG
		D.*		!			
Parameter Flag		RL Result		Units	Di	lution	RL
Benzene		<0.00100		mg/L	DI	1	0.00100
Toluene		< 0.00100		mg/L		1	0.00100
Ethylbenzene		< 0.00100		8, mg/L		1	0.00100
Xylene		< 0.00100		mg/L		1	0.00100
					a		5
Sumo zako	Flam	Denult	Units	Dilution	Spike	Percent	Recovery Limits
Surrogate Trifluorotoluene (TFT)	Flag	<u>Result</u> 0.107	mg/L		Amount 0.100	Recovery 107	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0992	mg/L	1	0.100	99	51.1 - 128
				1			
Sample: 255904 - MW-2				· [
Laboratory: Lubbock				• • •			
Analysis: Chloride (IC)		Analytic	al Method	E 300.0		Prep Meth	od: N/A
QC Batch: 77266		Date An		2011-01-30		Analyzed	
Prep Batch: 66273			Preparation			Prepared 1	
-		*	•	·		•	-
		RL		· · · · ·	_	N1 . 1	 -
Parameter Flag		Result		Units	I	Dilution	RL
Chloride		45100		_ mg/L		10000	2.50

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Report Date: February	3, 2011				r: 11012129 Queen #7 TB		Page Nu Chavez		6 of 18 ty, NM
Sample: 255904 - MV	V-2				1				
Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 77367 Prep Batch: 66364			Analytical Date Anal Sample Pr	yzed:	E 300.0 2011-02-01 : 2011-02-01		Prep M Analyze Prepare	ed By:	N/A PG PG
Parameter	Flag		RL Result		Units	I	Dilution		RL
Sulfate	····		1250		mg/L		50		2.50
Sample: 255904 - MV	V-2								
Laboratory: Midland Analysis: TDS QC Batch: 77161 Prep Batch: 66128			Analytical Date Analy Sample Pre	zed:	SM 2540C 2011-01-26 2011-01-24		Prep M Analyze Prepare	ed By:	N/A AR AR
Parameter		Flag	F	RL lesult	Units		Dilution		\mathbf{RL}
Total Dissolved Solids		0		8200	mg/L		100		10.0
Sample: 255905 - MV Laboratory: Midland Analysis: BTEX QC Batch: 77124 Prep Batch: 66157	V-3		Analytical M Date Analyz Sample Prep	ed:	S 8021B 2011-01-24 2011-01-24		Prep Metho Analyzed B Prepared B	y: A	
Parameter	Flag		RI Result		Units	Di	lution		\mathbf{RL}
Benzene Toluene Ethylbenzene Xylene			<0.00100 <0.00100 <0.00100 <0.00100)	mg/L mg/L mg/L mg/L		1 1 1 1	0 0	.00100 .00100 .00100 .00100
Surrogate	at 16 mag	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Li	overy mits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4	-BFB)		0.108 0.101	mg/L mg/L		0.100 0.100	108 101		3 - 126 128
						· .		. –	

					-		
					 1		
Report Date: 115-6403130	: February 3,	, 2011		Work Order Celero/Rock		Page Numbe Chavez Co	
Sample: 25	5905 - MW	-3					
Laboratory:	Lubbock					'n	
Analysis:	Chloride (IC	C)		Analytical Method		Prep Metho	
QC Batch: Prep Batch:	77266 66273			Date Analyzed: Sample Preparatio	- 2011-01-30 on: 2011-01-30	Analyzed B Prepared B	
Tep Datch.	00215			Sample Treparatio	л. 2011-01- 3 0	T Tepateu D	y. 10
				\mathbf{RL}			
Parameter		Flag		Result	Units	Dilution	RL
Chloride				47500	mg/L	5000	2.50
	7						
Sample: 25	5905 - MW	-3			Ì		
Laboratory:	Lubbock						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Metho	d: N/A
QC Batch:	77367			Date Analyzed:	2011-02-01	Analyzed B	
Prep Batch:	66364			Sample Preparation:	2011-02-01	Prepared B	y: PG
				, DI	1 -		
Parameter		Flag		RL Result	Units	Dilution	RL
Sulfate		Plag		1750	mg/L	50	2.50
Sample: 25	5905 - MW	-3					
Laboratory:	Midland						
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Metho	d: N/A
QC Batch:	77161			Date Analyzed:	2011-01-26	Analyzed B	•
Prep Batch:	66128			Sample Preparation:	2011-01-24	Prepared B	y: AR
				DI	1 , 1 , ;		
Parameter			Flag	RL Result	, Units	Dilution	RL
Total Dissolv	red Solids		riag	81800	mg/L	100	10.0
Sample: 25	5906 - MW	-4					
- Laboratory:	Midland				1		
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	77124				2011-01-24	Analyzed By:	AG
Prep Batch:	66157				2011-01-24	Prepared By:	AG
				. RL	-		
		Flag		Result	Units	Dilution	RL
Parameter		гае		ICOULD			
Parameter Benzene		r lag		<0.00100	mg/L	1	0.00100
		r lag				1 1	0.00100 0.00100

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Report Date: February 3, 2011 115-6403130 Work Order: Celero/Rock Q					0					
sample 2559(<u>, , , , , , , , , , , , , , , , , , , </u>				
			RL	,						
Parameter	8		Result		Units mg/L	Dil	Dilution		RL	
-	Ethylbenzene			<0.00100		1		0.001		
Xylene			< 0.00100		mg/L		1	0	.00100	
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery		covery imits	
Trifluorotolu	ene (TFT)		0.114	mg/L	1 .	0.100	114		8 - 126	
	obenzene (4-BFB	s)	0.103	mg/L	, 1	0.100	103	51.	1 - 128	
			,			:				
Sample: 25	5906 - MW-4									
Laboratory: Analysis:	Lubbock Chloride (IC)		Analytic	al Method	: E 300.0		Prep M	ethod:	N/A	
QC Batch:	77266		Date An	alyzed:	2011-01-30		Analyze	d By:	ΡĠ	
Prep Batch:	66273		Sample 1	Preparatio	n: 2011-01-30		Prepare	d By:	\mathbf{PG}	
		·	RL							
Parameter	Fla	g	Result		Units	D	ilution		\mathbf{RL}	
Chloride			279		mg/L		50		2.50	
Sample: 25	5906 - MW-4						•			
-					;					
Laboratory: Analysis:	Lubbock SO4 (IC)		Analytical	Method	E 300.0		Prep Me	othod	N/A	
QC Batch:	77266		Date Anal		2011-01-30		Analyze		PG	
Prep Batch:	66273		Sample Pr		2011-01-30		Prepare		PG	
Parameter	Fla	~	RL Result		Units	, u	ilution		\mathbf{RL}	
Sulfate	Fla	g	<125		mg/L		50		2.50	
			(120							
Sample: 25	5906 - MW-4				 					
Laboratory:	Midland						·			
Analysis:	TDS		Analytical		SM 2540C		Prep Me		N/A	
QC Batch: Prep Batch:	77255 66142		Date Analy Sample Pre		2011-01-31 2011-01-25		Analyze Prepare	-	AR AR	
rop Daton:	00174		Sample I It	Parauon:	WUII-01-40		1 tchaig	а ј у.	1110	
				RL						
Parameter		Flag	R	esult	Units		Dilution		RL	
Total Dissolv	ed Solids			792	mg/L		2		10.0	

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115-6403130	February 3, 2011				: 11012129 Jueen #7 TB	Page Number: 9 of 18 Chavez County, NM			
Sample: 25	5907 - Rinseate								
Laboratory:	Midland								
Analysis:					5,8021B		Prep Metho		
QC Batch: 77124 Prep Batch: 66157			Date Analyz Sample Prep		2011-01-24 2011-01-24		Analyzed B Prepared B		
r lep batch:	00157		bampie riep	aration.	011-01-24		i lepateu D	у. Аб	
			RI						
Parameter	Flag		Resul		Units	Dilution		R	
Benzene			< 0.00100		mg/L	1		0.0010	
Toluene Ethylbenzene			<0.00100 <0.00100		mg/L mg/L			0.0010	
Xylene			< 0.00100		mg/L	1		0.0010	
a ,		I''		T T */-		Spike	Percent	Recover	
Surrogate Trifluorotolue	<u>no (TET)</u>	Flag	Result 0.108	Units mg/L	Dilution	Amount 0.100	Recovery 108	Limits 67.8 - 12	
	obenzene (4-BFB)		0.108	mg/L	1	0.100	100	51.1 - 12	
•	Lubbock Chloride (IC)		Analytic	al Method	E 300.0		Prep Me	ethod: N/.	
Analysis: QC Batch:	Lubbock Chloride (IC) 77266 66273		Date An	al Method alyzed: Preparation	2011-01-30		Prep Me Analyze Prepare	d By: PG	
Analysis: QC Batch: Prep Batch:	Chloride (IC) 77266 66273		Date An Sample RL	alyzed:	2011-01-30 n: 2011-01-30		Analyze Prepare	d By: PG d By: PG	
Analysis: QC Batch: Prep Batch: Parameter	Chloride (IC) 77266		Date An Sample RL Result	alyzed:	2011-01-30 n: 2011-01-30 Units	D	Analyze Prepare ilution	d By: PG d By: PG R	
Analysis: QC Batch: Prep Batch:	Chloride (IC) 77266 66273		Date An Sample RL	alyzed:	2011-01-30 n: 2011-01-30	D	Analyze Prepare	d By: PG d By: PG	
Analysis: QC Batch: Prep Batch: Parameter Chloride	Chloride (IC) 77266 66273		Date An Sample RL Result	alyzed:	2011-01-30 n: 2011-01-30 Units	D	Analyze Prepare ilution	d By: PG d By: PG R	
Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory:	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock		Date An Sample RL Result <12.5	alyzed: Preparation	2011-01-30 n: 2011-01-30 Units mg/L	D	Analyze Prepare ilution 5	d By: PG d By: PG 	
Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis:	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock SO4 (IC)		Date An Sample RL Result <12.5	alyzed: Preparation Method:	2011-01-30 n: 2011-01-30 Units mg/L E 300.0	D	Analyze Prepare ilution 5 Prep Me	ed By: PG d By: PG <u>R</u> 2.5 ethod: N/	
Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch:	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock SO4 (IC) 77266		Date An Sample RL Result <12.5 Analytical Date Anal	alyzed: Preparation Method: yzed:	2011-01-30 n: 2011-01-30 Units mg/L E 300.0 2011-01-30	D	Analyze Prepare ilution 5 Prep Me Analyze	ed By: PG d By: PG <u>R</u> 2.5 ethod: N/. d By: PG	
Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 255 Laboratory: Analysis: QC Batch:	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock SO4 (IC)		Date An Sample RL Result <12.5 Analytical Date Anal	alyzed: Preparation Method:	2011-01-30 n: 2011-01-30 Units mg/L E 300.0	D	Analyze Prepare ilution 5 Prep Me	ed By: PG d By: PG <u>R</u> 2.5 ethod: N/. d By: PG	
Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 25 Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock SO4 (IC) 77266 66273		Date An Sample RL Result <12.5 Analytical Date Anal Sample Pr RL	alyzed: Preparation Method: yzed:	2011-01-30 h: 2011-01-30 Units mg/L E 300.0 2011-01-30 2011-01-30		Analyze Prepare ilution 5 Prep Mo Analyze Prepare	d By: PG d By: PG <u>R</u> 2.5 ethod: N/. d By: PG d By: PG	
	Chloride (IC) 77266 66273 Flag 5907 - Rinseate Lubbock SO4 (IC) 77266		Date An Sample RL Result <12.5 Analytical Date Anal Sample Pr	alyzed: Preparation Method: yzed:	2011-01-30 n: 2011-01-30 Units mg/L E 300.0 2011-01-30		Analyze Prepare ilution 5 Prep Me Analyze	ed By: PG d By: PG <u>R</u> 2.5 ethod: N/. d By: PG	

QC Batch:77255 Sample Preparation:Date Analyzed:2011-01-31 2011-01-25Analyzed By: Prepared By:ARParameterFlagResultUnitsDilutionRLTotal Dissolved Solids74.0mg/L110.0Method Blank (1)QC Batch:77124MgL110.0Method Blank (1)QC Batch:77124Date Analyzed:2011-01-24Analyzed By: AGAGPrep Batch:66157QC Preparation:2011-01-24Prepared By: AGAGParameterFlagResultUnitsRLBenzene<0.000600mg/L0.001Toluene<0.000600mg/L0.001Xylene<0.000767mg/L0.001SurrogateFlagResultUnitsRecoverySurrogateFlagResultUnitsDilutionRecoveryTrifluorotoluene (TFT)0.115mg/L10.10011570.2 - 118							
15-6403130 Celero/Rock Quicen #7 TB Chaves. County, NN ample: 255907 - Rinseate aboratory: Midland nalyzic: SM 2540C Prep Method: N/A analyzi: TDS Analytical Method: SM 2540C Prep Method: N/A C Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR arameter Flag Result Units Dilution RL C Batch: 77124 QC Preparation: 2011-01-24 Analyzed By: AG rep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG arameter Flag Result Units RL arameter Flag Result Units RL 0.001 arameter Flag Result Units RL 0.001 arameter Flag Result Units RL 0.001 arameter Flag Result Units Recovery <th></th> <th></th> <th></th> <th></th> <th>·</th> <th></th> <th></th>					·		
Dif-6403130 Celero/Rack Queen #7 TB Chaves. County, NN Sample: 255907 - Rinseate aboratory: Midland Frep Method: SM 2540C Prep Method: N/A Acboratory: Midland Date Analyzed: 2011-01-31 Analyzed By: AR Collach: 77255 Date Analyzed: 2011-01-25 Prep Method: N/A Carameter Flag Rsult Units Dilution RL Parameter Flag Rsult Units Dilution RL QC Batch: 77124 QC Batch: 77124 1 10.0 QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG Yep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Parameter Flag Result Units RL Of Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Parameter Flag Result Units N/A Parameter Flag Result							
aboratory:Midland Analysis:TDS TDS Trep Batch:Analytical Method:SM 2540C 2011-01-31 2011-01-25Prep Method:N/A Analyzed By:AR Analyzed By:ARParameterFlagResultUnitsDilutionRL RLParameterFlagResultUnitsDilutionRLParameterFlagResultUnitsDilutionRLQC Batch:77124Date Analyzed:2011-01-24Analyzed By:AGQC Batch:66157QC Preparation:2011-01-24Prepared By:AGParameterFlagResultUnitsRLParameterFlagResultUnitsRLParameterFlagResultUnitsRLParameterFlagResultUnitsRLParameterFlagResultUnitsRLParameterFlagResultUnitsRLParameterFlagResultUnitsRLOutone <0.000600 mg/L0.001SurrogateFlagResultUnitsSpikePercentFlagResult10.100115Prepared By:0.111mg/L10.100111QC Batch:77161Date Analyzed:2011-01-26Analyzed By:Prepared By:ARMDLPrepared By:ARParameterFlagResultUnitsRLQC Batch:77161Date Analyzed:2011-01-26Anal		3, 2011					
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR Prep Batch: 66142 Sample Preparation: 2011-01-35 Prepared By: AR Parameter Flag Result Units Dilution RL Total Dissolved Solids 74.0 mg/L 1 01.0 Method Blank (1) QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene 	Sample: 255907 - Rin	seate					
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR Prep Batch: 66142 Sample Preparation: 2011-01-35 Prepared By: AR Parameter Flag Result Units Dilution RL Total Dissolved Solids 74.0 mg/L 1 01.0 Method Blank (1) QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene 	Laboratory: Midland					·	
Prep Batch: 66142 Sample Preparation: 2011-01-25 Prepared By: AR Parameter Flag Result Units Dilution RL Total Dissolved Solids 74.0 mg/L 1 10.0 Method Blank (1) QC Batch: 77124 mg/L Analyzed By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Analyzed By: AG Parameter Flag Result Units RL Benzene 0.000600 mg/L 0.001 Benzene <0.000600	Analysis: TDS						
RL ParameterFlagResultUnitsDilutionRL Total Dissolved SolidsTotal Dissolved Solids74.0 mg/L 110.0Method Blank (1)QC Batch: 77124QC Preparation: 2011-01-24Analyzed By: AG Prep Batch: 66157QC Preparation: 2011-01-24Prepared By: AGParameterFlagResultUnitsRL 0.000600mg/L0.001 0.001Benzene Chylene<0.000600					,		
Parameter Flag Result Units Dilution RL Total Dissolved Solids 74.0 mg/L 1 10.0 Method Blank (1) QC Batch: 77124 Pate Analyzed: 2011-01-24 Analyzed By: AG QC Batch: 77124 Date Analyzed: 2011-01-24 Prepared By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene <0.000600	Prep Batch: 66142		Sample Preparation:	2011-01-25	·	Prepare	ed By: AR
Parameter Flag Result Units Dilution RL Total Dissolved Solids 74.0 mg/L 1 10.0 Method Blank (1) QC Batch: 77124 Pate Analyzed: 2011-01-24 Analyzed By: AG QC Batch: 77124 Date Analyzed: 2011-01-24 Prepared By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene <0.000600			RL				
Total Dissolved Solids 74.0 mg/L 1 10.0 Method Blank (1) QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG QC Batch: 77124 Date Analyzed: 2011-01-24 Prepared By: AG Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene <0.000600	Parameter	Flag		Units	D	ilution	RL
QC Batch: 77124 QC Prep Batch: Date Analyzed: 2011-01-24 Analyzed By: AG Parameter Flag Result Units RL Benzene <0.000600							10.0
QC Batch: 77124 QC Prep Batch: Date Analyzed: 2011-01-24 Analyzed By: AG Parameter Flag Result Units RL Benzene <0.000600			······································				
QC Batch: 77124 QC Prep Batch: Date Analyzed: 2011-01-24 Analyzed By: AG Parameter Flag Result Units RL Benzene <0.000600	Method Blank (1)	QC Batch: 77124					
Prep Batch: 66157 QC Preparation: 2011-01-24 Prepared By: AG Parameter Flag Result Units RL Benzene <0.000600		∼ -	- · · · · ·				17 10
ParameterFlagMDL ResultUnitsRLBenzene<0.000600							
Parameter Flag Result Units RL Benzene <0.000600	Prep Batch: 00197		QC Preparation: 2	011-01-24		rrepar	ea by: AG
Parameter Flag Result Units RL Benzene <0.000600							
Benzene <0.000600 mg/L 0.001 Toluene <0.000600	Paramatar	Flag			Units		BL.
Toluene<0.000600 mg/L 0.001Ethylbenzene<0.000800		riag					
Ethylbenzene <0.000800 mg/L 0.001 Xylene <0.000767							0.001
Xylene <0.000767 mg/L 0.001 Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 0.115 mg/L 1 0.100 115 70.2 - 118 4-Bromofluorobenzene (4-BFB) 0.111 mg/L 1 0.100 111 47.3 - 116 Method Blank (1) QC Batch: 77161 Date Analyzed: 2011-01-26 Analyzed By: AR Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL MDL MDL Inits RL 10 Method Blank (1) QC Batch: 77255 10.0 mg/L 10			< 0.000	800	mg/L		0.001
Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 0.115 mg/L 1 0.100 115 70.2 - 118 4-Bromofluorobenzene (4-BFB) 0.111 mg/L 1 0.100 111 47.3 - 116 Method Blank (1) QC Batch: 77161 Date Analyzed: 2011-01-26 Analyzed By: AR Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL Parameter Flag Result Units RL Method Blank (1) QC Batch: 77255 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR	Xylene		<0.000	767	mg/L		0.001
Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 0.115 mg/L 1 0.100 115 70.2 - 118 4-Bromofluorobenzene (4-BFB) 0.111 mg/L 1 0.100 111 47.3 - 116 Method Blank (1) QC Batch: 77161 Date Analyzed: 2011-01-26 Analyzed By: AR Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL Parameter Flag Result Units RL Method Blank (1) QC Batch: 77255 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR					Spike	Percent	Recovery
Trifluorotoluene (TFT) 0.115 mg/L 1 0.100 115 70.2 - 118 4-Bromofluorobenzene (4-BFB) 0.111 mg/L 1 0.100 111 47.3 - 116 Method Blank (1) QC Batch: 77161 Date Analyzed: 2011-01-26 Analyzed By: AR Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL Parameter Flag Result Units RL Total Dissolved Solids 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR	Surrogate	Flag	Result Units	Dilution	-		
Method Blank (1) QC Batch: 77161 Date Analyzed: 2011-01-26 Analyzed By: AR Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL MDL Parameter Flag Result Units RL Total Dissolved Solids 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR	Trifluorotoluene (TFT)		0.115 mg/L				70.2 - 118
QC Batch:77161 QC Prep Batch:Date Analyzed: 2011-01-26 2011-01-242011-01-26 Prepared By:Analyzed By: ARARParameterFlagResultUnitsRLTotal Dissolved Solids10.0mg/L10Method Blank (1)QC Batch:77255Date Analyzed:2011-01-31QC Batch:77255Date Analyzed:2011-01-31Analyzed By:AR	4-Bromofluorobenzene (4	-BFB)		1	0.100	111	47.3 - 116
QC Batch:77161 QC Prep Batch:Date Analyzed: 2011-01-26 2011-01-242011-01-26 Prepared By:Analyzed By: ARARParameterFlagResultUnitsRLTotal Dissolved Solids10.0mg/L10Method Blank (1)QC Batch:77255Date Analyzed:2011-01-31QC Batch:77255Date Analyzed:2011-01-31Analyzed By:AR				8 5 1			
Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL MDL Parameter Flag Result Units RL Total Dissolved Solids 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Analyzed: 2011-01-31	Method Blank (1)	QC Batch: 77161					
Prep Batch: 66128 QC Preparation: 2011-01-24 Prepared By: AR MDL MDL Parameter Flag Result Units RL Total Dissolved Solids 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 Analyzed: 2011-01-31	00 Patah 77161		Data Analyzadi 9	011 01-96		Analyz	ad Rus AR
ParameterFlagMDLTotal Dissolved Solids10.0mg/L10Method Blank (1)QC Batch: 77255Date Analyzed: 2011-01-31Analyzed By: AR							
Parameter Flag Result Units RL Total Dissolved Solids 10.0 mg/L 10 Method Blank (1) QC Batch: 77255 2011-01-31 Analyzed By: AR			WOITOparation -	1		1 topor	ou by
Total Dissolved Solids10.0mg/L10Method Blank (1)QC Batch: 77255QC Batch: 77255Analyzed By: AR	_						~ ~
Method Blank (1) QC Batch: 77255 QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR		Fla	ag				
QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR	Total Dissolved Solids	······································		10.0	mg/	L	10
QC Batch: 77255 Date Analyzed: 2011-01-31 Analyzed By: AR							
	Method Blank (1)	QC Batch: 77255		1			
	OC Batch 77255		Date Analyzed: 2	011-01-31		Analyz	ed By: AR
	•		· ·	F 1 1		-	
				, . 			
		i					

