

1R – 1614

2012 AGWMR

03 / 25 / 2013



March 25, 2013

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: 2012 Groundwater Sampling Report for the Celero Energy II, LP, Rock Queen Unit Tract 13 Tank Battery, Located in Unit Letter G, Section 36, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1614).

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 13 Tank Battery (Site) in 2012. The Site is located approximately 21 1/2 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

On September 21, 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 13 Tank Battery pit was dewatered and the residual sludge, tank bottom materials, and liner were removed in late July to early August 2007. Removed fluids were placed into an existing SWD system or taken for disposal, while the sludge, tank bottom materials, and liner were disposed of at Gandy-Marley, Inc.'s landfill site in Lovington, New Mexico. Upon completion of the removal of the fluids, sludge, and liner, the underlying soils were visually inspected for signs of impact. Approximately 400 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.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



On October 12, 2009, a report entitled *Assessment Report and Work plan for a Pit located at the Rock Queen Unit Track 13 Tank Battery* was submitted to the NMOCD. The report detailed the closure of the former pit area with proposed extension of the liner at the facility.

Groundwater Investigation

Between May 2007 and December 2010, Celero installed six 2-inch monitor wells (MW-1 through MW-6) to assess the groundwater quality at the Site. The lithology at the Site was relatively consistent, with limestone encountered to approximately 20 feet below ground surface (bgs) and very fine grain calcareous sands extending to approximately 45 feet bgs. From approximately 45 to 145 feet the soils are fine grain sands. From 145 to the terminus of the borings (approximately 160 to 180 feet) the soils are red cherty sand to red sandstone. One boring (MW-5) was extended to 180 feet with brown clay encountered at approximately 170 feet.

During the investigation, groundwater was encountered at depths of approximately 147 to 154 feet bgs. Monitor Well MW-1 was drilled to a depth of 162 feet bgs and installed with 60 feet of 0.02 inch slotted screen. Monitoring wells MW-2, MW-3, MW-4, and MW-6 were drilled to depths ranging from 160 to 165 and installed with 30 feet of 0.02 inch slotted screen. Monitor well MW-5 was installed into the underlying clay to a depth of 180 feet bgs and installed with 40 feet of 0.02 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.

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 NMWQCC standards. See Figure 3 detailing the monitor well locations.

Historic Gauging and Monitor Well Sampling

On June 1, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for all but the June 1, 2007 sampling event. The hydraulic gradient indicates a southeasterly direction.

Historically, each of the wells has been 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 Midland, Texas. Water samples for monitor wells MW-1 (except June 1, 2007), MW-3, and MW-4 were below the NMWQCC standard of 250 mg/L chlorides. Chlorides for the sampling period ranged from 38.3 mg/L in monitor well MW-1 on July 12, 2010 to 17,700 mg/L in monitor well MW-5 on April 13, 2011. With the exception of monitor well MW-1, MW-3, and MW-4, all additional monitor wells exceeded the NMWQCC standard of 250 mg/L chlorides.

2012 GROUNDWATER SAMPLING RESULTS

Tetra Tech, Inc. (Tetra Tech) was onsite January 3, April 9, July 25, and October 24, 2012 to gauge all monitor wells. No PSH was measured in any of the monitor/recovery wells. Utilizing the water level elevation calculations, groundwater gradient maps were generated for each of the sampling events with a hydraulic gradient consistently to the southeast. Groundwater gradient maps for the sampling events are included as Figures 4 through 7. Gauging data is summarized in Table 1.

On January 5, April 12, July 26, and October 25, 2012, each of the wells was sampled for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C. The samples were collected and submitted to Trace Analysis Inc. (Trace) of Midland, Texas. All samples collected and analyzed were below detection limit and hence below the NMWQCC standard of 0.01 mg/L of benzene. Chlorides for the sampling period ranged from 46.9 mg/L in monitor well MW-1 on January 5, 2012 to 9,990 mg/L in monitor well MW-2 on April 12, 2012. With the exception of MW-1, MW-3, and 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 11. Copies of the laboratory analyses are enclosed in Appendix A.

During the purging activities, it was noted that all six monitor wells did not pump dry.

CONCLUSIONS

1. Sampling occurred on January 5, April 12, July 26, and October 25, 2012. During the sampling events all monitor wells were gauged, purged and



sampled. The samples were preserved, delivered to Trace of Midland, Texas and analyzed for BTEX utilizing method SW8021B, chlorides, and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C.