Report Date: February 115-6403130	3, 2011		ler: 11012129 x Queen #7 TB	F	Page Number: 1 Chavez Coun
			MDL		
Parameter Total Dissolved Solids	Fla	1g	Result 10.0	Units mg/L	
			10.0		
Method Blank (1)	QC Batch: 77266				
QC Batch: 77266 Prep Batch: 66273		Date Analyzed: QC Preparation:	2011-01-30 2011-01-30		Analyzed By: Prepared By:
Parameter	Flow		ADL esult	Units	
Chloride	Flag		0142	mg/L	
Method Blank (1) QC Batch: 77266 Prep Batch: 66273	QC Batch: 77266	Date Analyzed: QC Preparation:	2011-01-30 2011-01-30		Analyzed By: Prepared By:
Parameter	Flag		IDL sult	Units	
Sulfate			126	mg/L	······································
Method Blank (1)	QC Batch: 77367				``
QC Batch: 77367 Prep Batch: 66364		Date Analyzed: QC Preparation:	2011-02-01 2011-02-01		Analyzed By: Prepared By:
			IDL	TT 1 /	
Parameter Sulfate	Flag		sult 126	Units mg/L	
Duplicates (1) Dup	licated Sample: 2559	05			
QC Batch: 77161 Prep Batch: 66128		Date Analyzed: QC Preparation:	2011-01-26 2011-01-24		Analyzed By: Prepared By:
Param	Dupli Rest			Dilution	RPD
Total Dissolved Solids	815			100	0

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Report Date: February 3, 2011 115-6403130			Order: 110 tock Queer			F			12 of 18 nty, NM	
Duplicates (1) Duplicated Sam	mple: 255921						• .			
QC Batch: 77255 Prep Batch: 66142	5			11-01-31 11-01-24			Analyzed By: AR Prepared By: AR			
Param Total Dissolved Solids	Duplicate Result 147000	Re	nple sult 1000	Units mg/L	Diluti 100	on	RPD 9	•	RPD Limit 10	
Laboratory Control Spike (LC	CS-1)									
QC Batch: 77124 Prep Batch: 66157		e Analyzec Preparatic						zed By red By		
Param	LCS Result	Units	Dil	Spike Amount	Matı Resi	ılt	Rec.]	Rec. Limit	
Benzene Toluene Ethylbenzene Xylene	0.0885 0.0989 0.102 0.308	mg/L mg/L mg/L mg/L	1 1 1 1	0.100 0.100 0.100 0.300	<0.000 <0.000 <0.000 <0.000)600)800	88 99 102 103	82 78	.9 - 118 .7 - 117 .8 - 116 .3 - 116	
Percent recovery is based on the sp	pike result. RPD		on the spik	e and spike	duplicate	result.				
Param	LCSD Result Unit	s Dil.	Spike Amo'unt	Matrix Result	Rec.	Ree Lim		RPD	RPD Limit	
Benzene Toluene Ethylbenzene	0.0906 mg/l 0.102 mg/l 0.106 mg/l	և 1 և 1	$0.100 \\ 0.100 \\ 0.100$	<0.000600 <0.000600 <0.000800	0 102 0 106	82.9 - 82.7 - 78.8 -	117 116	2 3 4	20 20 20	
Xylene Percent recovery is based on the sp	0.320 mg/l pike result. RPD		0.300 on the spik	<0.000767		79.3 - result.	116	4	20	
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	LCS Result 0.110 0.110	LCSD Result 0.111 0.113	Units mg/L mg/L	Dil. An 1 0.	pike	LCS Rec. 110 110	LCSD Rec. 111 113	67.	Rec. Limit 3 - 113 2 - 134	
Laboratory Control Spike (LC										
QC Batch: 77161 Prep Batch: 66128		Analyzed Preparatic						zed By red By:		
Param	LCS Result	Units	Dil.	Spike Amoun		atrix esult	Rec.		Rec. Limit	
Total Dissolved Solids	993	mg/L	1	1000		9.75	99	-	0 - 110	

-				1					
									•
								*	
Report Date: February 3, 20 115-6403130	11	C		ler: 110121 k Queen #				Number: avez Cou	
		<u> </u>						****	
Param Total Dissolved Solids	LCSD Result 999	Units mg/L		Spike Amount 1000	Matrix Result <9.75	Rec.	Rec. Limit 90 - 110	RPD 1	RPE Limi 10
Percent recovery is based on				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
Laboratory Control Spike	e (LCS-1)								
QC Batch: 77255 Prep Batch: 66142			nalyzed: eparation:	2011-01-3 2011-01-3				alyzed B pared B	
		v •							
D		CS	TT T .		Spike	Ma			Rec.
Param Total Dissolved Solids		sult 20	Units mg/L	Dil.	Amount 1000	Res <9		ec 02	Limit 90 - 11
Percent recovery is based on									
	LCSD			Spike	Matrix		Rec.		RPI
Param	Result	Units		Amount	Result	Rec.	Limit	RPD	Limi
Total Dissolved Solids Percent recovery is based on t	1020 the spike result.	mg/L BPD is		1000 the spike a	<9.75 nd spike du	102 plicate r	<u>90 - 110</u> esult.	0	10
	•			-	-	• •			
	-				-	•			
Laboratory Control Spike QC Batch: 77266	-	Date A	nalyzed:	2011-01-3	30	•	An	alyzed B	-
Laboratory Control Spike QC Batch: 77266	-	Date A			30	• .	An	alyzed B pared B	-
Laboratory Control Spike QC Batch: 77266	-	Date A QC Pre	nalyzed:	2011-01-3	30	Mat	An: Pre	•	-
Laboratory Control Spike QC Batch: 77266 Prep Batch: 66273 Param	e (LCS-1) LC Res	Date A QC Pro CS sult	nalyzed: eparation: Units	2011-01-3 2011-01-3 Dil.	30 30 Spike Amount	Mat Res	Ana Pre rix ult R	ec.	y: PG Rec. Limit
Laboratory Control Spike QC Batch: 77266 Prep Batch: 66273 Param Chloride	e (LCS-1) LC Res 24	Date A QC Pro CS sult	nalyzed: eparation: Units mg/L	2011-01-3 2011-01-3 Dil.	30 30 Spike Amount 25.0	Mat Res <0.0	Ana Pre ult R 1142 9	ec.	y: PG Rec. Limit
Laboratory Control Spike QC Batch: 77266 Prep Batch: 66273 Param Chloride	e (LCS-1) LC Res 24 the spike result.	Date A QC Pro CS sult	nalyzed: eparation: Units mg/L	2011-01-3 2011-01-3 Dil. 1 the spike a	30 30 Amount 25.0 nd spike du	Mat Res <0.0	Ana Pre ult R 1142 9 esult.	ec.	y: PG Rec. Limit 90 - 11
Laboratory Control Spike QC Batch: 77266	e (LCS-1) LC Res 24	Date A QC Pro CS sult	unalyzed: eparation: Units mg/L based on	2011-01-3 2011-01-3 Dil.	30 30 Spike Amount 25.0	Mat Res <0.0	Ana Pre ult R 1142 9	ec.	y: PG Rec.

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Report Date: February 3, 2011 115-6403130		Ce		der: 11012 k Queen #				e Number: Chavez Co	
control spikes continued									
		CS			Spike		trix	-	Rec.
Param	Re	sult	Units	Dil.	Amount	Rea	sult	Rec.	Limit
	L				Spike	Ma	trix		Rec.
Param		sult	Units	Dil.	Amount			Rec.	Limit
Sulfate		4.6	mg/L	1	25.0		126	98	90 - 110
Percent recovery is based on the s	pike result.	RPD is	based on	the spike a	ınd spike du	plicate r	esult.		
_	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	Ř PD	Limit
Sulfate	24.6	mg/L		25.0	< 0.126	98	90 - 110	0	20
Percent recovery is based on the s	oike result.			the spike a	and spike du	plicate r	esult.		
			babba bab						
Laboratory Control Spike (LC	(S-1)								
Laboratory Constor Spike (10	, 0 ~1)								
QC Batch: 77367			nalyzed:	2011-02-				nalyzed B	
Prep Batch: 66364		QC Pre	eparation:	2011-02-	01		Р	repared B	y: PG
	L	CS			Spike	Ma	trix		Rec.
Param	Res	sult	Units	Dil.	Amount	Res	sult .	Rec.	Limit
Sulfate	24	.4	mg/L	1	25.0	<0.	126	98	90 - 110
Percent recovery is based on the s	pike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
	LCSD			Spike	Matrix		Rec.		RPD
	Result	Units	Dil.	Amount	Result	Rec.	Limit	R PD'	Limit
Param		Omod	L 11.	mount					
ParamSulfate		mg/L		25.0	< 0.126	96	90 - 110	2	20
Sulfate	24.0	mg/L		25.0	<0.126	96	<u>90 - 110</u>	2	20
Sulfate	24.0				·····			2	20
Sulfate Percent recovery is based on the s	24.0 pike result.	RPD is			·····			2	20
Sulfate Percent recovery is based on the s	24.0	RPD is			·····			2	20
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked	24.0 pike result.	RPD is 55921	based on	the spike a	and spike du		esult.		
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124	24.0 pike result.	RPD is 55921 Date Ar	based on nalyzed:		and spike du 24		esult. A	2 nalyzed B repared B	y: AG
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124	24.0 pike result.	RPD is 55921 Date Ar	based on nalyzed:	the spike a 2011-01-1	and spike du 24		esult. A	nalyzed B	y: AG
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124	24.0 pike result. Sample: 2	RPD is 55921 Date Ar QC Pre	based on nalyzed:	the spike a 2011-01-1	and spike du 24 24	plicate r	esult. A Pi	nalyzed B	y: AG y: AG
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124 Prep Batch: 66157	24.0 pike result. Sample: 2	RPD is 55921 Date Ai QC Pre	based on nalyzed: eparation:	the spike a 2011-01- 2011-01-	and spike du 24 24 Spike	plicate r Matri	esult. A Pr	nalyzed B repared B	y: AG y: AG Rec.
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124 Prep Batch: 66157 Param	24.0 pike result. Sample: 2 MS Resu	RPD is 55921 Date A QC Pre	based on nalyzed: eparation: Jnits	the spike a 2011-01- 2011-01- Dil. A	and spike du 24 24 Spike Amount	plicate r Matri Resul	esult. A Pr x t R	nalyzed B repared B ec.	y: AG y: AG Rec. Limit
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124 Prep Batch: 66157 Param Benzene	24.0 pike result. Sample: 2 MS Resu	RPD is 55921 Date Ar QC Pre dit U	based on	the spike a 2011-01- 2011-01- Dil. A 1	and spike du 24 24 Spike Amount 0.100	plicate r Matri Resul 0.012	esult. A Pi t R 1	nalyzed B repared B ec. 55 7	y: AG y: AG Rec. Limit 7.9 - 114
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124 Prep Batch: 66157 Param Benzene Foluene	24.0 pike result. Sample: 2 MS Resu 1 0.066 2 0.06	RPD is 55921 Date Ar QC Pre dlt U 69 n 33 n	based on	the spike a 2011-01- 2011-01- Dil. A	and spike du 24 24 Spike Amount 0.100 0.100	Matri Resul 0.012 0.0060	esult. A Pr t R 1 } 5 }	nalyzed B repared B ec. 55 7 57 74	y: AG y: AG Rec. Limit 7.9 - 114 3.3 - 111
Sulfate Percent recovery is based on the s Matrix Spike (MS-1) Spiked QC Batch: 77124 Prep Batch: 66157 Param Benzene Toluene Ethylbenzene	24.0 pike result. Sample: 2 MS Resu 1 0.06 2 0.06	RPD is 55921 Date Ar QC Pre dit U 69 n 33 n 73 n	based on	the spike a 2011-01- 2011-01- Dil. A 1 1	and spike du 24 24 Spike Amount 0.100	plicate r Matri Resul 0.012	esult. A P t R 1 5 5 5 800 5	nalyzed B repared B ec. 55 7 57 78 57 78	y: AG y: AG Rec. Limit 7.9 - 114

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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Report Date: February 3, 2011 115-6403130		(rder: 1101 ck Queen]			15 of 13 inty, NM
	MSD			Spike	Matrix		Re	эс.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Lir	nit	RPD	Limit
Benzene 5		mg/L	1	0.100	0.0121	69	77.9	- 114	19	20
Coluene ⁶		mg/L	1	0.100	0.0066	71	78.3	- 111	20	20
Sthylbenzene 7	0.0693	mg/L	1	0.100	< 0.000800	0 69	75.3	- 110	19	20
Kylene 8	0.180	mg/L	1	0.300	< 0.00076	7 60	75.7	- 109	22	20
Percent recovery is based on the	spike result	. RPD is	s based on	the spike	and spike	duplicate	result.			
]	MS	MSD		2	Spike	MS	MSD)	Rec.
urrogate			Result	Units	Dil. A	mount	Rec.	Rec.		Limit
Irifluorotoluene (TFT)			0.0437	mg/L	1	0.1	70	44		8.3 - 107
-Bromofluorobenzene (4-BFB)	10 0.	0736	0.0449	mg/L	1	0.1	74	45	6	0.1 - 13
2C Batch: 77266 Prep Batch: 66273	I		Analyzed: eparation	2011-01 : 2011-01		М	atrix		yzed B ared B	
aram		esult	Units	Dil.	Amoun		esult	Rec.		Limit
Chloride		21	mg/L	5	125		2.2	95		90 - 110
ercent recovery is based on the	spike result	. RPD is		the spike	and spike	duplicate	result.			
	MSD			Spike	Matrix		Re			RPD
Param	Result	Units		Amount			Lin		RPD	Limit
Chloride	120	mg/L	<u> </u>	125	2.2	94	90 -	110	1	20
Percent recovery is based on the Matrix Spike (MS-1) Spike QC Batch: 77266	spike result ed Sample: 1	256128	a based on	the spike 2011-01	-	duplicate	result.	Analy	vzed B	y: PG
		QC Pr	eparation	: 2011-01				Prepa	ared B	-
Prep Batch: 66273										
		MS			Spike		atrix	*		Rec.
Paramulfate	Ré	MS esult 23	Units mg/L	Dil.	Spike Amoun 125	t R	.atrix esult 0.630	Rec. 98		Rec. Limit 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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Report Date: Febru 115-6403130	iary 3, 201	1	C		rder: 110121 ck Queen #'			Pa		ımber: rez Cou	16 of 18 nty, NM
		MSD			Spike	Matrix		Rec.			RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limi		RPD	Limit
Sulfate		122	mg/L	5	125	< 0.630	98	90 - 1	10	1	20
Percent recovery is l	based on th	ne spike result.	RPD is	based on	the spike a	nd spike duj	plicate 1	result.			
Matrix Spike (MS	S-1) Spi	iked Sample: 2	56245								
QC Batch: 77367 Prep Batch: 66364				nalyzed: eparation	2011-02-0 : 2011-02-0					yzed By ared By	
		М				Spike	Ma	trix			Rec.
Param			sult	Units	Dil	Amount		sult	Rec.		Limit
Sulfate		. 130	000	mg/L	500	12500	<6	53.0	104		90 - 110
Percent recovery is l	based on th	ne spike result.	RPD is	based on	the spike a	nd spike dup	plicate r	result.			
		MSD			Spike	Matrix		Rec.			RPD
			TT **	Dil.	Amount	Result	Rec.	Limit		RPD	Limit
Param		Result	Units	DII.	Amount	ricauto	nec.	LIIII	Ľ	nr D	Linne
Param Sulfate Percent recovery is l	based on th	13000	mg/L	500	12500	<63.0	104	90 - 1		0	20
Sulfate		13000	mg/L RPD is	500	12500	<63.0 nd spike duj	104	90 - 11 result.	10		20
Sulfate Percent recovery is Standard (CCV-1		13000	mg/L RPD is	500 based on nalyzed:	12500 the spike a	<63.0 nd spike duj	104	90 - 11 result.	10 Analy	0	20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124	i) ·	13000 ne spike result.	mg/L RPD is Date A CCVs True	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found	<63.0 nd spike dup CCVs Percent	104 plicate r	90 - 11 result. Percent Recover	10 Analy t y	0 vzed By	20 r: AG
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param		13000 ne spike result. Units	mg/L RPD is Date A CCVs True Conc	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc.	<63.0 nd spike dup CCVs Percent Recovery	104 plicate r	90 - 11 result. Percent Recover Limits	10 Analy t y	0 vzed By	20 20 20 20 20 20 20 20 20 20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene	i) ·	13000 ne spike result. Units mg/L	mg/L RPD is Date A CCVs True Conc 0.100	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910	<63.0 nd spike dup CCVs Percent Recovery 91	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120	10 Analy t y	0 rzed By Ar 201	20 r: AG Date halyzed 1-01-24
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene	i) ·	13000 ne spike result. Units mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102	<63.0 nd spike dup CCVs Percent Recovery 91 102	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120	Analy t y))	0 rzed By Ar 201 201	20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene	i) ·	13000 ne spike result. Units mg/L mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.100	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108	<63.0 nd spike dup CCVs Percent Recovery 91 102 108	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120	Analy t y)))	0 rzed By <u>Ar</u> 201 201 201	20 20 20 20 20 20 20 20 20 20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene) Flag	13000 ne spike result. Units mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.100 0.300	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120	Analy t y)))	0 rzed By <u>Ar</u> 201 201 201	20 20 20 20 20 20 20 20 20 20
Sulfate Percent recovery is l Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) Flag	13000 ne spike result. Units mg/L mg/L mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.100 0.300	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325 2011-01-24	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120	Analy t y)))) Analy	0 rzed By Ar 201 201 201 201	20 20 20 20 20 20 20 20 20 20
Sulfate Percent recovery is l Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) Flag	13000 ne spike result. Units mg/L mg/L mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.100 0.300	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120	Analy t y))) Analy	0 rzed By Ar 201 201 201 201 201	20 20 20 20 20 20 20 20 20 20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2 QC Batch: 77124) Flag	13000 ne spike result. Units mg/L mg/L mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.100 0.300 Date A CCVs	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325 2011-01-24 CCVs	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108 108	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	Analy t y))) Analy t y	0 rzed By Ar 201 201 201 201 201	20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2 QC Batch: 77124 Param	Flag	13000 ne spike result. Units mg/L mg/L mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.300 Date A CCVs True Conc. 0.100	500 based on nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325 2011-01-24 CCVs Found	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108 108 108 208 208 208 208 208 208 208 208 208 2	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120 Percent Recover Limits 80 - 120	Analy t y))) Analy t y	0 rzed By Ar 201 201 201 201 201 201	20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2 QC Batch: 77124 Param Benzene Toluene	Flag	13000 ne spike result. Units mg/L mg/L mg/L Units mg/L mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.300 Date A CCVs True Conc 0.100 0.300	500 based on nalyzed: nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325 2011-01-24 CCVs Found Conc. 0.0858 0.0989	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108 108 CCVs Percent Recovery 86 99	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120 Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120	Analy t y)) Analy t y	0 rzed By Ar 201 201 201 201 201 201 201 201 201 201	20
Sulfate Percent recovery is I Standard (CCV-1 QC Batch: 77124 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV-2 QC Batch: 77124 Param Benzene	Flag	13000 ne spike result. Units mg/L mg/L mg/L Units mg/L	mg/L RPD is Date A CCVs True Conc 0.100 0.100 0.300 Date A CCVs True Conc. 0.100	500 based on nalyzed: nalyzed:	12500 the spike as 2011-01-24 CCVs Found Conc. 0.0910 0.102 0.108 0.325 2011-01-24 CCVs Found Conc. D.0858	<63.0 nd spike dup CCVs Percent Recovery 91 102 108 108 108 108 208 208 208 208 208 208 208 208 208 2	104 plicate r	90 - 11 result. Percent Recover Limits 80 - 120 80 - 120 80 - 120 80 - 120 Percent Recover Limits 80 - 120	Analy t y)))) Analy t y))	0 rzed By Ar 201 201 201 201 201 201 201 201 201 201	20