2. The hydraulic gradient indicates a southeasterly direction.
3. All samples collected and analyzed were below the NMWQCC standard of 0.01 mg/L of benzene.
4. Water samples for monitor wells MW-1, MW-3, and MW-4 were below the NMWQCC standard of 250 mg/L chlorides. Chlorides for the sampling period ranged from 46.9 mg/L in monitor well MW-1 on January 5, 2012 to 9,990 mg/L in monitor well MW-2 on April 12, 2012.

RECOMMENDATIONS

1. Quarterly groundwater monitoring and gauging will be continued throughout the year.
2. Additional monitor wells will be installed in order to further delineate the chloride plume at the site. In addition a recovery well maybe installed in the vicinity of the chloride plume if underlying water is found to have aquifer characteristics.
3. Perform pump test on the underlying groundwater to determine if it meets the criteria of an aquifer system. Determination of either pursuing closure or remediation on the site will be based on the results of the testing of the underlying groundwater.
4. If pump test verifies that the underlying water is an aquifer system, a recovery well along with a remediation system consisting of a windmill will be installed at the site. The recovered fluids will be collected in an above ground tank and utilized for possible water flooding purposes in the surrounding oilfield.

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

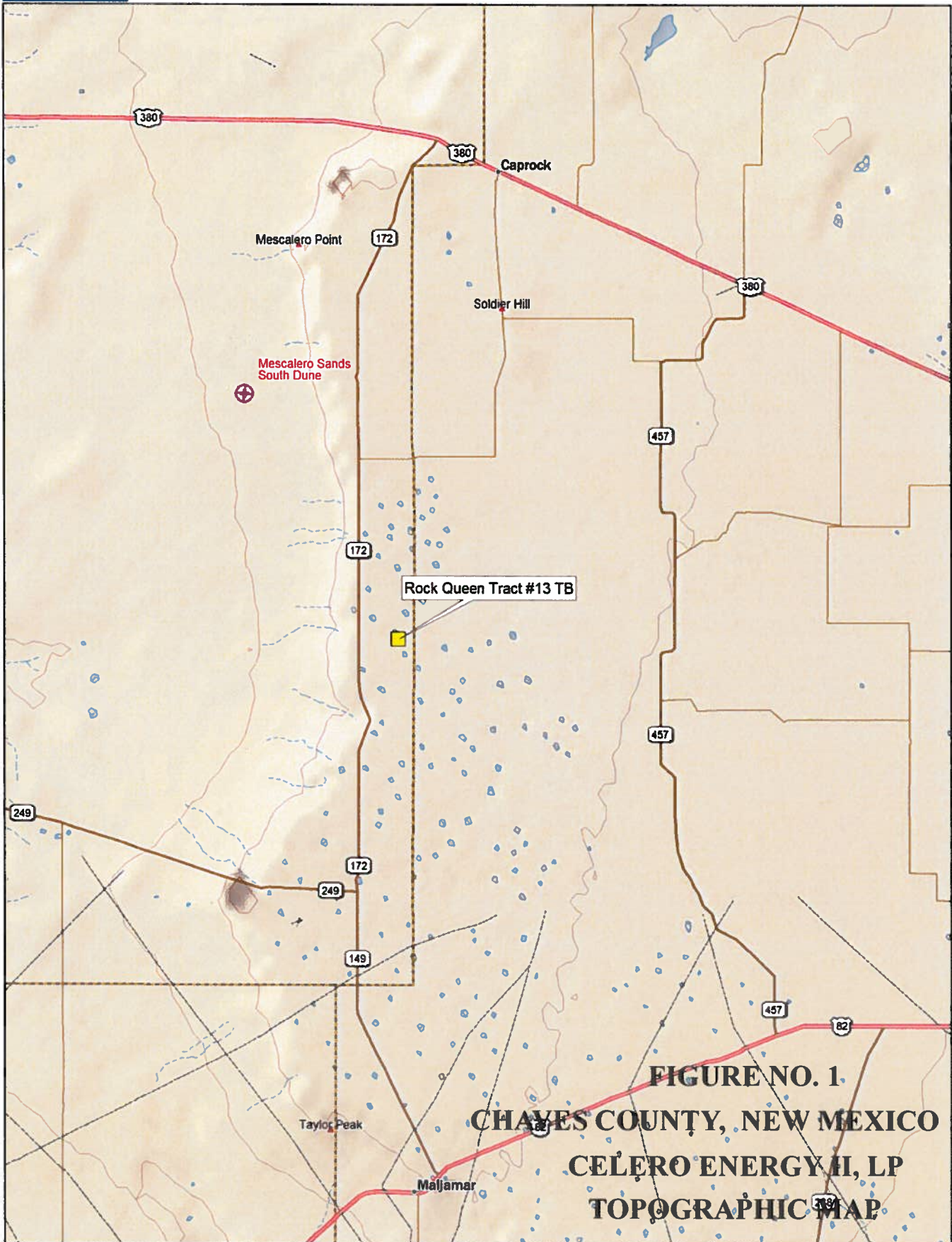
Respectfully submitted,
Tetra Tech, Inc.