Report Date: February 115-6403130	3, 2011		ork Order: 1103 ro/Rock Queen			umber: 17 of 18 vez County, NM
Standard (CCV-3)						
QC Batch: 77124		Date Anal	yzed: 2011-01	-24	Anal	yzed By: AG
2		CCVs	CCVs	CCVs	Percent	
		True	Found	Percent	Recovery	Date
Param Fla	ag 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	mg/L	0.300	0.294	98	80 - 120	2011-01-24
Standard (CCV-1)						
QC Batch: 77266		Date Anal	yzed: 2011-01	-30	Anal	yzed By: PG
		COV-		CCVs	Densent	
		CCVs	CCVs		Percent	D-4-
	TT •/	True	Found	Percent	Recovery	Date
Param Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	mg/L	25.0	24.1	96	90 - 110	2011-01-30
Standard (CCV-1)						
QC Batch: 77266		Date Anal	yzed: 2011-01	-30	Anal	yzed By: PG
		CCVs	CCVs	CCVs	Percent	
		True	Found	Percent	Recovery	Date
Param Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate	mg/L	25.0	24.7	<u></u>	90 - 110	2011-01-30
	· · ·	······································				
Standard (CCV-2)						
QC Batch: 77266		Date Anal	yzed: 2011-01	-30	Anal	yzed By: PG
		CCVs	CCVs	CCVs	Percent	
		True	Found	Percent	Recovery	Date
Param Flag	Units	Conc.	[°] Conc.	Recovery	Limits	Analyzed
Chloride	mg/L	25.0	24.0	96	90 - 110	2011-01-30
Standard (CCV-2)						
						`
QC Batch: 77266		Date Anal	yzed: 2011-01	-30	Anal	yzed By: PG

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Report Da 115-64031	ate: February 2 30	3, 2011	'	Work Order: 11 lero/Rock Quee			umber: 18 of 18 vez County, NM
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.5	98	90 - 110	2011-01-30
Standard	(CCV-1)						
QC Batch:	77367		Date An	alyzed: 2011-()2-01	Ana	lyzed By: PG
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate	······································	mg/L	25.0	23.9	96	90 - 110	2011-02-01
Standard	(CCV-2)						
QC Batch:	77367		Date An	alyzed: 2011-(02-01	Anal	lyzed By: PG
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.1	96	90 - 110	2011-02-01

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Analysis R	<u>.wo</u> ∰∶ equest o	of Chain of Custo	dy R	ec	or	ď	i							PAC	SE:		 	0)F:	
		999									(ify M) .)		
	19 M	ETRA TECH 10 N. Big Spring St. dland, Texas 79705 2) 682-4559 • Fax (432) 682-3946						5 (Ext. to C35)		TCLP-Metals Ag As Ba cd Cr Pb Hg Se TCLP-Metals Ag As Ba Cd Vr Pd Hg Se									pH(TDS)	
CLIENT NAME:	,	ITE MANAGER: Ich Kind Ver	VERS	P		RVAT		1X1005		5 0 80			60/824	270/825					H	
PROJECT NO .: 115-6403130	PROJECT NAME:	Pock Queen Trace #7	CONTAINERS					g		AB AS	æ	olatiles	240/82	Vol. 82	8			1 (8)	s/Catio	
	MATTRIX COMP GRAB	Choure Q, NM SAMPLE IDENTIFICATION	NUMBER OF CO	HOL	BONH	NONE		TPH BOID MOD.	PAH 8270	TCLP Metal	TCLP Volatily	TCLP Somi V	GC.MS Vol. 6	GC:MS Serri	PCB's'8080/608	Chloride	Gamma Spo Alatra Bata (Alpria Iseua (Au) PLM (Asbestos)	Major Anion	2017
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902 / 1800	1 / mw.2		1/1	1		17		7								17			[]	Π
905 1817	MW-3							N		Τ	Π							T	M	$\langle $
906 + 1816	+ + MN.4		4	64			r	4			İ					4			4	1
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6015 Harris Parkway, Suite 110

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

Certifications

DBE NELAP DoD LELAP WBE HUB NCTRCA Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

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Report Date: April 27, 2011

Work Order: 11041526

Chavez Co., NM Project Location: Project Name: Celero/Rock Queen Tract #7 Project Number: 115-6403130A

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
263892		water	2011-04-14	10:05	2011-04-15
263893	MW-2	water	2011-04-14	10:15	2011-04-15
263894	MW-3	water	2011-04-14	10:00	2011-04-15
263895	MW-4	water	2011-04-14	10:25	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 20 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

Report Contents

Case Narrative	3
Analytical Report	4
Sample 263892 (MW-1)	4
Sample 263893 (MW-2)	
Sample 263894 (MW-3)	
Sample 263895 (MW-4)	
Method Blanks	10
QC Batch 80419 - Method Blank (1)	10
QC Batch 80628 - Method Blank (1)	10
QC Batch 80628 - Method Blank (1)	10
QC Batch 80663 - Method Blank (1)	10
QC Batch 80663 - Method Blank (1)	11
QC Batch 80715 - Method Blank (1)	
QC Batch 80715 - Duplicate (1)	11
$Q \cup Datch = 00113 - Duplicate(1) \dots	11
Laboratory Control Spikes	12
QC Batch 80419 - LCS (1)	12
QC Batch 80628 - LCS (1)	12
QC Batch 80628 - LCS (1)	13
QC Batch 80663 - LCS (1)	13
QC Batch 80663 - LCS (1)	13
QC Batch 80715 - LCS (1)	14
QC Batch 80628 - MS (1)	14
	14
QC Batch $80628 - MS(1)$	
QC Batch 80663 - MS (1)	15
QC Batch 80663 - MS (1)	15
Calibration Standards	17
QC Batch 80419 - CCV (2)	17
QC Batch $80419 - CCV(2)$	17
QC Batch $80628 - ICV(1)$.	17
QC Batch 80628 - ICV (1)	17
QC Batch 80628 - CCV (1)	18
QC Batch 80628 - CCV (1)	18
QC Batch $80663 - ICV(1)$	18
	18
QC Batch 80663 - ICV (1).	
QC Batch 80663 - CCV (1)	19
QC Batch 80663 - CCV (1)	19
Appendix	20
Laboratory Certifications	20
Standard Flags	20
Attachments	20

Page 2 of 20

Case Narrative

Samples for project Celero/Rock Queen Tract #7 were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041526. Samples for work order 11041526 were received intact without headspace and at a temperature of 0.6 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	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	68430	2011-04-20 at 12:00	80628	2011-04-22 at 15:03
Chloride (IC)	E 300.0	68436	2011-04-25 at 08:21	80663	2011-04-26 at 15:30
SO4 (IC)	E 300.0	68430	2011-04-20 at 12:00	80628	2011-04-22 at 15:03
SO4 (IC)	E 300.0	68436	2011-04-25 at 08:21	80663	2011-04-26 at 15:30
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 11041526 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: April 27, 2011 115-6403130A Work Order: 11041526 Celero/Rock Queen Tract #7 Page Number: 4 of 20 Chavez Co., NM

Analytical Report

Sample: 263892 - MW-1

Laboratory: Midland

Parameter

Sulfate

Flag

Cert

1

Result

1020

Units

mg/L

Dilution

100

RL

2.50

Analysis: BTEX QC Batch: 80419 Prep Batch: 68257		Analytical Date Analy Sample Pre	yzed:	S 8021E 2011-04 2011-04	-18		Prep Method: Analyzed By: Prepared By:	S 5030B ′ ME ME
				RL				
Parameter	Flag	Cert		Result	Unit	S	Dilution	RL
Benzene		1		0.00100	mg/		1	0.00100
Toluene		1		0.00100	mg/		1	0.00100
Ethylbenzene		1		0.00100	mg/		1	0.00100
Xylene		1	<).00100	nıg/	L	1	0.00100
						Spike	Percent	Recovery
Surrogate	Flag	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0981	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.100	$\mathrm{mg/L}$	1	0.100	100	51.1 - 128
Sample:263892 - MW-1Laboratory:MidlandAnalysis:Chloride (IC)QC Batch:80628Prep Batch:68430		Date A	cical Metho Analyzed: e Preparat	· 201	00.0 1-04-22 1-04-20		Prep Meth Analyzed Prepared I	By: AR
Parameter	Flag	Cert		Result	Uni	ts	Dilution	\mathbf{RL}
Chloride		3		20500	nna	′L	1000	2.50
Sample: 263892 - MW-1 Laboratory: Midland Analysis: SO4 (IC) QC Batch: 80628 Prep Batch: 68430		Date Ana	al Method alyzed: Preparatio:	2011- n: 2011-	04-22		Prep Meth Analyzed I Prepared I	By: AR
D		~		\mathbf{RL}				~ ~

Report Date: April 27, 2011 115-6403130A		Work Order: 11041526 Celero/Rock Queen Tract #7								Page Number: 5 of 20 Chavez Co., NM				
Sample: 263892 - MW-1														
Laboratory: Midland					,									
Analysis: TDS				al Method		,			Prep Metl					
QC Batch: 80715			Date An		2011-		•		Analyzed					
Prep Batch: 68387			Sample 1	Preparatio	n: 2011-	04-20			Prepared	By: AR				
]	RL			ı					
Parameter		Flag	5	Cert	Res	ult	Uni	ts	Dilution	\mathbf{RL}				
Total Dissolved Solids				1	320	00	mg,	′L	100	10.0				
Sample: 263893 - MW-2														
Laboratory: Midland														
Analysis: BTEX				Method:	S 80211	3			Prep Method:	S 5030B				
QC Batch: 80419			ate Anal		2011-0 4				Analyzed By:	\mathbf{ME}				
Prep Batch: 68257		Sa	mple Pr	eparation:	2011-04	-18			Prepared By:	ME				
					\mathbf{RL}									
Parameter	Flag		Cert		Result		Units		Dilution	RL				
Benzene			1		.00680		mg/L		1	0.00100				
Toluene Ethylbenzene			1		0.00100 0.00100		mg/L		1	0.00100 0.00100				
Xylene			1		0.00100		mg/L mg/L		1 1	0.00100				
Aylene			1		0.00100		mg/ D		L	0.00100				
								Spike	Percent	Recovery				
Surrogate		Flag	Cert	Result	Units	Dilut		mount	Recovery	Limits				
Trifluorotoluene (TFT)			1	0.0903	mg/L	1		0.100	90	67.8 - 129				
4-Bromofluorobenzene (4-BFB)			1	0.0980	mg/L	1		0.100	98	51.1 - 128				
Sample: 263893 - MW-2														
Laboratory: Midland									.					
Analysis: Chloride (IC)				tical Meth		1.04.00			Prep Meth					
QC Batch: 80628				Analyzed:		1-04-22			Analyzed 1					
Prep Batch: 68430			Sampl	e Preparat	JOII: 201	1-04-20	1		Prepared 1	By: AR				
Decision	101		C in t		RL		T.T 14		Diluti	57				
Parameter	Flag		Cert		Result		Units		Dilution	RL				
Chloride			1		19100		mg/L		1000	2.50				

Sample: 263893 - MW-2								
Laboratory:MidlandAnalysis:SO4 (IC)QC Batch:80628Prep Batch:68430	·	Date A	tical Methoc Analyzed: le Preparatic	2011-0)4-22		Prep Meth Analyzed I Prepared I	By: AR
				RL				
Parameter	Flag	Cei		Result	Un		Dilution	RI
Sulfate		j		1280	mg	/L	100	2.50
Sample: 263893 - MW-2			,					
Laboratory: Midland Analysis: TDS			cical Method				Prep Meth	
QC Batch: 80715 Prep Batch: 68387			Analyzed: e Preparatio	2011-0 n: 2011-0			Analyzed I Prepared I	
				R				
Parameter Total Dissolved Solids Sample: 263894 - MW-3		Flag	Cert ı	R Resu 3300	lt	Units mg/L	Dilution 100	RL 10.0
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX		Analytic	ı al Method:	Resu 3300 S 8021B	lt O		100 Prep Method:	
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland		Analytic Date An	ı al Method:	Resu 3300 S 8021B 2011-04-	lt0 0		100	10.0 S 5030B
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419	Flag	Analytic Date An	al Method: alyzed: Preparation:	Resu 3300 S 8021B 2011-04-	lt0 0	nıg/L	100 Prep Method: Analyzed By:	10.0 S 5030B ME ME RL
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene	Flag	Analytic Date An Sample I	ı al Method: alyzed: Preparation: t	Resu 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100	lt 0 18 18 18 Unit mg/	nıg/L ss L	100 Prep Method: Analyzed By: Prepared By: Dilution 1	10.0 S 5030B ME ME RL 0.00100
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene	Flag	Analytic Date An Sample I Cert	al Method: alyzed: Preparation: t <	Resu 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100 0.00100	lt 0 18 18 18 Unit mg/ mg/	nıg/L .s L L	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1	10.0 S 5030B ME ME RL 0.00100 0.00100
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene	Flag	Analytic Date An Sample I Cert	al Method: alyzed: Preparation: ; <	Resu 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100	lt 0 18 18 18 Unit mg/	ng/L S L L L	100 Prep Method: Analyzed By: Prepared By: Dilution 1	10.0 S 5030B ME ME RL 0.00100 0.00100 0.00100
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene Ethylbenzene		Analytic Date An Sample I Cert	al Method: alyzed: Preparation: t < <	Resu 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100 0.00100 0.00100	lt 0 18 18 18 Unit mg/ mg/ mg/ mg/	ng/L S L L L	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 1 1 Percent Recovery	10.0 S 5030B ME ME 0.00100 0.00100 0.00100 0.00100 0.00100 Recovery Limits
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene Ethylbenzene Xylene	F	Analytic Date An Sample I Cert	al Method: alyzed: Preparation: t < <	Resu 3300 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100 0.00100 0.00100 0.00100	lt 0 18 18 18 Unit mg/ mg/ mg/ mg/	ng/L s L L L L Spike	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 1 1 1 1 2 Percent Recovery 91	10.0 S 5030B ME ME 0.00100 0.00100 0.00100 0.00100 Recovery
Total Dissolved Solids Sample: 263894 - MW-3 Laboratory: Midland Analysis: BTEX QC Batch: 80419 Prep Batch: 68257 Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluene (TFT)	F	Analytic Date An Sample I Cert	al Method: alyzed: Preparation: t c c c c c c Result 0.0914	Resu 3300 S 8021B 2011-04- 2011-04- RL Result 0.00100 0.00100 0.00100 0.00100 Units mg/L	lt 0 18 18 18 Unit mg/ mg/ mg/ mg/ Dilution 1	mg/L ss L L L L L L L Amount 0.100	100 Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 1 1 1 1 2 Percent Recovery 91	10.0 S 5030B ME ME 0.00100 0.00100 0.00100 0.00100 0.00100 Recovery Limits 67.8 - 129

Report Date: April 27, 2011 115-6403130A			Order: 11041526 cock Queen Tract 7	# 7	Page Number: Chavez C	nber: 7 of 20 wez Co., NM		
Sample: 263894 - MW-3								
Laboratory: Midland Analysis: Chloride (IC) QC Batch: 80628 Prep Batch: 68430		Analytical Date Analy Sample Pro	zed: 2011-0	4-22	Prep Method: Analyzed By: Prepared By:	N/A AR AR		
			RL					
Parameter	Flag	Cert	Result 25100	Units mg/L	Dilution 500	RL 2.50		
Sample: 263894 - MW-3								
Laboratory: Midland Analysis: SO4 (IC) QC Batch: 80628 Prep Batch: 68430		Analytical M Date Analyze Sample Prepa	ed: 2011-04-2		Prep Method: Analyzed By: Prepared By:			
Parameter	Flag	Cert	RL Result	Units	Dilution	RL		
Sulfate		. 1	1170	mg/L	50	2.50		
Sample: 263894 - MW-3								
Laboratory: Midland Analysis: TDS QC Batch: 80715 Prep Batch: 68387		Analytical Me Date Analyze Sample Prepa	d: 2011-04-2	6	Prep Method: Analyzed By: Prepared By:	N/A AR AR		
Parameter		Flag Cer	RL t Result	Units	Dilution	\mathbf{RL}		
Total Dissolved Solids		1	41000	mg/L	100	10.0		
Sample: 263895 - MW-4								
Laboratory: Midland Analysis: BTEX QC Batch: 80419		Analytical Meth Date Analyzed:	2011-04-18		Analyzed By: M			
Prep Batch: 68257		Sample Prepara	tion: 2011-04-18	cont	Prepared By: M inued	E		

Report Date: April 27, 2011 115-6403130A 	Work Order: 11041526 Celero/Rock Queen Tract #7							Page Number: 8 of 20 Chavez Co., NM			
sample 263895 continued											
					RL			· · ·			
Parameter .	Flag		Cert		Result	Unit	8	Dilution	RL		
					RL						
Parameter	Flag		Cert		Result	Unit	8	Dilution	RL		
Benzene			1	<	0.00100	mg/I		1	0.00100		
Toluene			1	<	0.00100	mg/I	_	1	0.00100		
Ethylbenzene			1	<	0.00100	mg/I		1	0.00100		
Xylene			1	<	0.00100	mg/I	<u>ــــــــــــــــــــــــــــــــــــ</u>	1	0.00100		
							Spike	Percent	Recovery		
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits		
Trifluorotoluene (TFT)			1	0.0952	mg/L	1	0.100	95	67,8 - 129		
4-Bromofluorobenzene (4-BFB)			1	0.0967	mg/L	1	0.100	97	51.1 - 128		

Sample: 263895 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 80663 68436		Analytical Date Analy Sample Pre	zed:	E 300.0 2011-04-26 2011-04-25		Prep Method: Analyzed By: Prepared By:	N/A AR AR
				RI	L			
Parameter		Flag	Cert	Resul	t (Jnits	Dilution	\mathbf{RL}
Chloride		· · · · · · · · · · · · · · · · · · ·	1	51(D n	ng/L	50	2.50

Sample: 263895 - MW-4

1

Sulfate			1	80.5	mg/L	5	2.50
Parameter		Flag	Cert	RL Result	Units	Dilution	\mathbf{RL}
Laboratory:MidlandAnalysis:SO4 (IC)QC Batch:80663Prep Batch:68436			Analytical M Date Analyze Sample Prep		4-26	Prep Method: Analyzed By: Prepared By:	ÁR.

Report Date: April 27, 2011 115-6403130A	(Page Number: 9 of 20 Chavez Co., NM				
Sample: 263895 - MW-4						
Laboratory: Midland						
Analysis: TDS	Analy	tical Method	SM 2540C		Prep Method:	N/A
QC Batch: 80715	Date	Analyzed:	2011-04-26	•	Analyzed By:	ÁR
Prep Batch: 68387	Samp	le Preparatio	n: 2011-04-20	1	Prepared By:	AR.
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Total Dissolved Solids		1	3330	mg/L	5	10.0

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Report Date: April 27, 2011 115-6403130A Work Order: 11041526 Celero/Rock Queen Tract #7 Page Number: 10 of 20 Chavez Co., NM

Method Blanks

Method Blank (1) QC Batch: 80419

QC Batch: 80419 Prep Batch: 68257		Date Ai QC Prej	nalyzed: paration:	2011-04- 2011-04-			Analyze Preparec	, v
					MDL			
Parameter	Flag		Cert		Result		Units	\mathbf{RL}
Benzene			1		< 0.000400		mg/L	0.001
Toluene			ı		< 0.000300		mg/L	0.001
Ethylbenzene			ı		< 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
Triffuorotoluene (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: 80628

QC Batch: Prep Batch:	80628 68430			Date Analyzed: QC Preparation:			Analyzed By: Prepared By:	
Parameter		, F	lag	Cert		MDL Result	Units	RL
Chloride				· 1	·····	0.593	mg/L	2.5
							١	

Method Blank (1) QC Batch: 80628

QC Batch: Prep Batch:	80628 68430		Date Analyzed: QC Preparation:		Analyzed By: Prepared By:	
				MDL		
Parameter		Flag	Cert	Result	Units	\mathbf{RL}
Sulfate			1	< 0.177	mg/L	2.5

Report Date: April 27, 115-6403130A	2011	Work Orde Celero/Rock C	r: 11041526 }ueen Tract ≠	¥7		Page Number: 1 Chavez C	
Method Blank (1)	QC Batch: 80663						
QC Batch: 80663 Prep Batch: 68436		Date Analyzed: QC Preparation:	$\frac{2011-04-26}{2011-04-25}$			Analyzed By Prepared By:	
Parameter	Flag	Cert		MDL Result		Units	RL
Chloride		.1		0.878		mg/L	2.5
Method Blank (1)	QC Batch: 80663						
QC Batch: 80663 Prep Batch: 68436		Date Analyzed: QC Preparation:	2011-04-26 2011-04-25			Analyzed By: Prepared By:	
Parameter	Flag	Cert		MDL Result		Units	RL
Sulfate		1		<0.177		ng/L	2.5
Method Blank (1)	QC Batch: 80715						
QC Batch: 80715 Prep Batch: 68387		Date Analyzed: QC Preparation:	2011-04-26 2011-04-20			Analyzed By: Prepared By:	
Parameter		Flag	Cert	MDL Result		Units	RL
Total Dissolved Solids			1	<9.75		mg/L	10
Duplicates (1) Dup	blicated Sample: 2638	95					
QC Batch: 80715 Prep Batch: 68387		Date Analyzed: QC Preparation:	2011-04-26 2011-04-20			Analyzed By: Prepared By:	
Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	3480	3330	mg/L	5	4	10

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Report Date: April 27, 2011 115-6403130A

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	80419 68257	Date Analyzed: QC Preparation:			Analyzed By: Prepared By:	
		LCS	Spike	Matrix	R	ec.

			DOD			opike	Magnix		nec.
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	0.0882	mg/L	1	0.100	< 0.000400	88	76.8 - 110
Toluene		ı	0.0944	mg/L	1	0.100	< 0.000300	94	81 - 108
Ethylbenzene		1 ·	0.0965	$\mathrm{mg/L}$	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.	\mathbf{Limit}	RPD	Limit
Benzene		1	0.0948	mg/L	1	0.100	< 0.000400	95	76.8 - 110	7	20
Toluene		1	0.102	mg/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.

		LCS	LCSD			Spike	LCS	LCSD	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)	ì	0.119	0.116	$\mathrm{mg/L}$	1	0.100	119	116	68.2 - 124

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	80628 68430			te Analyze C Preparati		l-04-22 l-04-20			Analyzed Prepared	v
				LCS			Spike	Matrix		Rec.
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			1	24.6	mg/L	1	25.0	< 0.265	98	90 - 110
Chloride	in bennd on the		1	24.6	mg/L	1	25.0	< 0.265		

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

Report Date: April 27, 2011 115-6403130A			C	Work O elero/Roc		1041526 n Tract #7					13 of 20 Co., NM
control spikes continued											
· .	_		LCSD			Spike	Matrix	_	Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
			LCSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	24.7	mg/L	1	25.0	< 0.265	99	90 - 110	0	20
Percent recovery is based on the	e spike	resul	t. RPD	is based	on the s	pike and s	pike duplic	ate resi	ılt.		
	•					• •					
Laboratory Control Spike (1	LCS-1)	r								
QC Batch: 80628			Date	Analyzed	}· 201	1-04-22			Ana	lyzed B	y: AR
Prep Batch: 68430				Preparatio		1-04-22				pared B	
, The second sec			v	1					1		,
				T CO			a 1	м	<i>,</i> .		Dee
Davana		F	C	LCS	Units	Dil	Spike A mount		trix	200	Rec.
Param Sulfate		r		Result 24.2		Dil.	Amount 25.0			lec. 97	Limit 90 - 110
			1		mg/L	1				91	90 - 110
Percent recovery is based on the	e spike	resul	t. RPD	is based of	on the s	pike and s	pike duplic	ate resi	ult.		
			LCSD			Spike	Matrix		Rec.		RPD
n	17	C ·	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
aram	\mathbf{F}	-	20000420								
	F	1	24.2	mg/L	1	25.0	< 0.177	97	90 - 110	0	20
Sulfate		1	24.2					97		0	20
Sulfate		1	24.2					97		0	20
Sulfate		1	24.2					97		0	20
Sulfate Percent recovery is based on the	e spike	ı resul	24.2					97		0	20
Sulfate Percent recovery is based on the	e spike	ı resul	24.2					97		0	20
Sulfate Percent recovery is based on the Laboratory Control Spike (1	e spike	ı resul	24.2 t. RPD	is based of	on the s	pike and s		97	ılt.		
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663	e spike	ı resul	24.2 t. RPD	is based of	on the s	pike and sj .1- 04-2 6		97	ılt. Ana	0 lyzed B pared B	y: AR
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663	e spike	ı resul	24.2 t. RPD	is based of	on the s	pike and s		97	ılt. Ana	lyzed B	y: AR
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663	e spike	ı resul	24.2 t. RPD	is based of Analyzed Preparatio	on the s	pike and sj .1- 04-2 6	pike duplic	97 ate resi	ılt. Ana Preț	lyzed B	y: AR y: AR
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663 Prep Batch: 68436	e spike	resul	24.2 t. RPD Date QC I	Analyzed Preparatic	on the s l: 201 on: 201	pike and sj 1-04-26 1-04-25	pike duplic Spike	97 ate rest	ılt. Ana Prep	lyzed B bared B	y: AR y: AR Rec.
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663 Prep Batch: 68436 Param	e spike	ı resul	24.2 t. RPD Date QC 1 C	Analyzed Preparatic LCS Result	on the s l: 201 on: 201 Units	pike and sj .1-04-26 1-04-25 Dil.	pike duplic Spike Amount	97 ate rest Ma Re	ılt. Ana Prep strix	lyzed B pared B tec.	y: AR y: AR Rec. Limit
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663 Prep Batch: 68436 Param Chloride	LCS-1	resul	24.2 t. RPD Date QC I	Analyzed Preparatic LCS Result 25.3	on the s l: 201 on: 201 <u>Units</u> mg/L	pike and sj 1-04-26 1-04-25 Dil. 1	pike duplic Spike Amount 25.0	97 ate resu Ma Re <0	ult. Ana Prep sult R .265 1	lyzed B pared B tec.	y: AR y: AR Rec.
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663 Prep Batch: 68436 Param Chloride	LCS-1	resul	24.2 t. RPD Date QC I	Analyzed Preparatic LCS Result 25.3	on the s l: 201 on: 201 <u>Units</u> mg/L	pike and sj 1-04-26 1-04-25 Dil. 1	pike duplic Spike Amount 25.0	97 ate resu Ma Re <0	ult. Ana Prep sult R .265 1	lyzed B pared B tec.	y: AR y: AR Rec. Limit
Sulfate Percent recovery is based on the Laboratory Control Spike (1 QC Batch: 80663 Prep Batch: 68436 Param Chloride	LCS-1	resul	24.2 t. RPD Date QC I	Analyzed Preparatic LCS Result 25.3	on the s l: 201 on: 201 <u>Units</u> mg/L	pike and sj 1-04-26 1-04-25 Dil. 1	pike duplic Spike Amount 25.0	97 ate resu Ma Re <0	Ana Prep sult R .265 1 ılt. Rec.	lyzed B bared B tec. 01	y: AR y: AR Rec. Limit 90 - 110 RPD
-	LCS-1	resul	24.2 t. RPD Date QC 1 t. RPD	Analyzed Preparatic LCS Result 25.3	on the s l: 201 on: 201 <u>Units</u> mg/L	pike and sj .1-04-26 1-04-25 Dil. 1 pike and sj	pike duplic Spike Amount 25.0 pike duplic	97 ate resu Ma Re <0	ult. Ana Prep sult R .265 1 ult.	lyzed B pared B tec.	y: AR y: AR Rec. Limit 90 - 110

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Report Date: April 27, 2011 115-6403130A		C		Pa	-		14 of 20 Co., NM				
Laboratory Control Spike (LCS	·1)										
QC Batch: 80663 Prep Batch: 68436			Analyzed Preparatio		1-04-26 1-04-25	· ·				vzed By wred [:] By	
Param	F	C	LCS Result	Units	Dil.	Spike Amount	R	atrix esult	Re		Rec. Limit
Sulfate		1	23.5	mg/L	1	25.0		0.177	94	4 9	90 - 110
Percent recovery is based on the spik	e resu	lt. RPD	is based o	on the s	pike and s	pike duplic	ate res	ult.			
Param F	<u>c</u>	LCSD Result		Dil.	Spike Amount	Matrix Result	Rec.	Re Lin	nit	RPD	RPD Limit
Sulfate Percent recovery is based on the spik	1	22.7	mg/L	1	25.0	<0.177	91	90 -	110	4	20
Laboratory Control Spike (LCS	·1)										
QC Batch: 80715 Prep Batch: 68387			Analyzed Preparation		1-04-26 1-04-20					zed By red By	
Prep Batch: 68387		QC I	Preparatio: LCS	n: 201	1-04-20	Spike		atrix	Prepa	red By	: AR Rec.
Prep Batch: 68387 Param	F	QC I C	Preparation LCS Result	n: 201 Units	1-04-20 Dil.	Amount	Re	atrix esult	Prepa Re	red By c.	: AR Rec. Limit
Prep Batch: 68387 Param Total Dissolved Solids			Preparation LCS Result 966	n: 201 Units mg/L	1-04-20 Dil. 1	Amount 1000	Re <	atrix esult 9.75	Prepa	red By c.	: AR Rec.
Prep Batch: 68387 Param			Preparation LCS Result 966	n: 201 Units mg/L	1-04-20 Dil. 1	Amount 1000	Re <	atrix esult 9.75	Prepa Re	red By c.	: AR Rec. Limit
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spik	e resul	QC I C t. RPD LCSD	Preparation LCS Result 966 is based o	n: 201 Units mg/L on the s	Dil. Dil. 1 pike and sj Spike	Amount 1000 pike duplica Matrix	Ra < ate res	atrix esult 9.75 ult. Re	Prepa Re 97	c.	: AR Rec. Limit 00 - 110 RPD
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spik Param F	e resul	QC I C t. RPD LCSD Result	Preparation LCS Result 966 is based o Units	n: 201 Units mg/L on the s Dil.	Dil. Dil. 1 pike and spike Amount	Amount 1000 pike duplica Matrix Result	Rec.	atrix esult 9.75 ult. Re Lin	Prepa Re 97 	red By c. 7 9 RPD	Rec. Limit 00 - 110 RPD Limit
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spik Param F Total Dissolved Solids	e resul <u>C</u>	QC I C t. RPD LCSD Result 992	Preparation LCS Result 966 is based o Units mg/L	n: 201 Units mg/L n the s Dil. 1	Dil. 1 pike and sj Spike Amount 1000	Amount 1000 pike duplica Matrix Result <9.75	Rec.	atrix esult 9.75 ult. Re Lin 90 -	Prepa Re 97 	c.	: AR Rec. Limit 00 - 110 RPD
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spik Param F Total Dissolved Solids Percent recovery is based on the spik Percent recovery is based on the spik Matrix Spike (MS-1) Spiked Solids	e resul	QC I C t. RPD LCSD Result 992 t. RPD 263891	Preparation LCS Result 966 is based o Units mg/L is based o	n: 201 <u>Units</u> <u>mg/L</u> on the sp <u>Dil.</u> 1 on the sp	Dil. 1 pike and sp Spike Amount 1000 pike and sp	Amount 1000 pike duplica Matrix Result <9.75	Rec.	atrix esult 9.75 ult. Re Lin 90 - ult.	Prepa Re 97 cc. nit 110	red By	: AR Rec. Limit 00 - 110 RPD Limit 10
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spik Param F Total Dissolved Solids Percent recovery is based on the spik Param F Total Dissolved Solids Percent recovery is based on the spik Matrix Spike (MS-1) Spiked Sa QC Batch: 80628	e resul	QC I C 1 t. RPD LCSD Result 992 t. RPD 263891 Date	Preparation LCS Result 966 is based o Units mg/L is based o Analyzed Preparation	n: 201 <u>Units</u> <u>mg/L</u> on the sp <u>Dil.</u> <u>1</u> on the sp : 201	Dil. 1 pike and sj Spike Amount 1000	Amount 1000 pike duplica Matrix Result <9.75 pike duplica	Ra Rac 99 ate res	atrix esult 9.75 ult. Re Lin 90 - ult.	Prepa Re 97 cc. nit 110	red By c. 7 9 RPD	: AR Rec. Limit 00 - 110 RPD Limit 10 : AR : AR : AR
Prep Batch: 68387 Param Total Dissolved Solids Percent recovery is based on the spike Param F Total Dissolved Solids Percent recovery is based on the spike Matrix Spike (MS-1) Spiked Sa QC Batch: 80628	e resul	QC I C 1 t. RPD LCSD Result 992 t. RPD 263891 Date QC I	Preparation LCS Result 966 is based o Units mg/L is based o Analyzed	n: 201 <u>Units</u> <u>mg/L</u> on the sp <u>Dil.</u> <u>1</u> on the sp : 201	Dil. Dil. 1 pike and sp Spike Amount 1000 pike and sp 1-04-22	Amount 1000 pike duplica Matrix Result <9.75	Ra Rac ate res 99 ate res Ma	atrix esult 9.75 ult. Re Lin 90 - ult.	Prepa Re 97 cc. nit 110	red By c. 7 9 RPD 3 zed By red By	: AR Rec. Limit 00 - 110 RPD Limit 10 : AR

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

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Report Date: April 27, 2011 115-6403130A	Work Order: 11041526 Celero/Rock Queen Tract #7									Page Number: 15 of 20 Chavez Co., NM			
Param	F	С	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit		
Chloride		1	3380	mg/L	100	2750	997	87	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: 263891

QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	QC Preparation:	2011-04-20	Prepared By:	\mathbf{AR}

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate		3	3830	mg/L	100	2750	1570	82	90 - 110
Percent recovery is based on the spi	ke resu	lt. RP	D is based	on the spi	ke and s	pike duplicat	e result.		

			MSD			Spike	Matrix		Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		J	3800	mg/L	100	2750	1570	81	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: 263897

QC Batch:	80663	Date Analyzed:	2011-04-26	Analyzed By:	\mathbf{AR}
Prep Batch:	68436	QC Preparation:	2011-04-25	Prepared By:	\mathbf{AR}

			MS			Spike	Matrix		Rec.
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	1400	mg/L	50	1380	91.7	95	90 - 110

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	1410	mg/L	50	1380	91.7	96	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 263897

QC Batch:	80663		Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68436	•	QC Preparation:	2011-04-25	Prepared By:	\mathbf{AR}

Report Date: April 27, 2011 115-6403130A		Work Order: 11041526 Celero/Rock Queen Tract #7					Page Number: 16 of 20 Chavez Co., NM				
Param		F	С	MS Result	Units	Dil.	Spike Amount	R		Rec.	Rec. Limit
Sulfate			1	1200	mg/L	50	1380		32	85	90 - 110
Percent recovery is based on the	e spike	resu	lt. RPD	is based	on the s	pike and s	pike dupli	cate res	sult.		
			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	1240	mg/L	50	1380	. 32	88	90 - 110) 3	20

mg/L 90 - 110 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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Report Date: April 27, 2011 115-6403130A Work Order: 11041526 Celero/Rock Queen Tract #7 Page Number: 17 of 20 Chavez Co., NM

Calibration Standards

Standard (CCV-2)

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

Standard (CCV-3)

QC Batch: 80419 Date Analyzed: 2011-04-18							Analyzed By:		
				CCVs	CCVs From d	CCVs	Percent	Dete	
				True	Found	Percent	Recovery	Date	
Param	$\mathbf{F}\mathbf{lag}$	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		1	mg/L	0.100	0.0957	96	80 - 120	2011-04-18	
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-04-18	
Ethylbenzene		1	mg/L	0.100	0.0987	99	80 - 120	2011-04-18	
Xylene		1	mg/L	0.300	0.294	98	80 - 120	2011-04-18	

Standard (ICV-1)

QC Batch:	QC Batch: 80628			Analyzed:	2011-04-22		Analy	Analyzed By: AR		
				ICVs	ICVs	ICVs	Percent			
				True	Found	Percent	Recovery	Date		
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Chloride		1	$\rm mg/L$	25.0	24.1	96	90 - 110	2011-04-22		

Standard (ICV-1)

QC Batch: 80628

Date Analyzed: 2011-04-22

Analyzed By: AR

Report Date: 7 115-6403130A	April 27, 2011		Ce	Work Orde elero/Rock Q		Page Number: 18 of 20 Chavez Co., NM		
Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22
Standard (CC	CV-1)							
QC Batch: 80	628		Date	Analyzed:	2011-04-22		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
D	1	<u>a</u> .	TT:+-	Conc.	Conc.	Recovery	Limits	Analyzed
Param	Flag	Cert	Units		Conc.			
Param Chloride Standard (CC		1	mg/L	25.0	24.1	96	90 - 110	
Chloride	CV-1)		mg/L	25.0			90 - 110	
Chloride Standard (CC	CV-1)		mg/L	25.0 Analyzed:	24.1 2011-04-22	96	90 - 110 Analy	2011-04-22
Chloride Standard (CC	CV-1)		mg/L	25.0	24.1		90 - 110 Analy Percent	2011-04-22
Chloride Standard (CC	CV-1)		mg/L	25.0 Analyzed: 2 CCVs	24.1 2011-04-22 CCVs	96 CCVs	90 - 110 Analy	2011-04-2 zed By: AR Date
Chloride Standard (CC QC Batch: 80	C V-1) 628	1	mg/L Date	25.0 Analyzed: CCVs True	24.1 2011-04-22 CCVs Found	96 CCVs Percent	90 - 110 Analy Percent Recovery	2011-04-2 zed By: AR Date Analyzed
Chloride Standard (CC QC Batch: 80 Param	C V-1) 628	Cert	mg/L Date Units	25.0 Analyzed: CCVs True Conc.	24.1 2011-04-22 CCVs Found Conc.	96 CCVs Percent Recovery	90 - 110 Analy Percent Recovery Limits	2011-04-22 zed By: AR Date Analyzed
Chloride Standard (CC QC Batch: 80 Param	C V-1) 628 Flag	Cert	mg/L Date Units	25.0 Analyzed: CCVs True Conc.	24.1 2011-04-22 CCVs Found Conc.	96 CCVs Percent Recovery	90 - 110 Analy Percent Recovery Limits	2011-04-22 zed By: AR Date
Chloride Standard (CC QC Batch: 80 Param Sulfate	CV-1) 628 Flag V-1)	Cert	mg/L Date Units mg/L	25.0 Analyzed: CCVs True Conc. 25.0	24.1 2011-04-22 CCVs Found Conc.	96 CCVs Percent Recovery	90 - 110 Analy Percent Recovery Limits 90 - 110	2011-04-22 zed By: AR Date Analyzed
Chloride Standard (CC QC Batch: 80 Param Sulfate Standard (IC	CV-1) 628 Flag V-1)	Cert	mg/L Date Units mg/L	25.0 Analyzed: CCVs True Conc. 25.0	24.1 2011-04-22 CCVs Found Conc. 24.8	96 CCVs Percent Recovery	90 - 110 Analy Percent Recovery Limits 90 - 110	2011-04-22 zed By: AR Date Analyzed 2011-04-22
Chloride Standard (CC QC Batch: 80 Param Sulfate Standard (IC QC Batch: 80	CV-1) 628 Flag V-1) 663	L Cert L	mg/L Date Units mg/L	25.0 Analyzed: CCVs True Conc. 25.0 Analyzed: ICVs True	24.1 2011-04-22 CCVs Found Conc. 24.8 2011-04-26 ICVs Found	96 CCVs Percent Recovery 99 ICVs Percent	90 - 110 Analy Percent Recovery Limits 90 - 110 Analy Percent Recovery	2011-04-22 zed By: AR Date Analyzed 2011-04-22 zed By: AR Date
Chloride Standard (CC QC Batch: 80 Param Sulfate Standard (IC	CV-1) 628 Flag V-1)	Cert	mg/L Date Units mg/L	25.0 Analyzed: CCVs True Conc. 25.0 Analyzed:	24.1 2011-04-22 CCVs Found Conc. 24.8 2011-04-26 ICVs	96 CCVs Percent Recovery 99	90 - 110 Analy Percent Recovery Limits 90 - 110 Analy Percent	2011-04-22 zed By: AR Date Analyzed 2011-04-22 zed By: AR

Standard (ICV-1)

QC Batch: 80663

Date Analyzed: 2011-04-26

Analyzed By: AR

Report Dat 115-640313	te: April 27, 2011 0A		Ce		er: 11041526 Queen Tract #	£7		mber: 19 of 20 havez Co., NM
Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2011-04-26
Standard	(CCV-1)					· .		
QC Batch:			Date	Analyzed:	2011-04-26		Analy	zed By: AR
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Chloride	Flag	Cert	Units mg/L	<u>Conc.</u> 25.0	<u>Conc.</u> 22.8	Recovery 91	Limits 90 - 110	Analyzed 2011-04-26
Standard	(CCV-1)			<u> </u>				
QC Batch:	80663		Date	Analyzed:	2011-04-26		Analy	zed By: AR
		a .		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	22.8	91	90 - 110	2011-04-26