Jeffrey Kindley, P.G.
Senior Environmental Geologist

cc: Bruce Woodard – Celero Energy II, LP

FIGURES



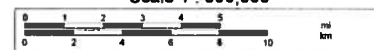
Data use subject to license.

© DeLorme. Topo USA® 8.

www.delorme.com

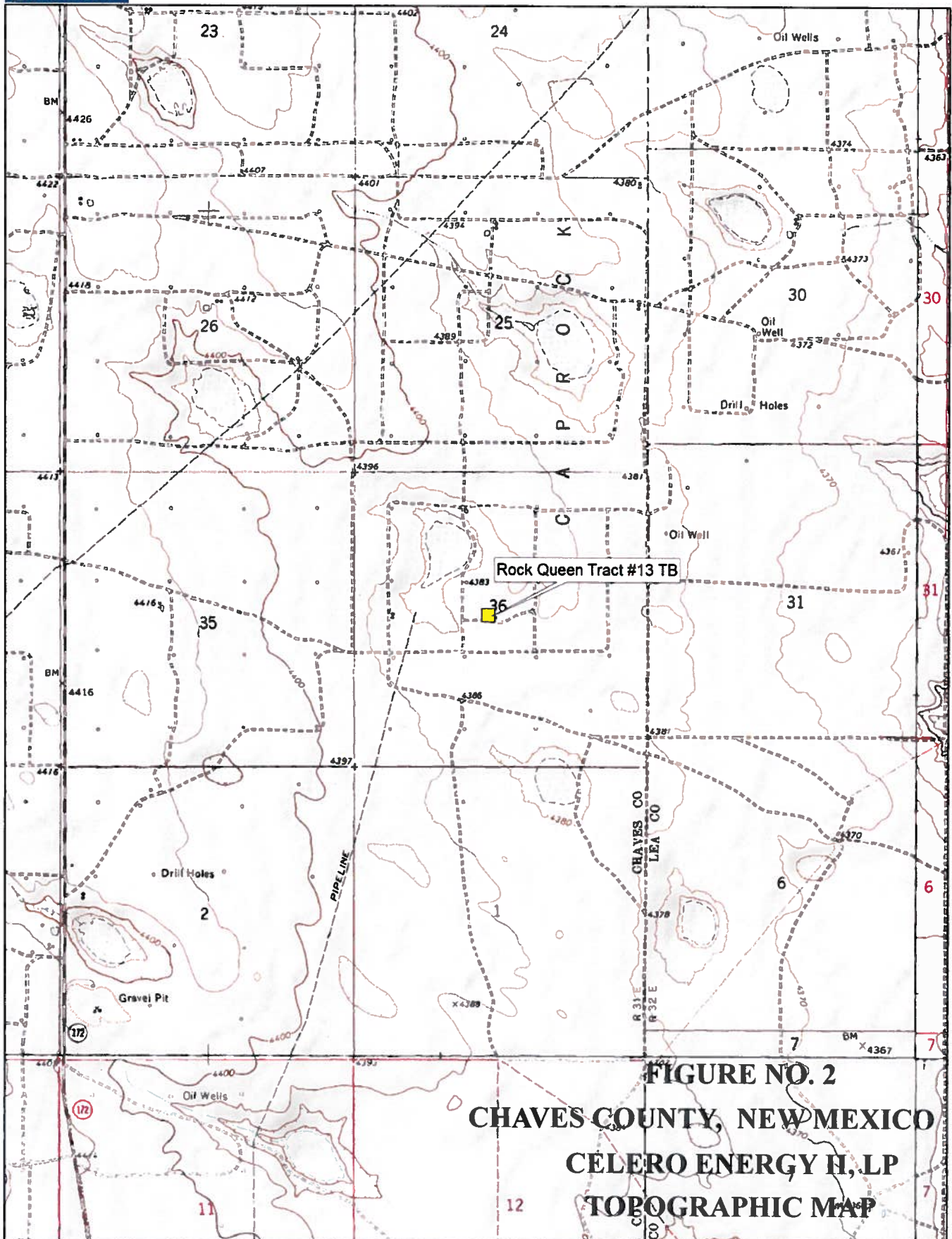


Scale 1 : 300,000



1" = 4.73 mi

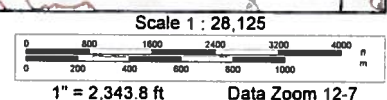