Report Date: April 27, 2011 115-6403130A

Work Order: 11041526 Celero/Rock Queen Tract #7

Page Number: 20 of 20 Chavez Co., NM

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	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 Custod	
Analysis Request of Chain of Custod	v Record PAGE: OF: /
	ANALYSIS REQUEST (Circle or Specify Method No.)
TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	000 (Ext to Cas) Cd Cr Pb Hg Se Cd Vr Pd Hg Se
CLIENT NAME: SITE MANAGER: COLORD JOFF Kindley	PRESERVATIVE S B B B B B B B B B B B B B B B B B B
PROJECT NO.: PROJECT NAME: 115-6403130 ROCK QUEEN Tract #7	
LAB I.D. NUMBER DATE TIME TIME AND BE SAMPLE IDENTIFICATION	NUMBER OF CONT FILTERED (Y/N) HCL HN03 ICE NONE BTEX 8021B TPH 8015 MOD PAH 8270 TCLP Metals Ag TCLP Volatile TCLP Volatile RCI TCLP Semi Volatile RCI GCMS Vol. 8240/B GCMS Semi. Vol. 1 PCEP's 8080/608 Peet. 8086/608 Peet. Alpha Bets (Al) PLM (Atbestos) Major Anions/Catt
263892 4/4 1005 W X mw-1	4WX XX X
893 (1015 ((mw-Z	
894 \$ 1000 \ mw-3	
895 4/14 1075 W X mw-4	
RELINQUISHED PT: (Signature) Date: 475-11 RECEIVED BX (Signature)	Date: 4/13/11 SAMPLED BY: (Print & Initial) Date: 4/14-4 Time: 3:00 SAMPLED BY: (Print & Initial) Date: 4/14-4
RELINQUISHED B/: (Signature) Date: RECEIVED B/: (Signature) Time: RELINQUISHED BY: (Signature) RECEIVED BY: (Signature)	Date:
	Time: TETHA TECH CONTACT PERSON: Results by:
ADDRESS:	
SAMPLE CONDITION WHEN RECEIVED: Di 6° c intrict Xall tests Midland	

-

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

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: August 25, 2011

Work Order: 11080110

Project Location:Chavez Co., NMProject Name:Celero/Rock Queen #7 TBProject Number:115-6403130

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
273243	MW-1	water	2011-07-29	12:50	2011-07-29
273244	MW-2	water	2011-07-29	12:30	2011-07-29
273245	MW-3	water	2011-07-29	12:40	2011-07-29
273246	MW-4	water	2011-07-29	13:00	2011-07-29

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

This report consists of a total of 21 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

Report Contents

2

Case Narrative	4
Analytical Report	5
Sample 273243 (MW-1)	
Sample 273244 (MW-2)	
Sample 273245 (MW-3)	
Sample 273246 (MW-4)	
Method Blanks	11
QC Batch 83538 - Method Blank (1)	11
QC Batch 83606 - Method Blank (1)	11
QC Batch 83606 - Method Blank (1)	11
QC Batch 83880 - Method Blank (1)	11
QC Batch 84218 - Method Blank (1)	12
QC Batch 84218 - Method Blank (1)	12
QC Batch 83880 - Duplicate (1)	
Laboratory Control Spikes	13
QC Batch 83538 - LCS (1)	13
QC Batch 83606 - LCS (1)	
QC Batch 83606 - LCS (1)	
QC Batch 83880 - LCS (1)	14
QC Batch 84218 - LCS (1)	14
QC Batch 84218 - LCS (1)	
QC Batch 83538 - MS (1)	15
QC Batch 83606 - MS (1)	
QC Batch 83606 - MS (1)	
QC Batch 84218 - MS (1)	
QC Batch 84218 - MS (1)	
•	
Calibration Standards	18
QC Batch 83538 - CCV (1)	
QC Batch 83538 - CCV (2)	
QC Batch 83538 - CCV (3)	
QC Batch 83606 - ICV (1)	18
QC Batch 83606 - ICV (1)	
QC Batch 83606 - CCV (1)	19
QC Batch 83606 - CCV (1)	19
QC Batch 84218 - ICV (1)	19
QC Batch 84218 - ICV (1)	
QC Batch 84218 - CCV (1)	20
QC Batch 84218 - CCV (1)	
Appendix	21
Laboratory Certifications	
Standard Flags	21

Page 2 of 21

Page 3 of 21

Case Narrative

Samples for project Celero/Rock Queen #7 TB were received by TraceAnalysis, Inc. on 2011-07-29 and assigned to work order 11080110. Samples for work order 11080110 were received intact without headspace and at a temperature of 10.8 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	70958	2011-08-03 at 09:47	83538	2011-08-03 at 09:47
Chloride (IC)	E 300.0	71007	2011-08-03 at 10:14	83606	2011-08-04 at 10:14
Chloride (IC)	E 300.0	71505	2011-08-22 at 09:26	84218	2011-08-22 at 14:27
SO4 (IC)	E 300.0	71007	2011-08-03 at 10:14	83606	2011-08-04 at 10:14
SO4 (IC)	E 300.0	71505	2011-08-22 at 09:26	84218	2011-08-22 at 14:27
TDS	SM 2540C	71017	2011-08-05 at 12:42	83880	2011-08-15 at 15:06

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11080110 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: August 25, 2011 115-6403130 Work Order: 11080110 Celero/Rock Queen #7 TB Page Number: 5 of 21 Chavez Co., NM

Analytical Report

Sample: 273243 - MW-1

Laboratory: Midland

Analysis:	BTEX		Analytical		S 8021			Prep Meth		5030B
QC Batch:	83538		Date Anal		2011-0			Analyzed I		
Prep Batch:	70958		Sample Pr	eparation:	2011-0	8-03		Prepared I	By: M	E
					RL					
Parameter		Flag	Cert		Result	Un	its	Dilution		RL
Benzene		υ	1	<(0.00100	mg	/L	1		.00100
Toluene		U	1	<().00100	mg	/L	1		.00100
Ethylbenzene	9	U	1		0.00100	mg	;/L	1		.00100
Xylene		U	1	<).00100	mg	/L	1	0	.00100
							Spike	Percent	Reco	overy
Surrogate		Fla	g Cert	Result	Units	Dilution	Amount	Recovery		nits
Trifluorotolue	ene (TFT)	· · · · ·	<u> </u>	0.101	mg/L	1	0.100	101	79.1 -	127.2
4-Bromofluor	obenzene (4-BFB)			0.0972	mg/L	1	0.100	97	67.5 -	140.8
Laboratory: Analysis: QC Batch: Prep Batch:	3243 - MW-1 Midland Chloride (IC) 83606 71007		Date . Sampl	tical Metho Analyzed: le Preparat	20 ion: 20 RL	300.0 11-08-04 11-08-03		Prep M Analyz Prepare	ed By:	N/A AR AR
Parameter	· · · · · · · · · · · · · · · · · · ·	Flag	Cert		Result	_	nits	Dilution		$-\frac{RL}{2}$
Chloride			1		20500		g/L	1000		2.50
Sample: 273	3243 - MW-1									
Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 83606 71007		Date Ar	cal Method nalyzed: Preparatio	2011	0.0 -08-04 -08-03		Prep M Analyze Prepare	ed By:	N/A AR AR

ParameterFlagCertResultUnitsDilutionRLSulfate11170mg/L1002.50

· .

Report Date: August 25, 2011 115-6403130			C		rder: 1108 ck Queen			-	umber: 6 of 2 navez Co., NM
Sample: 273243 - MW-1									
Laboratory: Midland									
Analysis: TDS				al Metho		2540C		Prep M	
QC Batch: 83880			Date An			-08-15		Analyz	
Prep Batch: 71017		i	Sample	Preparati	ion: 2011	-08-08		Prepar	ed By: AR
						RL			
Parameter		Flag	g	Cert	Res	sult	Units	Dilution	I RI
Total Dissolved Solids		н		1	337	700	mg/L	100) 10.0
Sample: 273244 - MW-2									
Laboratory: Midland									
Analysis: BTEX				Method				Prep Meth	
QC Batch: 83538			ate Anal		2011-0			Analyzed I	
Prep Batch: 70958		Sa	ample Pr	reparation	n: 2011-0	8-03		Prepared I	By: ME
					\mathbf{RL}				
Parameter	Flag		\mathbf{Cert}	•	Result	U	nits	Dilution	RL
Benzene			1		0.00650		g/L	1	0.00100
Toluene	υ		1		< 0.00100		g/L	1	0.00100
Ethylbenzene	U		1		<0.00100		g/L	1	0.00100
Xylene	U		1		< 0.00100	m	g/L	1	0.00100
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	******			0.0996	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)	,			0.0948	mg/L	1	0.100	95	67.5 - 140.8
,									
Sample: 273244 - MW-2									
Laboratory: Midland									
Analysis: Chloride (IC)			Analu	tical Met	thod: E	300.0		Prep M	fethod: N/A
QC Batch: 84218				Analyzed		11-08-22		Analyz	
			0.000			11 00 00		Davas	•

Prep Batch: 71505		Prepared By:	AR			
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride		1	11700	mg/L	1000	2.50

)

Laboratory:	244 - MW-2 Midland									
•	SO4 (IC)		А	nalvtie	cal Method	: E 30	0.0		Prep Metl	hod: N/A
-	84218				nalyzed:		-08-22		Analyzed	
•	71505				Preparatio		-08-22		Prepared	
. .				~		RL		·		
Parameter		Flag		Cert		Result		Units	Dilution	RL
Sulfate	·			1	·	1570		mg/L	100	2.50
•										
Sample: 273	244 - MW-2									
Laboratory:	Midland									
Analysis:	TDS		A	nalytic	al Method:	SM 2	2540C		Prep Metl	hod: N/A
	83880		Da	ate An	alyzed:	2011	-08-15		Analyzed	By: AR
Prep Batch:	71017		Sa	mple l	Preparation	n: 2011-	-08-08		Prepared	By: AR
			101		a .		RL	TT 1.		DT
			R'lan		Cert	Res	sult	Units	Dilution	\mathbf{RL}
	d Solids	<u> </u>	Flag н		1	259	00	mg/L	100	10.0
Parameter Total Dissolve							00	mg/L	100	
Total Dissolve Sample: 273 Laboratory:	245 - MW-3 Midland		н		1	259		mg/L		
Total Dissolve Sample: 273 Laboratory: Analysis:	245 - MW-3 Midland BTEX		н		ı Method:	259 S 8021	B	mg/L	Prep Method:	10.0 S 5030B
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch:	245 - MW-3 Midland BTEX 83538		н Апа Date	e Anal	1 Method: yzed:	259 S 8021 2011-0	B 8-03	mg/L	Prep Method: Analyzed By:	10.0 S 5030B ME
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch:	245 - MW-3 Midland BTEX		н Апа Date	e Anal	ı Method:	259 S 8021 2011-0 2011-0	B 8-03	mg/L	Prep Method:	10.0 S 5030B ME
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch:	245 - MW-3 Midland BTEX 83538	Flag	н Апа Date	e Anal	Method: yzed: eparation:	259 S 8021 2011-0 2011-0 RL Result	B 8-03 8-03	mg/L Units	Prep Method: Analyzed By:	10.0 S 5030B ME ME RL
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene	245 - MW-3 Midland BTEX 83538	Flag	н Апа Date	e Anal ple Pr	1 Method: yzed: eparation: <0	259 S 8021 2011-0 2011-0 RL Result 0.00100	B 8-03 8-03	Units ng/L	Prep Method: Analyzed By: Prepared By: Dilution 1	10.0 5 5030B ME ME ME RL 0.00100
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene	245 - MW-3 Midland BTEX 83538		н Апа Date	e Anal ple Pr Cert	1 Method: yzed: eparation: <0 <0	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100	B 8-03 8-03	Units ng/L ng/L	Prep Method: Analyzed By: Prepared By: Dilution 1 1	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene Ethylbenzene	245 - MW-3 Midland BTEX 83538	บ บ บ	н Апа Date	e Anal ple Pr Cert	Method: yzed: eparation: <0 <0 <0	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100 0.00100	B 8-03 8-03	<u>Units</u> ng/L ng/L ng/L	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100 0.00100
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene Ethylbenzene	245 - MW-3 Midland BTEX 83538	U U	н Апа Date	e Anal ple Pr Cert	Method: yzed: eparation: <0 <0 <0	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100	B 8-03 8-03	Units ng/L ng/L	Prep Method: Analyzed By: Prepared By: Dilution 1 1	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene Ethylbenzene Xylene	245 - MW-3 Midland BTEX 83538	บ บ ุบ บ	н Ana Date Sam	e Anal ple Pr Cert	Method: yzed: eparation: <0 <0 <0	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100 0.00100	B 8-03 8-03	Units ng/L ng/L ng/L ng/L Spike	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100 0.00100
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	245 - MW-3 Midland BTEX 83538 70958	บ บ ุบ บ	н Ana Date Sam	e Anal ple Pr Cert	1 Method: yzed: eparation:	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100 0.00100 Units	B 8-03 8-03	Units ng/L ng/L ng/L ng/L Spike n Amount	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 Percent Recovery	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100 0.00100 0.00100 Recovery Limits
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	245 - MW-3 Midland BTEX 83538 70958	บ บ ุบ บ	н Ana Date Sam	e Anal aple Pr Cert	Method: yzed: eparation: <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0	259 S 8021 2011-03 2011-03 RL Result 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	B 8-03 8-03	Units ng/L ng/L ng/L ng/L Spike n Amount 0.100	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 2 Percent Recovery 102 7	10.0 10.0 S 5030B ME ME ME 0.00100 0.00100 0.00100 0.00100 Recovery Limits 79.1 - 127.2
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	245 - MW-3 Midland BTEX 83538 70958	บ บ ุบ บ	н Ana Date Sam	e Anal aple Pr Cert	1 Method: yzed: eparation:	259 S 8021 2011-0 2011-0 RL Result 0.00100 0.00100 0.00100 Units	B 8-03 8-03 I r r r r Dilution	Units ng/L ng/L ng/L ng/L Spike n Amount	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 2 Percent Recovery 102 7	10.0 10.0 S 5030B ME ME ME RL 0.00100 0.00100 0.00100 0.00100 Recovery Limits
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	245 - MW-3 Midland BTEX 83538 70958	บ บ ุบ บ	н Ana Date Sam	e Anal aple Pr Cert	Method: yzed: eparation: <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0	259 S 8021 2011-03 2011-03 RL Result 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	B 8-03 8-03 <u>r</u> r r r Dilution 1	Units ng/L ng/L ng/L ng/L Spike n Amount 0.100	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 2 Percent Recovery 102 7	10.0 10.0 S 5030B ME ME ME 0.00100 0.00100 0.00100 0.00100 Recovery Limits 79.1 - 127.2
Total Dissolve Sample: 273 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene Surrogate Trifluorotoluer	245 - MW-3 Midland BTEX 83538 70958	บ บ ุบ บ	н Ana Date Sam	e Anal aple Pr Cert	Method: yzed: eparation: <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0	259 S 8021 2011-03 2011-03 RL Result 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	B 8-03 8-03 <u>r</u> r r r Dilution 1	Units ng/L ng/L ng/L ng/L Spike n Amount 0.100	Prep Method: Analyzed By: Prepared By: Dilution 1 1 1 1 1 2 Percent Recovery 102 7	10.0 10.0 S 5030B ME ME ME 0.00100 0.00100 0.00100 0.00100 Recovery Limits 79.1 - 127.2

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Report Date: August 25, 20 115-6403130	11			: 11080110 Queen #7 TB	L	Page Number: Chavez C	
Sample: 273245 - MW-3							
Laboratory: Midland			·				
Analysis: Chloride (IC)			l Method		_	Prep Method:	
QC Batch: 84218		Date Ana		2011-08-2		Analyzed By:	
Prep Batch: 71505		Sample F	reparatio	n: 2011-08-22	2	Prepared By:	AR
				RL			
Parameter	Flag	Cert	R	esult	Units	Dilution	\mathbf{RL}
Chloride		1	21	5100	mg/L	500	2.50
Sample: 273245 - MW-3 Laboratory: Midland Analysis: SO4 (IC)		Analytical		E 300.0		Prep Method:	
QC Batch: 84218		Date Analy		2011-08-22		Analyzed By:	AR
Prep Batch: 71505		Sample Pre	paration:	2011-08-22		Prepared By:	AR
				RL			
Parameter	Flag	Cert	\mathbf{R}	esult	Units	Dilution	\mathbf{RL}
Sulfate		1	1	420	mg/L	50	2.50
Sample: 273245 - MW-3 Laboratory: Midland Analysis: TDS QC Batch: 83880 Prep Batch: 71017		Analytical M Date Analy: Sample Pre	zed:	SM 2540C 2011-08-15 2011-08-08		Prep Method: Analyzed By: Prepared By:	N/A AR AR
				RL			
Parameter			ert	Result	Units	Dilution	RL
Total Dissolved Solids		Н	1	52400	mg/L	100	10.0
Sample: 273246 - MW-4 Laboratory: Midland Analysis: BTEX QC Batch: 83538		Analytical Me Date Analyze		S 8021B 2011-08-03		Prep Method: S Analyzed By: M	5030B
V Datch: 03930							
Prep Batch: 70958		Sample Prepa	rotion.	2011-08-03		Prepared By: M	R

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Report Date: August 25, 2011 115-6403130		C		Page Number: 9 of 2 Chavez Co., NN				
sample 273246 continued								
_		~ .		RL				
Parameter	Flag	Cert		Result	Un	its	Dilution	RL
				\mathbf{RL}				
Parameter	Flag	Cert		Result	Un	its	Dilution	\mathbf{RL}
Benzene	U	1	<	< 0.00100	mg	/L	1	0.00100
Toluene	U	1	<	<0.00100	mg	/L	1	0.00100
Ethylbenzene	U	1	<	<0.00100	mg		1	0.00100
Xylene	U	1	<	<0.00100	mg		1	0.00100
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	<u>_</u>		0.106	mg/L	1	0.100	106	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0991	mg/L	1	0.100	99	67.5 - 140.8

Sample: 273246 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 83606 71007		Analytical Date Analy Sample Pre	zed:	E 300.0 2011-08-04 2011-08-03		Prep Method: Analyzed By: Prepared By:	AR
				R	L			
Parameter		Flag	Cert	Resu	lt	Units	Dilution	\mathbf{RL}
Chloride			1	12	7	mg/L	5	2.50

Sample: 273246 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 83606 71007		Analytical M Date Analyze Sample Prep		-04	Prep Method: Analyzed By: Prepared By:	AR .
				\mathbf{RL}			
Parameter		Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Sulfate			1	114	mg/L	5	2.50

Report Date: August 25, 2011 115-6403130		Work Order: Celero/Rock Q		Page Number: 10 of 2 Chavez Co., NM			
Sample: 273246 - MW-4	· .					,	
Laboratory: Midland							
Analysis: TDS	Analy	tical Method:	SM 2540C		Prep Method:	N/A	
QC Batch: 83880	Date	Analyzed:	2011-08-15		Analyzed By:	AR	
Prep Batch: 71017	Samp	le Preparation:	2011-08-08		Prepared By:	AR	
	1.		RL				
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}	
Total Dissolved Solids	н	1	648	mg/L	2 ·	10.0	

115-6403130 Celero/Rock Queen #7 TB Chavez Co., NM Method Blanks Method Blank (1) QC Batch: 83538 QC Batch: 83538 Date Analyzed: 2011-08-03 Analyzed By: ME Prep Batch: 70958 QC Preparation: 2011-08-03 Prepared By: ME MDL Flag Parameter Cert Result Units \mathbf{RL} Benzene < 0.000400 mg/L 0.001 1 Toluene < 0.000300 mg/L 0.001 1 Ethylbenzene < 0.000300 mg/L 0.001 1 Xylene < 0.000333 mg/L 0.001 1 Spike Percent Recovery Surrogate Units Dilution Amount Flag Cert Result Recovery Limits Trifluorotoluene (TFT) 0.103 mg/L 0.100 103 61.1 - 118.4 1 4-Bromofluorobenzene (4-BFB) 0.0946 mg/L 0.100 95 1 45.9 - 126.4 Method Blank (1) QC Batch: 83606 QC Batch: 83606 Date Analyzed: 2011-08-04 Analyzed By: AR Prep Batch: 71007 QC Preparation: 2011-08-03 Prepared By: AR MDL Parameter Result Units Flag Cert RL Chloride 2.99 mg/L 2.51 Method Blank (1) QC Batch: 83606 QC Batch: 83606 Date Analyzed: 2011-08-04 Analyzed By: AR Prep Batch: 71007 QC Preparation: 2011-08-03 Prepared By: AR MDL Flag Cert Result Units RL Parameter < 0.177 Sulfate mg/L 2.51

Work Order: 11080110

Page Number: 11 of 21

Report Date: August 25, 2011

115-6403130	August 2	5, 2011		er: 11080110 Queen #7 T	B	F	Page Number: 12 Chavez Co	
Method Bla	nk (1)	QC Batch: 83880						
QC Batch:	83880		Date Analyzed:	2011-08-15			Analyzed By:	AR
	71017		QC Preparation:	2011-08-05				AR
			•				<u>۰</u>	
				~	MDL			
Parameter	10 11		Flag	Cert	Result		Units	
Total Dissolve	d Solias			1	<9.75	<u></u>	mg/L	10
Method Bla	.nk (1)	QC Batch: 84218						
QC Batch:	84218		Date Analyzed:	2011-08-22			Analyzed By:	AR
Prep Batch:			QC Preparation:	2011-08-22				AR
T Top Latter	12000			2011 00 <u>-</u>			1.0100	
					MDL			
Parameter		Flag	Cert		Result		Jnits	RI
Chloride			1		<0.265	n	ng/L	2.8
Chloride Method Bla QC Batch:	nk (1) 84218 71505	QC Batch: 84218 Flag	1 Date Analyzed: QC Preparation: Cert	2011-08-22 2011-08-22	<0.265 MDL Result		Analyzed By: Prepared By: Jnits	AR
Chloride Method Bla QC Batch: Prep Batch:	84218	:	Date Analyzed: QC Preparation:		MDL	υ	Analyzed By: Prepared By:	AR AR
Chloride Method Bla QC Batch: Prep Batch: Parameter Sulfate Duplicates (QC Batch:	84218 71505 (1) Dup 83880	:	Date Analyzed: QC Preparation: Cert 1 46 Date Analyzed:	2011-08-22 2011-08-15	MDL Result	υ	Analyzed By: Prepared By: Jnits ng/L Analyzed By:	AR AR RI 2.E
Chloride Method Bla QC Batch: Prep Batch: Parameter Sulfate Duplicates (84218 71505 (1) Dup 83880	Flag	Date Analyzed: QC Preparation: Cert	2011-08-22	MDL Result	υ	Analyzed By: Prepared By: Jnits ng/L	AR AR RI 2.E
Chloride Method Bla QC Batch: Prep Batch: Parameter Sulfate Duplicates (QC Batch:	84218 71505 (1) Dup 83880	Flag	Date Analyzed: QC Preparation: Cert 1 46 Date Analyzed:	2011-08-22 2011-08-15	MDL Result	υ	Analyzed By: Prepared By: Jnits ng/L Analyzed By:	AR AR RI 2.5
Chloride Method Bla QC Batch: Prep Batch: Parameter Sulfate Duplicates (QC Batch:	84218 71505 (1) Dup 83880	Flag	Date Analyzed: QC Preparation: Cert 1 46 Date Analyzed: QC Preparation:	2011-08-22 2011-08-15 2011-08-05	MDL Result	υ	Analyzed By: Prepared By: Jnits ng/L Analyzed By:	AR AR 2.E
Chloride Method Bla QC Batch: Prep Batch: Parameter Sulfate Duplicates (QC Batch:	84218 71505 (1) Dup 83880	Flag	Date Analyzed: QC Preparation: Cert 1 46 Date Analyzed:	2011-08-22 2011-08-15	MDL Result	υ	Analyzed By: Prepared By: Jnits ng/L Analyzed By:	AR AR RI 2.E

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Report Date: August 25, 2011 115-6403130

Work Order: 11080110 Celero/Rock Queen #7 TB Page Number: 13 of 21 Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	83538 70958	Date Analyzed: QC Preparation:			Analyzed By: Prepared By:	
		T 00	G _11	M. (D.	

•			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	0.101	mg/L	1	0.100	< 0.000400	101	76.8 - 110.3
Toluene		1	0.0979	mg/L	1	0.100	< 0.000300	98	90.9 - 122.2
Ethylbenzene		1	0.0919	mg/L	1	0.100	< 0.000300	92	72.7 - 120.2
Xylene		1	0.276	mg/L	1	0.300	< 0.000333	92	72.1 - 121.5

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	0.103	mg/L	1	0.100	< 0.000400	103	76.8 - 110.3	2	20
Toluene		1	0.0996	mg/L	1	0.100	<0.000300	100	90.9 - 122.2	2	20
Ethylbenzene		1	0.0942	mg/L	1	0.100	< 0.000300	94	72.7 - 120.2	2	20
Xylene		1	0.282	mg/L	1	0.300	<0.000333	94	72.1 - 121.5	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)	0.0992	0.0894	mg/L	1	0.100	99	89	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0986	0.0880	mg/L	1	0.100	99	88	56.4 - 127.9

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	83606 71007)ate Analyz)C Prepara)11-08-04)11-08-03	· .			zed By: AR red By: AR
Param		F	С	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			1	27.5	mg/L	1	25.0	< 0.265	110	90.9 - 113.9

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

Report Date: August 25, 2011 115-6403130						11080110 1een #7 T	`B		P		imber: havez C	
control spikes continued												
Danam	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Dee	Re		מממ	RPD
Param	r	0	nesuit	Units	Dii.	Amount	nesun	Rec.	Lin	116	RPD	Limit
			LCSD			Spike	Matrix		Re	c.		RPD
Param	F	C	Result	Units		Amount	Result	Rec.	Lin		RPD	Limit
Chloride		1	27.5	mg/L	1	25.0	< 0.265	110	90.9 -	113.9	0	20
Laboratory Control Spike (L QC Batch: 83606 Prep Batch: 71007	CS-1	L)		e Analyze Preparati)11-08-04)11-08-03	٢			-	yzed By ared By:	
				LCS			Spike	N	latrix			Rec.
Param		F	С	Result	Units	Dil.	Amount		lesult	Rec		Limit
Sulfate			1	26.8	mg/L		25.0		0.177	107		- 113.6
Percent recovery is based on the	spike	resu	lt. RPL) is based	on the	spike and	spike dup	licate 1	esult.			
			LCSD			Spiles	Matrix		Re			RPD
Param	F	С	Result		Dil.	Spike Amount	Result	Rec.	Lin		RPD	Limit
Sulfate	-	1	26.7	mg/L	1	25.0	<0.177	107	99 - 1		0	20
Percent recovery is based on the	эрікс	ICOL	16. 161 1.	a based	on me	spike and	spike dup	ICALE I	esuit.			
Laboratory Control Spike (L QC Batch: 83880 Prep Batch: 71017	CS- 1	l)		e Analyze Preparati		11-08-15 11-08-05				-	vzed By: ared By:	
QC Batch: 83880 Prep Batch: 71017			QC	Preparati LCS	ion: 2(11-08-05	Spike Amount		trix sult	Prepa	red By:	AR .ec.
QC Batch: 83880 Prep Batch: 71017 Param		L) <u>F</u>	QC	Preparati	ion: 20 Units		Spike Amount 1000	Re	trix sult	-	red By: R Li	AR
QC Batch: 83880 Prep Batch: 71017 Param Total Dissolved Solids		F		Preparati LCS Result 1020	ion: 20 Units mg/L	011-08-05 Dil. 1	Amount 1000	Re <9	sult).75	Prepa Rec.	red By: R Li	AR .ec. mit
QC Batch: 83880		F	QC <u>C</u> <u>1</u> 1t. RPD	Preparati LCS Result 1020	ion: 20 Units mg/L	Dil. Dil. 1 spike and	Amount 1000 spike dupl	Re <9	sult 0.75 result.	Prepa Rec. 102	red By: R Li	AR ec. mit - 112.7
QC Batch: 83880 Prep Batch: 71017 Param Fotal Dissolved Solids Percent recovery is based on the	spike	F	QC <u>C</u> <u>1</u> lt. RPD LCSD	Preparati LCS Result 1020 is based	Units mg/L on the	Dil. Dil. 1 spike and Spike	Amount 1000 spike dupl Matrix	Re <9 icate r	sult).75 result. Rec	Prepa Rec. 102	R Li 85.5	AR ec. <u>mit</u> - 112.7 RPD
QC Batch: 83880 Prep Batch: 71017 Param Total Dissolved Solids		F	QC <u>C</u> <u>1</u> 1t. RPD	Preparati LCS Result 1020	Units mg/L on the	Dil. Dil. 1 spike and	Amount 1000 spike dupl Matrix	Re <9	sult 0.75 result.	Prepa Rec. 102	red By: R Li	AR ec. mit - 112.7

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Report Date: 115-6403130	August 25, 2011						: 11080110 Queen #7 Т		Pε	÷		l5 of 21 o., NM	
Laboratory (Control Spike (L	CS-1	1)								•		
QC Batch:	84218			Dat	e Analyz	ed: 2	2011-08-22				Analy	zed By:	: AR
•	71505				Preparat		2011-08-22				-	red By:	
					-						-		
					LCS			Spike	Mat	trix		F	lec.
Param			F	С	Result	Units	B Dil.	Amount	Res		Rec.		imit
Chloride	· · · · · · · · · · · · · · · · · · ·			1	24.3	mg/L	, 1	25.0	<0.	265	97	90.9	- 113.9
Percent recove	ry is based on the	spike	rest	ılt. RPI) is based	d on the	e spike and	spike dup	licate re	esult.			
				LCSD			Spike	Matrix		Rec	.		RPD
Param	· .	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Lim	it	RPD	Limit
Chloride			1	24.0	mg/L	1	25.0	< 0.265	96	90.9 - 1	113.9	1	20
QC Batch:	Control Spike (L 84218	CS- 1	1)		e Analyz		2011-08-22					zed By:	
Prep Batch:	71505			QC	Preparat	ion: 2	2011-08-22				Prepa	red By:	·AR
D			Ð	a	LCS	TT 14	וית	Spike		atrix	D		Rec.
Param Sulfate		·	F	C 1	Result 26.0	Unit mg/l		Amount 25.0		esult).177	Rec. 104		_imit - 113.6
	ry is based on the	miko	rogi									33	- 110.0
	ry is based on the	spike	: ICBL			I OH SHE	-		ncase re				
D		n	a	LCSE		וים	Spike	Matrix	D	Re		מממ	RPD
Param Sulfate		F	<u>C</u>	Result 26.1	t Units mg/L		Amount 25.0	Result <0.177	Rec. 104	Lin 99 - 1		RPD 0	Limit 20
	ry is based on the s	spike	resu								.13.0	0	20
	·												
Matrix Spike	e (MS-1) Spike	d Sa	mple	: 273037	7								•
QC Batch: 8	33538			Dat	e Analyzo	ed: 2	011-08-03				Analy	zed By:	ME
	70958				Preparat		011-08-03					red By:	
					MS			Spike	Mat	rix		R	lec.
Param]	F	C F	lesult	Units	Dil.	Amount	Rest		Rec.	Li	imit
Benzene						mg/L	5	0.500	0.12		92		- 128.2
Benzene Foluene Ethylbenzene				1 ().544	mg/L mg/L mg/L	5 5 5	0.500 0.500 0.500	0.12 0.12 <0.00	05	92 85 84	81.6	- 128.2 - 122.9 - 117.9

continued ...

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Report Date: August 25, 201 115-6403130	1					r: 1108011 Queen #7]	Page Nu C	mber: havez (
matrix spikes continued							<i>~</i>					_	
Param		F	C	MS Result	Units	Dil.	Spik Amou			ıtrix sult	Rec.		lec. imit
Xylene		t	1	1.29	mg/L	5	1.5			543			-118.2
Percent recovery is based on t	ho snik	- ros			······								
i creent recovery is based on t	· ·	. 105		10 10 100	ica on m				care				
D	T	a	MSD	TT	D.1	Spike	Mati		n		lec.	חחח	RPD
Param	F	C.	Result	+		Amount	Rest		Rec.		imit 198.0	RPD	Limit
Benzene Toluene		1	$0.607 \\ 0.563$	mg/L		$0.500 \\ 0.500$	0.12 0.12		96 88		- 128.2 - 122.9	3 3	20 20
Ethylbenzene		1 1	0.303	mg/L mg/L		0.500	< 0.12		88		- 122.9	. 4	20 20
Xylene	,	1	1.34	mg/L		1.50	0.15		79		- 118.2	4	20
Percent recovery is based on t													
	•				-	1	*				MOD	т)
Surrogate				MS esult	MSD Result	Units	Dil.	Spik Amou		MS Rec.	MSD Rec.		lec. imit
Trifluorotoluene (TFT)				.511	0.468	mg/L	5	0.5		102	94		- 119.7
			0	.011	0.400	mg/ L							
4-Bromofluorobenzene (4-BFE	·	mpl	0. e: 27324	.502 [°]	0.461	mg/L	5	0.5		100	92	52.2	- 135.8
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606	·	mpl	e: 27324 Da		vzed:	mg/L 2011-08-0 2011-08-0	4	0.5		100	Analy	52.2 zed By red By:	AR
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606	·	mpl	e: 27324 Da	te Analy C Prepar	vzed:	2011-08-0	4 3				Analy	zed By red By:	AR AR
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606	·	mpl	e: 27324 Da	13 te Analy	vzed:	2011-08-0 2011-08-0	4 3	ike	Ma	100 atrix esult	Analy	zed By red By: F	
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param	·		e: 27324 Da QC	te Analy Prepar MS	vzed: ation:	2011-08-0 2011-08-0 s Dil.	4 3 Sp Amo	ike	Ma Re	atrix	Analy Prepa	zed By red By: F Li	AR AR Lec. mit
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007	biked Sa	F	e: 27324 Da QC <u>C</u>	l3 te Analy Prepar MS Result 18000	yzed: ation: Unit: mg/I	2011-08-0 2011-08-0 s Dil. L 100	4 3 Ama 27	ike ount 50	Ma Re 18	atrix esult 8000	Analy Prepa Rec.	zed By red By: F Li	AR AR Lec. mit
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride	biked Sa	F	e: 27324 Da QC <u>C</u>	l3 te Analy Prepar MS Result 18000 D is bas	yzed: ation: Unit: mg/I	2011-08-0 2011-08-0 s Dil. L 100 e spike ar	4 3 Ama 27 nd spike	ike ount 50 dupli	Ma Re 18	atrix esult 8000 result.	Analy Prepa Rec.	zed By red By: F Li	AR AR Lec.
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride	biked Sa	F	e: 27324 Da QC <u>C</u> 1 ult. RP	l3 te Analy Prepar MS Result 18000 D is bas	vzed: ation: Unit: mg/I red on th	2011-08-0 2011-08-0 s Dil. L 100	4 3 Ama 27 ad spike Mat	ike punt 50 dupli rix	Ma Re 18	atrix esult 8000 result. R	Analy Prepa Rec. 0	zed By red By: F Li	AR AR Lec. mit - 143.2
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride Percent recovery is based on t Param Chloride	biked Sa he spike	F e res C	e: 27324 Da QC <u>1</u> ult. RP MSD Result 17900	13 te Analy Prepar MS Result 18000 D is bas t Unit	vzed: tration: Unit: mg/I red on th s Dil. L 100	2011-08-0 2011-08-0 s Dil. L 100 e spike ar Spike Amount 2750	4 3 Amo 27 nd spike Mat t Ress 180	ike ount 50 dupli rix 1lt I 00	Ma Re 18 cate : Rec.	atrix esult 3000 result. R Lin 48.4 -	Analy Prepa Rec. 0 ec.	zed By red By: F Li 48.4	AR AR Lec. - 143.2 RPD
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride Percent recovery is based on t Param Chloride Percent recovery is based on t	biked Sa he spike F he spike	$\frac{F}{C}$	e: 27324 Da QC C 1 ult. RP MSD Result 17900 ult. RP	Analy te Analy Prepar MS Result 18000 D is bas t Unit mg/I D is bas	vzed: tration: Unit: mg/I red on th s Dil. L 100	2011-08-0 2011-08-0 s Dil. L 100 e spike ar Spike Amount 2750	4 3 Amo 27 nd spike Mat t Ress 180	ike ount 50 dupli rix 1lt I 00	Ma Re 18 cate : Rec.	atrix esult 3000 result. R Lin 48.4 -	Analy Prepa Rec. 0 ec. mit	red By red By: F Li 48.4 RPD	AR AR mit - 143.2 RPD Limit
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride Percent recovery is based on t Param Chloride Percent recovery is based on t Matrix Spike (MS-1) Sp	biked Sa he spike F he spike	$\frac{F}{C}$	e: 27324 Da QC C 1 ult. RP MSD Result 17900 ult. RP e: 27324	43 te Analy Prepar MS Result 18000 D is bas t Unit D is bas 3	yzed: ation: Units mg/I red on th s Dil. L 100 red on th	2011-08-0 2011-08-0 s Dil. 2 100 e spike ar Spike Amount 2750 e spike ar	4 3 Amo 27 nd spike Mat t Ress 1800 nd spike	ike ount 50 dupli rix 1lt I 00	Ma Re 18 cate : Rec.	atrix esult 3000 result. R Lin 48.4 -	Analy Prepa Rec. 0 ec. mit 143.2	zed By red By: F Li 48.4 RPD 1	AR AR ec. - 143.2 RPD Limit 20
4-Bromofluorobenzene (4-BFE Matrix Spike (MS-1) Sp QC Batch: 83606 Prep Batch: 71007 Param Chloride Percent recovery is based on t Param Chloride Percent recovery is based on t	biked Sa he spike F he spike	$\frac{F}{C}$	e: 27324 Da QC C 1 ult. RP MSD Result 17900 ult. RP e: 27324 Da	Analy te Analy Prepar MS Result 18000 D is bas t Unit mg/I D is bas	yzed: ation: Units mg/I red on th s Dil. L 100 red on th	2011-08-0 2011-08-0 s Dil. L 100 e spike ar Spike Amount 2750	4 3 Sp Amo 27 nd spike Mat t Ress 1800 nd spike 4	ike ount 50 dupli rix 1lt I 00	Ma Re 18 cate : Rec.	atrix esult 3000 result. R Lin 48.4 -	Analy Prepa Rec. 0 ec. mit 143.2 Analy	red By red By: F Li 48.4 RPD	AR AR ecc. - 143.2 RPD Limit 20

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Report Date: August 25, 115-6403130	2011					11080110 ueen #7 7	B			÷	umber: Chavez C	Co., NI
				MS			Spike	М	latrix		F	lec.
Param		F	С	Result	Units	Dil.	Amount	Result		Rec.	\mathbf{L}	imit
Sulfate			1	3380	mg/L	100	2750		170	80	59.7	- 115.
Percent recovery is based	on the spike	e res	ult. RP	D is based	l on the	e spike and	spike dup	licate	result	•		
			MSD			Spike	Matrix			Rec.		RPI
Param	F	С	Result		Dil.	Amount	Result	Rec.	-	.imit	RPD	Limi
Sulfate		1	3360	mg/L	100	2750	1170	80	59.7	- 115.4	1	20
Percent recovery is based	-				I ON LINE		. зріке айр	ncate	result			
Matrix Spike (MS-1)	Spiked Sa	mple										
QC Batch: 84218				te Analyz		011-08-22					yzed By	
Prep Batch: 71505			QC	Preparat	ion: 2	011-08-22				Prep	ared By	: AI
							G., 11.				τ	Rec.
				\mathbf{MS}			Spike	M	atrix		1	
Param		F	С	MS Result	Units	Dil.	Amount		atrix. esult	Rec.		imit
Chloride	on the spike		1	Result 2200	mg/L	50	Amount 1380	R 1	esult 010	86	L	imit
Chloride Percent recovery is based o	on the spike F		1	Result 2200 D is based	mg/L	50	Amount 1380 spike dup Matrix	R 1	esult 010 result	86	L	imit - 143 RPI
Chloride Percent recovery is based o Param Chloride	F	e rest	ult. RP MSD Result 2150	Result 2200 D is based t Units mg/L	mg/L l on the Dil. 50	50 e spike and Spike Amount 1380	Amount 1380 spike dup Matrix Result 1010	R licate Rec. 83	esult 010 result 1 1 48.4	86 Rec. .imit - 143.2	L 48.4	
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218	F	c C 1 e rest	ult. RPI MSD Result 2150 ult. RPI e: 27320 Dat	Result 2200 D is based : Units mg/L D is based	mg/L l on the Dil. 50 l on the	50 e spike and Spike Amount 1380	Amount 1380 spike dup Matrix Result 1010	R licate Rec. 83	esult 010 result 1 1 48.4	86 .imit - 143.2	L 48.4 RPD	imit - 143. RPI Lim 20
-v -	F on the spike	c C 1 e rest	ult. RPI MSD Result 2150 ult. RPI e: 27320 Dat	Result 2200 D is based Units mg/L D is based 6 te Analyze	mg/L l on the Dil. 50 l on the	50 spike and Amount 1380 spike and 011-08-22	Amount 1380 spike dup Matrix Result 1010 spike dup	R licate Rec. 83 licate	esult 010 result 1 48.4 result	86 .imit - 143.2	L 48.4 RPD 2 yzed By ared By:	imit - 143. Limi 20
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218 Prep Batch: 71505	F on the spike	c C 1 e rest	ı ult. RPI <u>Result</u> 2150 ult. RPI e: 27320 Dat QC	Result 2200 D is based C Units mg/L D is based 6 te Analyze Preparat	mg/L l on the Dil. 50 l on the	50 spike and Amount 1380 spike and 011-08-22	Amount 1380 spike dup Matrix Result 1010	R licate Rec. 83 licate	esult 010 result 1 48.4 result	86 .imit - 143.2	L 48.4 RPD 2 yzed By ared By:	imit - 143. RPI Limi 20
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218 Prep Batch: 71505	F on the spike	C 1 ; rest	ı ult. RPI <u>Result</u> 2150 ult. RPI e: 27320 Dat QC	Result 2200 D is based C Units mg/L D is based 6 te Analyze Preparat MS	mg/L l on the Dil. 50 l on the ed: 2 ion: 2	50 e spike and Amount 1380 e spike and 011-08-22 011-08-22	Amount 1380 spike dup Matrix Result 1010 spike dup	Rec. 83 dicate	esult 010 result 1 48.4 result	86 Anal: Prepa	L 48.4 RPD 2 yzed By ared By:	imit - 143. RPI Limi 20 : AR AR AR
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218 Prep Batch: 71505 Param Sulfate	F on the spike Spiked Sa	C 1 ; rest mple	1 MSD Result 2150 ult. RPI e: 27320 Dat QC	Result 2200 D is based Units mg/L D is based 6 te Analyze Preparat MS Result 1270	mg/L l on the Dil. 50 l on the ed: 2 ion: 2 Units mg/L	50 2 spike and Amount 1380 2 spike and 011-08-22 011-08-22 011-08-22 Dil. 50	Amount 1380 spike dup Matrix Result 1010 spike dup Spike dup Spike Amount 1380	Rec. 83 dicate	esult 010 result 1 48.4 result atrix esult 103	86 Rec. Analy Prepa Rec.	L 48.4 RPD 2 yzed By ared By:	imit - 143. RPI Limi 20 : AR AR AR
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218	F on the spike Spiked Sa on the spike	C 1 2 rest mple F 2 rest	1 MSD Result 2150 ult. RPI e: 27320 Dat QC C 1 ult. RPI ult. RPI	Result 2200 D is based Units mg/L D is based 6 te Analyze Preparat MS Result 1270 D is based	mg/L l on the Dil. 50 l on the ed: 2 ion: 2 Units mg/L l on the	50 2 spike and Amount 1380 2 spike and 011-08-22 011-08-22 011-08-22 Dil. 50	Amount 1380 spike dup Matrix Result 1010 spike dup Spike dup 1380 spike dup Matrix	Rec. 83 dicate	esult 010 result 1 48.4 result 103 result	86 Rec. imit - 143.2 Analy Prepa Rec. 85 Rec.	L 48.4 RPD 2 yzed By ared By:	imit - 143. RPI Limi 20
Chloride Percent recovery is based of Param Chloride Percent recovery is based of Matrix Spike (MS-1) QC Batch: 84218 Prep Batch: 71505 Param Sulfate	F on the spike Spiked Sa	C 1 ; rest mple	1 MSD Result 2150 ult. RPI e: 27320 Dat QC 1 ult. RPI	Result 2200 D is based Units mg/L D is based 6 te Analyze Preparat MS Result 1270 D is based	mg/L l on the Dil. 50 l on the ed: 2 ion: 2 Units mg/L	50 e spike and Amount 1380 e spike and 011-08-22 011-08-22 Dil. 50 e spike and	Amount 1380 spike dup Matrix Result 1010 spike dup Spike dup 1380 spike dup	Rec. 83 dicate	esult 010 result 1 48.4 result 103 result 1 1 1 1 1 1 1	86 Rec. imit - 143.2 Analy Prepa Rec. 85	L 48.4 RPD 2 yzed By ared By:	imit - 143. RPI Limi 20 20 : AR AR AR tec. imit - 115.