Data Zoom 9-3



Data use subject to license.

© DeLorme. Topo USA® 8.

www.delorme.com



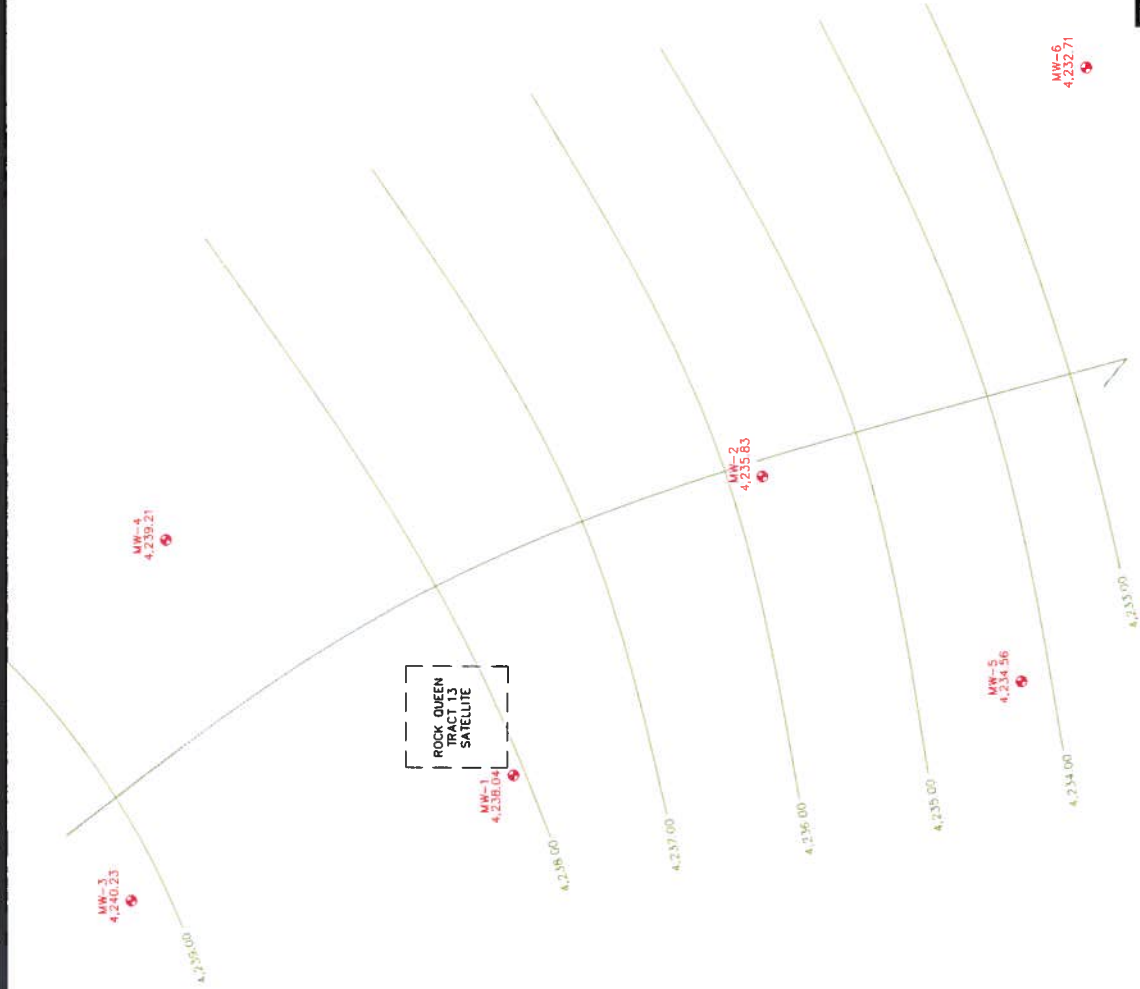


FIGURE NO. 4

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 01/03/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE:
01/03/2012
DWN. BY:
TM
FILE:
C:\TETRA\DATA
RQ UNIT 13.DWG