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Report Date: August 25, 2011 115-6403130 Work Order: 11080110 Celero/Rock Queen #7 TB Page Number: 18 of 21 Chavez Co., NM

Calibration Standards

Standard (CCV-1)

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

Standard (CCV-2)

QC Batch: 83538	Date Analyzed: 2011-08-03							zed By: ME
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.102	102	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0980	98	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0920	92	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.276	92	80 - 120	2011-08-03

Standard (CCV-3)

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QC Batch: 83538			Date An	alyzed: 20	Analyzed By: ME			
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0972	97	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0903	90	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.272	91	80 - 120	2011-08-03

Report Date: At 115-6403130	ugust 25, 20	11		Work Or Celero/Roo	Ъ		mber: 19 of 2 havez Co., NM	
Standard (ICV	/-1)							
QC Batch: 836	06		Date	Analyzed:	2011-08-04		Analy	zed By: AR
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	26.8	107	90 - 110	2011-08-0
Standard (ICV	7-1)							
QC Batch: 836	06		Date	Analyzed:	2011-08-04		Analy	vzed By: AR
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	26.7	107	90 - 110	2011-08-04
Standard (CC)							, ,	
QC Batch: 8360	06		Date	Analyzed:	2011-08-04		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	27.1	108	90 - 110	2011-08-04
Standard (CCV	V-1)							
QC Batch: 8360)6		Date	Analyzed:	2011-08-04		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Param	riag					106	90 - 110	2011-08-04

Standard (ICV-1)

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QC Batch: 84218

Date Analyzed: 2011-08-22

Analyzed By: AR

Report Date: 115-6403130	August 25, 20	11	. 1	Work Ord Celero/Roc	Page Number: 20 of 2 Chavez Co., NI				
Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Chloride	· · · · · · · · · · · · · · · · · · ·	1	mg/L	25.0	24.8	99	90 - 110	2011-08-22	
Standard (IC	CV-1)								
QC Batch: 84	4218		Date	Analyzed:	2011-08-22		Analy	zed By: AR	
				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date	
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2011-08-22	

Standard (CCV-1)

QC Batch:	84218			Date .	Analyzed:	2011-08-22		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
		•			True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/L	25.0	24.3	97	90 - 110	2011-08-22

Standard (CCV-1)

QC Batch:	84218		Date	Analyzed:	2011-08-22		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	D :
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	27.4	110	90 - 110	2011-08-22

Report Date: August 25, 2011 115-6403130 Work Order: 11080110 Celero/Rock Queen #7 TB Page Number: 21 of 21 Chavez Co., NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Xuo #: 110801	0																		·"````;		
Analysis Request of Cha	in of Custody	R	ec	:0	rd									PAG				C)F:		<u> </u>
											(0			YSIS Spec				o.)			
	pring St. s 79705 Fax (432) 682-3946		.					005 (Ext. to C35)	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se				5					pH, TDS		
CLIENT NAME: LIVO SITE MANAGER:	Sudley	REHS	P		ERVAT			TX1005	å	8			60/624	270/62					ns, pH		
115-L403130 PROJECT NAME: 115-L403130 Celero Rek G	heren # 7	Y/N)				Τ	କ୍ର	8016 MOD.	als Ag A	als Ag As	tiles	i Volatiles	. 8240/82	mi. Vol. 8.	808		96C.	istos)	ons/Catio	241	,
LAB I.D. NUMBER DATE TIME TIME ANNO CHARTER SAMPLE	Andley Andley Amen 4 7 NM IDENTIFICATION	FILTERED (Y/N)	HCL	EONH	ICE NONE		2 1	ТРН 801 РАН 8270	RCRA Met	TCLP Metals Ag /	TCLP Vola	TCLP Semi Volatites RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625 BCB's apportance	Pest. 808/608	Chlorida)	Gamma S ₁	PLM (Asbestos)	Major Anions/Cations,		
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CONTACT: PHONE: DAT SAMPLE CONDITION WHEN RECEIVED: REMARKS:		TIME:						<u> </u>				•			1			<u> </u>	Yes		No
Please fill out all copies - Laboratory retains Yellow c	573-11102000	Tech	- F	Proje	rt Mar	ager	reta	ins l	Pink	cop	y -	Acc	ount	ing r	ecei	ves	Gold	сор	y.		

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6015 Harris Parkway, Suite 110

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: November 4, 2011

Work Order: 11103124

Project Location: Chavez Co., NM **Project Name:** Celero/Rock Queen Tract #7 **Project Number:** 115-6403130A

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
281139	MW-4	water	2011-10-28	13:25	2011-10-31
281140	MW-2	water	2011-10-28	13:55	2011-10-31
281141	MW-1	water	2011-10-28	13:45	2011-10-31
281142	MW-3	water	2011-10-28	13:35	2011-10-31

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

This report consists of a total of 13 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

Report Contents

Case Narrative	3
Analytical Report	4
Sample 281139 (MW-4)	4
	4
	5
	6
	_
	7
• • • • • • • • • • • • • • • • • • • •	7
v	7
QC Batch 86078 - Method Blank (1)	7
Laboratory Control Spikes	8
	8
	8
QC Batch 86078 - LCS (1)	
•	9
QC Batch 86077 - MS (1)	
QC Batch 86078 - MS (1)	-
	_
Calibration Standards	-
QC Batch 85998 - CCV (1)	-
QC Batch 85998 - CCV (2)	_
QC Batch 85998 - CCV (3)	_
QC Batch 86077 - CCV (1)	_
QC Batch 86077 - CCV (2)	_
QC Batch 86078 - CCV (1)	
QC Batch 86078 - CCV (2) 1	2
Appendix 1	3
Laboratory Certifications	3
Standard Flags	
Attachments	3

Case Narrative

Samples for project Celero/Rock Queen Tract #7 were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103124. Samples for work order 11103124 were received intact without headspace and at a temperature of 3.9 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	73013	2011-11-01 at 15:26	85998	2011-11-01 at 15:26
Chloride (IC)	E 300.0	73086	2011-11-02 at 09:33	86077	2011-11-02 at 17:50
Chloride (IC)	E 300.0	73087	2011-11-02 at 10:34	86078	2011-11-02 at 21:51

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 11103124 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: November 4, 2011 115-6403130A Work Order: 11103124 Celero/Rock Queen Tract #7 Page Number: 4 of 13 Chavez Co., NM

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Analytical Report

Sample: 281139 - MW-4

Laboratory: Analysis:	Lubbock BTEX	٨	nalytical	Method	S 8021E	2 .		Prep Method:	S 5030B	
QC Batch:	85998		ate Analy		2011-11			Analyzed By:	ZLM	
Prep Batch:	73013			eparation:		Prepared By:	ZLM			
			<u>-</u>	-p	2011-11	-				
					RL					
Parameter		Flag	Cert		Result	Units		Dilution	RL	
Benzene	υ	U	1	<(0.00100	mg/L		1	0.00100	
Toluene	υ	U	1	<().00100	mg/L		1	0.00100	
Ethylbenzene	e u	U	1	<(0.00100	mg/L		1	0.00100	
Xylene	UU	U	1	<(0.00100	mg/L		1	0.00100	_
							a .1.	. Demonst	D	
C			a .	D	TT	Dilation	Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount		Limits	
Trifluorotolu				0.110	mg/L	1	0.100	110	70 - 130	
4-Bromofiuor	obenzene (4-BFB)			0.108	mg/L	1	0.100	108	70 - 130	-
	· ·									
Sample: 28	1139 - MW-4									
Laboratory:	Midland									
Analysis:	Chloride (IC)		Analvt	ical Metho	d: E3	00.0		Prep Meth	od: N/A	
QC Batch:	86077			nalyzed:		1-11-02		Analyzed I		
Prep Batch:	73086			Preparat	- +	1-11-02		Prepared E	• ,	
-r			~P**					F F	•	
					\mathbf{RL}					
Parameter		Flag	Cert		Result	Units	3	Dilution	\mathbf{RL}	
<u>7</u>	· · · · · · · · · · · · · · · · · · ·				4.4.4				0.50	-

Sample: 281140 - MW-2

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Qs

Chloride

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

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144

mg/L

Report Date: 115-6403130A	November 4, 2011			Ce	Work Or lero/Rock	Page Number: 5 of 1 Chavez Co., NN					
						\mathbf{RL}					
Parameter		Flag		Cert		Result	Units	1	Dilution		RL
Benzene	· · · · · · · · · · · · · · · · · · ·			1	<	0.00100	mg/L	1	1	0.0	00100
Toluene	υ	U		1	<	0.00100	mg/L		1	0.0	00100
Ethylbenzene	υ	U		1	<	0.00100	mg/L	r	1	0.0	00100
Xylene	υυ	U		1	<	0.00100	mg/L	·	11	0.0	00100
								Spike	Percent	Rec	overy
Surrogate			Flag	Cert	Result	Units	Dilution	Amount	Recovery		mits
Trifluorotoluer	ne (TFT)				0.111	mg/L	1	0.100	111		- 130
	benzene (4-BFB)				0.109	mg/L	1	0.100	109	70 -	- 130
Analysis: QC Batch:	140 - MW-2 Midland Chloride (IC) 86078 73087			Date A	ical Meth nalyzed: Preparat	201	00.0 1-11-02 1-11-02		Prep Met Analyzed Prepared	By:	N/A AR AR
						\mathbf{RL}					
Parameter		Flag		Cert		Result	Unit mg/l		Dilution		RL

Sample: 281141 - MW-1

Analysis: QC Batch:	Lubbock BTEX 85998 73013						S 5030B ZLM ZLM			
						RL				
Parameter		Flag		Cert		Result	Units		Dilution	\mathbf{RL}
Benzene	υ	U		1	<0	0.00100	mg/L		1	0.00100
Toluene	υ	U		1	<0).00100	mg/L		1	0.00100
Ethylbenzene	υ	U		1	<0	0.00100	mg/L		1	0.00100
Xylene	υ	U		1	<0	0.00100	mg/L		1	0.00100
								Spike	Percent	Recovery
Surrogate		\mathbf{F}	lag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluer	ne (TFT)				0.126	mg/L	1	0.100	126	70 - 130
4-Bromofluoro	benzene (4-BFB)				0.112	mg/L	1	0.100	112	70 - 130

Report Date: November 4, 20 115-6403130A		Work Order: 11103124Page NumberCelero/Rock Queen Tract #7Chavez						
Sample: 281141 - MW-1								
Laboratory: Midland Analysis: Chloride (IC)		A malent	iaal Mathad	E 30	2.0		Drop Moth	od: N/A
Analysis: Chloride (IC) QC Batch: 86078			ical Method: .nalyzed:		.0 ·11-02		Prep Meth Analyzed I	
Prep Batch: 73087			Preparation		-11-02		Prepared E	
riep Daten. 15001		Sample	e i reparation	. 2011-	-11-02		I tepated L	Jy. An
				\mathbf{RL}				
Parameter	Flag	Cert		sult	Units		Dilution	RI
Chloride Q.	Qs	2	13	100	mg/L		1000	2.50
Sample: 281142 - MW-3								
Laboratory: Lubbock								
Analysis: BTEX		Analytical	Method: S	8021B			Prep Method:	S 5030E
QC Batch: 85998		Date Analy		011-11-0	1		Analyzed By:	ZLM
Prep Batch: 73013		Sample Pre		011-11-0			Prepared By:	ZLM
		buanpie i re	purumon. 2	011 11 0	-		r toparoa Dy.	6617
Parameter	Flag	Cert	B	RL sult	Units		Dilution	RI
Benzene v	U	1	<0.0		mg/L		1	0.00100
Toluene v	Ū	1	< 0.0		mg/L		1	0.00100
Ethylbenzene u	U	1	< 0.0		mg/L		1	0.00100
Xylene u	U	1	<0.0		mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate	F	ag Cert	Result 1	Jnits	Dilution	Amount		Limits
Trifluorotoluene (TFT)				ng/L	1	0.100	105	70 - 130
4-Bromofluorobenzene (4-BFB)			ng/L	1	0.100	109	70 - 130
		· ·						
Sample: 281142 - MW-3								
Laboratory: Midland								
Analysis: Chloride (IC)		Analyti	ical Method:	E 300).0		Prep Meth	od: N/A
QC Batch: 86078			nalyzed:		11-02		Analyzed H	
Prep Batch: 73087		Sample	Preparation	: 2011-	11-02		Prepared E	By: AR
				\mathbf{RL}				
Parameter	Flag	Cert	Re	sult	Units		Dilution	RI
Chloride Q#	Qs	2	33	400	mg/L		5000	2.50

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Report Date: November 4, 2011 115-6403130A Work Order: 11103124 Celero/Rock Queen Tract #7 Page Number: 7 of 13 Chavez Co., NM

Units

mg/L

Result

0.685

RL

2.5

Method Blanks

Parameter

Chloride

Method Blank (1)	QC Batch: 85998						
QC Batch: 85998		Date Analyzed:	2011-11-0	1		Analyzed By	: ZLN
Prep Batch: 73013		QC Preparation:	2011-11-02	1		Prepared By	
-							
				MDL			
Parameter	Flag	Cert		Result		Units	RI
lenzene	1.005	1		< 0.000765		mg/L	0.0
oluene		1		< 0.000719		mg/L	0.0
thylbenzene		1		< 0.000860		mg/L	0.0
lylene		1		< 0.000942	•	mg/L	0.0
					Spike	Percent	Recove
urrogate	Flag	Cert Result	Units	Dilution	Amount	Recovery	Limit
rifluorotoluene (TFT)		0.0927	mg/L	1	0.100		70 - 13
Bromofluorobenzene (0.0945	mg/L	1	0.100		70 - 13
Method Blank (1)	QC Batch: 86077	Data Analanadi	9011 11 0			Analyzed P	y: AF
QC Batch: 86077 Prep Batch: 73086		Date Analyzed: QC Preparation:	2011-11-0 2011-11-0			Analyzed B Prepared B	-
				MDL			
Parameter	Flag	Cert		Result		Units	R
hloride	· · · · · · · · · · · · · · · · · · ·	2		0.668		mg/L	2
Method Blank (1)	QC Batch: 86078						
C Batch: 86078		Date Analyzed:	2011-11-0	2		Analyzed B	y: Al
rep Batch: 73087		QC Preparation:	2011-11-0	2		Prepared B	
				MDL			
		C .				TT. 14.	

 \mathbf{Cert}

2

Flag

Report Date: November 4, 2011 115-6403130A Work Order: 11103124 Celero/Rock Queen Tract #7 Page Number: 8 of 13 Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

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

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	86077 73086			te Analyze C Preparati		11-02 11-02			~	By: AR By: AR
				LCS			Spike	Matrix		Rec.
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2	23.7	mg/L	1	25.0	< 0.265	95	90 - 110

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

•	RPD Limit RPD Limit RPD Limit 0 20
Param F C Result Units Dil. Amount Result Rec. Limit Param F C Result Units Dil. Amount Result Rec. Limit Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2 23.7 mg/L 1 25.0 <0.265 95 90 - 110 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: 86078 Date Analyzed: 2011-11-02 Analyzed:	RPD Limit RPD RPD Limit
LCSD Spike Matrix Rec. Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2 23.7 mg/L 1 25.0 <0.265 95 90 - 110 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. Laboratory Control Spike (LCS-1) Date Analyzed: 2011-11-02 Analyzed:	RPD RPD Limit
Param F C Result Units Dil. Amount Result Rec. Limit Chloride 2 23.7 mg/L 1 25.0 <0.265	RPD Limit
Chloride 2 23.7 mg/L 1 25.0 <0.265 95 90 - 110 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: 86078 Date Analyzed: 2011-11-02 Analyzed:	
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: 86078 Date Analyzed: 2011-11-02 Ana	0 20
Laboratory Control Spike (LCS-1) QC Batch: 86078 Date Analyzed: 2011-11-02 Ana	
QC Batch: 86078 Date Analyzed: 2011-11-02 Ana	
•	
Prep Batch: 73087 QC Preparation: 2011-11-02 Pre	lyzed By: AR
	pared By: AR
LCS Spike Matrix	Rec.
Param F C Result Units Dil. Amount Result H	Rec. Limit
Chloride 2 23.2 mg/L 1 25.0 <0.265	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 F C Result Units Dil. Amount Result Rec. Limit	RPD Limit
Chloride 2 23.7 mg/L 1 25.0 <0.265 95 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: 281133	
QC Batch: 85998 Date Analyzed: 2011-11-01 Analyzed: 2011-11-01	zed By: ZLM
	ared By: ZLM
Prep Batch: 73013 QC Preparation: 2011-11-01 Prepa	
MS Spike Matrix	Rec.
MS Spike Matrix Param F C Result Units Dil. Amount Result I	Rec. Limit
MS Spike Matrix Param F C Result Units Dil. Amount Result I Benzene 1 0.104 mg/L 1 0.100 <0.000765	Rec. Limit 104 70 - 130
MS Spike Matrix Param F C Result Units Dil. Amount Result I Benzene 1 0.104 mg/L 1 0.100 <0.000765	Rec. Limit 104 70 - 130 99 70 - 130
MS Spike Matrix Param F C Result Units Dil. Amount Result H Benzene 1 0.104 mg/L 1 0.100 <0.000765 Soluene 1 0.0987 mg/L 1 0.100 <0.000719 Sthylbenzene 1 0.0972 mg/L 1 0.100 <0.000860	Rec. Limit 104 70 - 130 99 70 - 130 97 70 - 130
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Rec. Limit 104 70 - 130 99 70 - 130
MSSpikeMatrixParamFCResultUnitsDil.AmountResultIBenzene1 0.104 mg/L1 0.100 <0.000765 Foluene1 0.0987 mg/L1 0.100 <0.000719 Cthylbenzene1 0.0972 mg/L1 0.100 <0.000860 Kylene1 0.290 mg/L1 0.300 <0.00942 Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.	Rec. Limit 104 70 - 130 99 70 - 130 97 70 - 130 97 70 - 130 97 70 - 130
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Rec. Limit 104 70 - 130 99 70 - 130 97 70 - 130 97 70 - 130 97 70 - 130 97 RPD
MSSpikeMatrixParamFCResultUnitsDil.AmountResultIBenzene1 0.104 mg/L1 0.100 <0.000765 Foluene1 0.0987 mg/L1 0.100 <0.000719 Cthylbenzene1 0.0972 mg/L1 0.100 <0.000860 Kylene1 0.290 mg/L1 0.300 <0.00942 Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.	Rec. Limit 104 70 - 130 99 70 - 130 97 70 - 130 97 70 - 130 97 70 - 130 PRD Limit

continued ...

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Report Date: November 4 115-6403130A	, 2011 ·					: 11103124 ueen Tract				Pag		r: 10 of 13 z Co., NM
matrix spikes continued										_		
D	-		MSD	TT 11.	• D'1	Spike	Matr			Rec		RPD
Param	F		Result	Units		Amount 0.100			Rec. 98	Lim 70 - 1		D Limit 20
Ethylbenzene Xylene		1	$0.0979 \\ 0.294$	mg/L mg/L		0.300	< 0.000		90 98	70 - 1		20 20
Percent recovery is based of	on the spi											
·	-			MS	MSD	-	-	- Spike		MS	MSD	Rec.
Surrogate				esult	Result	Units	Dil.	Amou		Rec.	Rec.	Limit
Trifluorotoluene (TFT)			0.	.101	0.0978	mg/L	1	0.1		101	98	70 - 130
4-Bromofluorobenzene (4-J	BFB)		0.0	0984	0.0961	mg/L	1	0.1		98	96	70 - 130
QC Batch: 86077 Prep Batch: 73086			QC 1	e Analy: Prepara MS	ation: 2	011-11-02 011-11-02	-	oike		P atrix	repared	By: AR Rec.
Param		F	C	Resul				ount		sult	Rec.	Limit
Chloride	Qs	Qs	2	14800) mg	/L 100	2'	750	13	900	33	90 - 110
Percent recovery is based of	on the spil	ke resu	ılt. RPD	is base	ed on the	spike and	spike d	uplicate	e resu	ılt.		
			MSI	Э.		Spike				Rec		RPD
Param			C Resu		its Dil				lec.	Limi		
Chloride	Qs	Qs :	₂ 1490)0 mg	g/L 100) 2750	139	00	36	90 - 1	10 1	20
Percent recovery is based of	on the spi	ke resu	ut. RPD	is base	d on the	spike and	spike di	uplicate	e resu	llt.		
Matrix Spike (MS-1) QC Batch: 86078	Spiked S	ample	Date	e Analy:		011-11-02						By: AR
. ,	Spiked S	ample	Date	e Analy:)11-11-02)11-11-02						By: AR By: AR
QC Batch: 86078 Prep Batch: 73087	Spiked S	-	Date QC 1	e Analy: Prepara MS	tion: 20)11-11-02	-	oike		P atrix		
QC Batch: 86078 Prep Batch: 73087 Param	Spiked S	F	Date	e Analy: Prepara MS Resul	tion: 20 t Un	011-11-02 its Dil.	. Am	ount	Re	P atrix sult	repared	By: AR Rec. Limit
QC Batch: 86078 Prep Batch: 73087	Spiked S	-	Date QC 1	e Analy: Prepara MS	tion: 20	011-11-02 its Dil.	. Am		Re	P atrix	repared	By: AR Rec.
QC Batch: 86078 Prep Batch: 73087 Param	Qs	F	Date QC I C	e Analy: Prepara MS Resul 16100	tion: 20 t Un) mg	011-11-02 its Dil. /L 100	Am 2'	ount 750	Re 14	P atrix sult 800	repared	By: AR Rec. Limit
QC Batch: 86078 Prep Batch: 73087 Param	Qs	F	Date QC I C	e Analy: Prepara MS Resul 16100 is base	tion: 20 t Un <u>) mg</u> d on the	011-11-02 its Dil. /L 100	Am 2' spike du	ount 750 uplicate	Re 14	P sult 800 Ilt. Rec	Rec.	By: AR Rec. Limit 90 - 110 RPD
QC Batch: 86078 Prep Batch: 73087 Param	Qs on the spil	F Qs ce resu	Date QC 1 C 2 It. RPD	e Analy: Prepara MS <u>Resul</u> 16100 is base D ult Un	tion: 20 t Un) mg d on the	011-11-02 its Dil. /L 100 spike and Spike . Amour	Am 2' spike du Mat nt Res	ount 750 uplicate trix ult F	Re 14	P sult 800 llt.	Rec. 47	By: AR Rec. Limit 90 - 110 RPD

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

Report Date: November 4, 2011 115-6403130A

Calibration Standards

Standard (CCV-1)

QC Batch: 8599	8		Date Ana	Analyze	ed By: ZLM			
				CCVs	CCVs .	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	· · · · · · · · · · · · · · · · · · ·	1	mg/L	0.100	0.0978	98	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.0936	94	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.0927	93	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.274	91	80 - 120	2011-11-01

Standard (CCV-2)

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

Standard (CCV-3)

QC Batch: 85998			Analyzed By: ZLM					
		_		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	\mathbf{Cert}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/L	0.100	0.105	105	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.100	100	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.0986	99	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.290	96	80 - 120	2011-11-01

Report Date: No 115-6403130A	ovember 4, 2	011	(rder: 11103124 k Queen Tract			mber: 12 of 13 havez Co., NM
Standard (CCV	V-1)							
QC Batch: 8607	77		Date	Analyzed:	2011-11-02	•	Analy	zed By: AR
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	23.8	95	90 - 110	2011-11-02
Standard (CCV	V-2)							
QC Batch: 8607	77		Date	Analyzed:	2011-11-02		Analy	zed By: AR
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Chloride	Flag	Cert	Units mg/L	Conc. 25.0	Conc. 23.6	Recovery 94	Limits 90 - 110	Analyzed 2011-11-02
Standard (CCV								
QC Batch: 8607			Date	Analyzed:	2011-11-02		Analy	zed By: AR
_				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Chloride	Flag	Cert	Units mg/L	<u>Conc.</u> 25.0	Conc. 23.6	Recovery 94	Limits 90 - 110	Analyzed 2011-11-02
	un alber anta	2	IIIg/ L		-		30 - 110	2011-11-02
Standard (CCV	V-2)							
QC Batch: 8607	78		Date .	Analyzed:	2011-11-02		Analy	zed By: AR
2		a		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		2	mg/L	25.0	23.8	95	90 - 110	2011-11-02

Report Date: November 4, 2011 115-6403130A

Work Order: 11103124 Celero/Rock Queen Tract #7

Page Number: 13 of 13 Chavez Co., NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Ar		sis F	Rec	าม	est of Ch	ain of Custo	dv F	Re	ec	:0	rd									PAG			1_	(<u>л.</u>		1
			6									-	-				(C				REC REC			o.)			
•			Ľ	ſ	1910 N. Big Midland, Te	TECH Spring St. Exas 79705 • Fax (432) 682-3946								15 (Ext. to C35)	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se									TDS		
LIENT NA	LIENT NAME: Lehero Jeff Kindley PRESERVA METHO								1	TX1005	Ba C	Ba			0/624	70/625					, pH,						
PROJECT			PRO.	JEC e h	NAME: ro [Rock Queer	trinditey	CONTAIN	(N/)					6	5 MOD.	ls Ag As	lls Ag As	lles Viciatilae		8240/826	ni. Vol. 82	/608		ec.	(Air) stos)	ns/Cation:		
LAB I.D. NUMBER	DATE	TIME	MATRIX	GRAB	SAM	PLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (HCL	HNO3	ICE	NONE	BTEX 8021	TPH 801	PAH 8270 RCRA Metals Ag As Ba C	TCLP Meta	TCLP Volati	RCI	GC.MS Vol.	GC.MS Sen	PCB's 8080/608 Pest. 808/608	Chloride	Gamma Sp	Alpha Beta (Air) PLM (Asbestos)	Major Anions/Cations, pH, TDS		
281139	;	1325	W	X	MW-4		4	1,			X		X				T	T		T	1	X		Τ		T	
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Z <u>u j</u> i Relinguistiei		ure)			Time: <u>16'01)</u> Date: Time:	RECEIVED BY: (Signature)			(Time: Date: Time:				=- 		D DE	LIVER H COI	_	UPS	3			0	Re	sults	by:	=
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6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 200 East Sonset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft, Worth, Texas 76132

888 • 588 • 3443 El Paso, Texas 79922 Midland, Texas 79703

E-Mail: lab@traceanalysis.com

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

Certifications

800+378+1296

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: November 30, 2011

Work Order: 11103124

Project Location: Chavez Co., NM **Project** Name: Celero/Rock Queen Tract #7 Project Number: 115-6403130A

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
281139	MW-4	water	2011-10-28	13:25	2011-10-31
281140	MW-2	water	2011-10-28	13:55	2011-10-31
281141	MW-1	water	2011-10-28	13:45	2011-10-31
281142	MW-3	water	2011-10-28	13:35	2011-10-31

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

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Notes:

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

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

Report Contents

Case Narrative	3
Analytical Report	4
Sample 281139 (MW-4)	4
Sample 281140 (MW-2)	4
Sample 281141 (MW-1)	5
Sample 281142 (MW-3)	5
Method Blanks	7
QC Batch 86371 - Method Blank (1)	7
QC Batch 86373 - Method Blank (1)	7
QC Batch 86753 - Method Blank (1)	7
QC Batch 86754 - Method Blank (1)	7
QC Batch 86753 - Duplicate (1)	8
$ QC Batch 86754 - Duplicate (1) \qquad \dots \qquad $	8
	0
Laboratory Control Spikes	9
QC Batch 86371 - LCS (1)	9
QC Batch 86373 - LCS (1)	9
QC Batch 86753 - LCS (1)	9
QC Batch 86754 - LCS (1)	10
QC Batch 86371 - MS (1)	10
QC Batch 86373 - MS (1)	10
Calibration Standards	12
QC Batch 86371 - ICV (1)	12
QC Batch 86371 - $CCV(1)$	
QC Batch 86373 - ICV (1)	
QC Batch 86373 - CCV (1)	
Limits of Detection (LOD)	13
Appendix	14
Report Definitions	14
Laboratory Certifications	
Standard Flags	
Attachments	

Page 2 of 14

Report Date: November 30, 2011 115-6403130A Work Order: 11103124 Celero/Rock Queen Tract #7 Page Number: 3 of 14 Chavez Co., NM

Case Narrative

Samples for project Celero/Rock Queen Tract #7 were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103124. Samples for work order 11103124 were received intact without headspace and at a temperature of 3.9 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
$\overline{SO4}$ (IC)	E 300.0	73346	2011-11-01 at 10:24	86371	2011-11-02 at 10:30
SO4 (IC)	E 300.0	73346	2011-11-01 at 10:24	86373	2011-11-02 at 10:31
TDS	SM 2540C	73423	2011-11-15 at 13:54	86753	2011-11-18 at 15:13
TDS	SM 2540C	73460	2011-11-16 at 15:57	86754	2011-11-21 at 15:15

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 11103124 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: November 30, 2011 115-6403130A

Work Order: 11103124 Celero/Rock Queen Tract #7

Analytical Report

Sample: 281139 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 86371			o Date	ytical Meth Analyzed: ple Prepara		Prep Method: N/A Analyzed By: AR Prepared By: AR			
			SDL	MQL	Method					·
			Based	Based	Blank				MQL	MDL
Parameter	\mathbf{F}	С	\mathbf{Result}	\mathbf{Result}	\mathbf{Result}	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Sulfate	Qs	1	113	113	< 0.885	mg/L	5	0.885	2.5	0.177

Sample: 281139 - MW-4

Laboratory: Analysis: QC Batch:	Midland TDS 86753			D	nalytical ate Analy	yzed:	SM 254 2011-12	1-18	·	Analyze	•
Prep Batch:	73423			S	ample Pro	eparation:	2011-11	L-15		Prepare	d By: AR
				SDL Based	MQL Based	Method Blank				MQL	MDL
Parameter		\mathbf{F}	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Total Dissolv	ed Solids		1	770	770	<19.5	mg/L	2	19.5	10	9.75

Sample: 281140 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86373 73346			Date	ytical Meth Analyzed: ble Preparat		Prep Method: N/A Analyzed By: AR Prepared By: AR			
			\mathbf{SDL}	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	F	С	Result	Result	Result	Units	Dilution	SDL	(Unadjusted)	(Unadjusted)
Sulfate	Qs	1	1010	1010	<17.7	mg/L	100 .	17.7	2.5	0.177

Sample: 281140 - MW-2

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

Report Date: November 3 115-6403130A	0, 20	11		Cele	Page Number: 5 of 14 Chavez Co., NM					
QC Batch: 86753 Prep Batch: 73423			ate Analy ample Pre	vzed: eparation:	2011-11 2011-11			Analyzed By: AR Prepared By: AR		
Parameter	F	С	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Upodiveted)
Total Dissolved Solids 1		19500	19500	<975	mg/L	100	975	10	(Unadjusted) 9.75	

Sample: 281141 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86373 73346			Date	ytical Metho Analyzed: ble Preparat	20 1	300.0 1-11-02 .1-11-03		Prep M Analyze Prepare	U
			SDL	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	\mathbf{F}	С	Result	Result	Result	Units	Dilution	\mathbf{SDL}	(Unadjusted)	(Unadjusted)
Sulfate	Qs	1	1270	1270	<17.7	mg/L	100	17.7	2.5	0.177

Sample: 281141 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 86753 73423			Analytical Method: Date Analyzed: Sample Preparation:			SM 254 2011-11 2011-11	-18		Prep Method: N/A Analyzed By: AR Prepared By: AR	
				\mathbf{SDL}	MQL	Method					
•				Based	Based	Blank				MQL	MDL
Parameter		F	С	Result	Result	Result	Units	Dilution	\mathbf{SDL}	(Unadjusted)	(Unadjusted)
Total Dissolv	ed Solids		1	23200	23200	<975	mg/L	100	975	10	9.75

Sample: 281142 - MW-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 86373 73346			Date	ytical Metho Analyzed: ble Preparat	20	300.0 11-11-02 11-11-03		Prep M Analyza Prepare	•
			SDL	MQL	Method					
			Based	Based	Blank				MQL	MDL
Parameter	\mathbf{F}	С	Result	Result	Result	Units	Dilution	\mathbf{SDL}	(Unadjusted)	(Unadjusted)
Sulfate	Qs	1	1480	1480	<88.5	mg/L	500	88.5	2.5	0.177

-	Report Date: November 30, 2011 115-6403130A			Work Order: 11103124 Celero/Rock Queen Tract #7						Page Number: 6 of 14 Chavez Co., NM			
Sample: 28	1142 - MW	V-3											
Laboratory:	Midland												
Analysis:	TDS				nalytical		SM 254			Prep M	1		
QC Batch:	86754			D	ate Analy	yzed:	2011-1	1-21		Analyze	ed By: AR		
Prep Batch:	73460			S	ample Pro	eparation:	2011-13	1-17		Prepare	d By: AR		
				SDL	MQL	Method							
				Based	Based	Blank				\mathbf{MQL}	MDL		
Parameter		\mathbf{F}	С	Result	Result	Result	Units	Dilution	\mathbf{SDL}	(Unadjusted)	(Unadjusted)		
Total Dissolv	ed Solids		1	57000	57000	<975	mg/L	100	975	10	9.75		

Method Bla	nks				
	1				
Method Blank (1)					
QC Batch: 86371 Prep Batch: 73346		Date Analyzed: QC Preparation:	2011-11-02 2011-11-01		Analyzed By: AR Prepared By: AR
					Reporting
Parameter	F	С	Result	Units	Limits
Sulfate		1	<0.177	mg/L	0.177
Method Blank (1)					
QC Batch: 86373	•	Date Analyzed:	2011-11-02		Analyzed By: AR
Prep Batch: 73346		QC Preparation:	2011-11-01		Prepared By: AR
					Reporting
Parameter	F	С	Result	Units	Limits
Sulfate		1	<0.177	mg/L	0.177
Method Blank (1)					1
QC Batch: 86753		Date Analyzed:	2011-11-18		Analyzed By: AR
Prep Batch: 73423	•	QC Preparation:	2011-11-15		Prepared By: AR
					Reporting
Parameter		F C	Result	Units	Limits
Total Dissolved Solids		1	<9.75	mg/L	9.75
				.	
Method Blank (1)					
QC Batch: 86754		Date Analyzed:	2011-11-21		Analyzed By: AR
Prep Batch: 73460		QC Preparation:	2011-11-16		Prepared By: AR
• . ⁻					- •

Report Date: November 30, 2011 115-6403130A	Cel	Work Order: lero/Rock Qu	Page Number: 8 of 14 Chavez Co., NM		
Parameter	F	С	Result	Units	Reporting Limits
Total Dissolved Solids		1	<9.75	mg/L	9.75

Duplicate (1) Duplicated Sample: 281141

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

Param		F (С	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved S	Solids		1	22400	23200	mg/L	100	4	10
Duplicate (1)	Duplicated San	ple: 28	1151						

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

			Duplicate	Sample				RPD
Param	\mathbf{F}	С	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids		1	130000	135000	mg/L	100	4	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

•	86371 73346		ate Analyze C Preparati		Analyzed By: AR Prepared By: AR				
Param	F	· C	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.2	mg/L	1	25.0	< 0.177	101	90 - 110

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit	RPD	Limit
Sulfate		1	25.1	mg/L	1	25.0	<0.177	100	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch:	86373	•	Date Analyzed:	2011-11-02	Analyzed By:	AR
Prep Batch:	73346		QC Preparation:	2011-11-01	Prepared By:	AR

•				LCS			Spike	Matrix		Rec.
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate			1	25.2	mg/L	1	25.0	<0.177	101	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}	С	\mathbf{Result}	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	25.1	mg/L	1	25.0	<0.177	100	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch:	86753		D٤	ate Analyz	zed: 2	011-11-18			Analy	zed By: AR
Prep Batch:	73423		Q	C Prepara	tion: 2	011-11-15			Prepa	red By: AR
				LCS			Spike	Matrix		Rec.
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolv	red Solids		1	961	mg/L	1	1000	<9.75	96	85.5 - 112.7

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

Report Date: November 3 115-6403130A	30, 2011		•	Work Celero/F	Corder: Rock Qu		Page Number: 10 of 14 Chavez Co., NM				
			LCSD			Spike	Matrix		Rec.		RPD
Param		F C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	987	mg/L	1	1000	<9.75	99	85.5 - 112.7	3	10
Percent recovery is based	on the sp	oike re	sult. RP	D is base	d on th	e spike a	nd spike o	luplicat	e result.		
Laboratory Control Sp	oike (LC	S-1)									
QC Batch: 86754			Date	Analyze	d: 20	11-11-21			Anal	yzed By	: AR
Prep Batch: 73460				reparati		11-11-16				ared By	
-			•	•					•	v	
				LCS			Spiles	Mat		т	lec.
Param		F		lesult	Units	Dil.	Spike Amount	Res			imit
Total Dissolved Solids					mg/L	1	1000	<9.			- 112.7
Percent recovery is based	on the er	ilea no					·				
ercent recovery is based	on the sp	JIKE IE	Sult. Iti I		u on m	e spike a	na spike c	upicat	e result.		
			LCSD			Spike	Matrix		Rec.		RPD
Param		F C	Result	Units	Dil. A	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	1030	mg/L	1	1000	<9.75	103	85.5 - 112.7	3	10
Matrix Spike (MS-1) QC Batch: 86371 Prep Batch: 73346	Spiked	Samp		7 Analyzed reparatio		11-11-02 11-11-01				yzed By ared By	
				MS			Spik	е)	latrix		Rec.
Param		F	С	Result	Unit	s Dil.	Amou			ec.	Limit
Sulfate		Qs	1	2450	mg/l		2750				0 - 110
Percent recovery is based	on the sr	oike re	sult. RPI) is base			nd spike d	luplicat	e result.		
			MSD			_	Matri		Rec.		RPD
		<u>F (</u>				Amoun				RPD	Limit
		0	2460	mg/L	, 100	2750	173	83	90 - 110	0	20
Param Sulfate	- 1	Qs 1				=.00					

Date Analyzed: 2011-11-02 QC Preparation: 2011-11-01

QC Batch: 86373 Prep Batch: 73346 1

Analyzed By: AR Prepared By: AR

Report Date: November 30, 2011 115-6403130A			Work Celero/R		Page Number: 11 of 14 Chavez Co., NM					
Param	F	С	MS Result	Units	s Dil.	Spike Amount		atrix esult	Rec.	Rec. Limit
Sulfate	Qs	1	3480	mg/I	100	2750	1	.270	80	90 - 110
Percent recovery is based on the sp	pike re	sult. RP	'D is base	d on the	e spike and	d spike du	plicate	result.		
		MSD	1		Spike	Matrix		Rec.		RPD
Param	F C	Resul	t Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD) Limit
Sulfate	1	3500	mg/L	100	2750	1270	81	90 - 110) 1	20

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

Calibration Standards

Standard (ICV-1)

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

Standard (CCV-1)

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

Standard (ICV-1)

QC Batch:	86373				Date Analyzed:	2011-11-02		Analy	zed By: AR
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		F	Ċ	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate			1	mg/L	25.0	25.2	101	90 - 110	2011-11-02

Standard (CCV-1)

QC Batch:	86373				Date Analyzed:	2011-11-02		Analy	zed By: AR
			·		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param		\mathbf{F}	С	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate			1	mg/L	25.0	25.3	101	90 - 110	2011-11-02

Report Date: November 30, 2011 115-6403130A Work Order: 11103124 Celero/Rock Queen Tract #7 Page Number: 13 of 14 Chavez Co., NM

Limits of Detection (LOD)

Report Date: November 30, 2011 115-6403130A

Work Order: 11103124 Celero/Rock Queen Tract #7

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

F Description

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

Attachments

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

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CLIENT NAI	ME: Lefer	o				SITE MAN Je	AGER:	ndley			INERS				RVAT HOD			TX1005	s Ba C	s Ba C		5	260/624	270/62					ns, pH,		
PROJECT N	10.: 115-L40	3170	PF	roi C	ECT	NAME: ro / Rock Qu	eren t	#7	·····		F CONTA	ŝ		Τ			6	8015 MOD.	als Ag A	als Ag A	iles	Volatile	8240/8	nì. Vol. 8)/608		ë.	(Air)	ns/Catic		
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