C.I. = 1' SCALE 100' 0' 100'

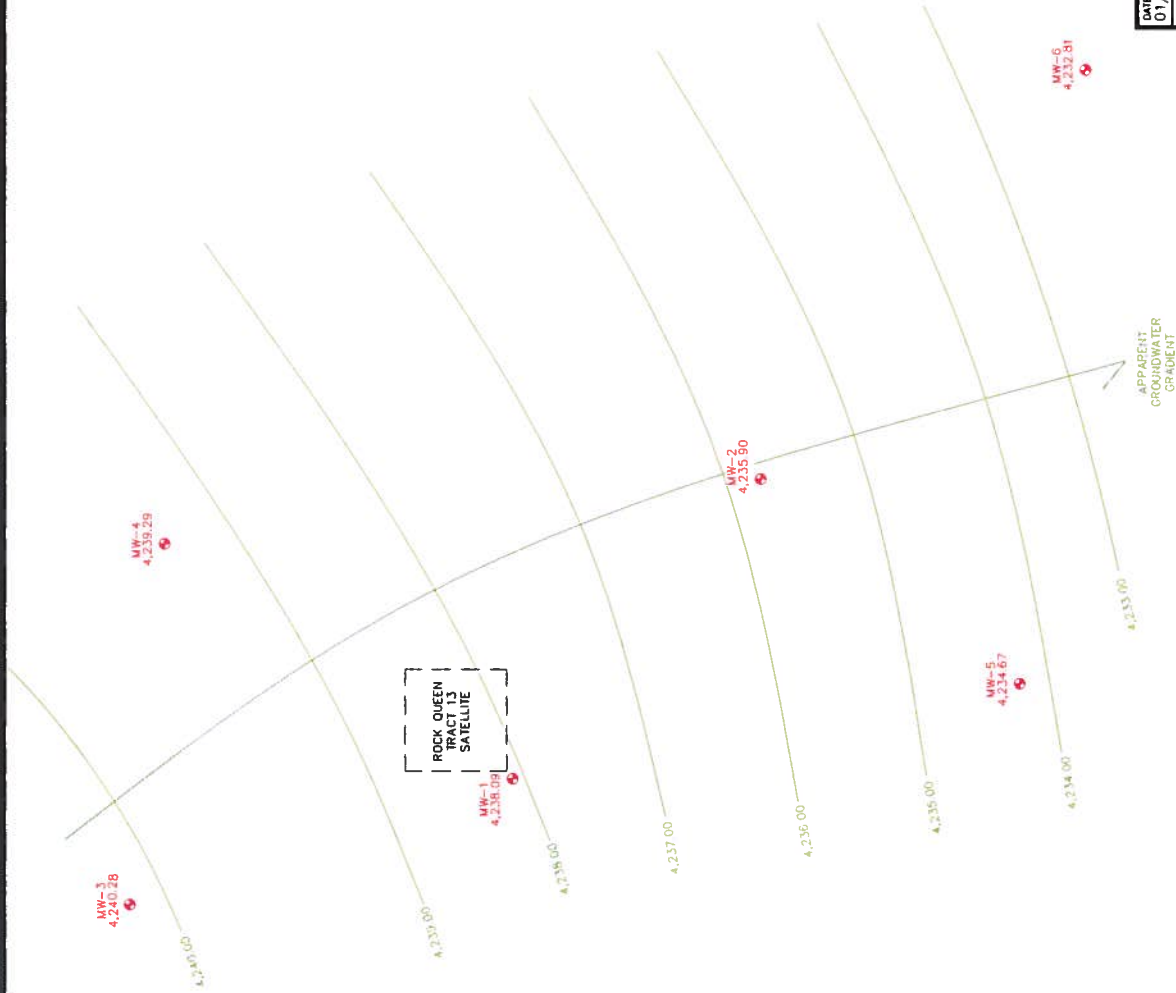


FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO
CELERO ENERGY ROCK QUEEN UNIT TRACT #13 GROUNDWATER GRADIENT MAP GAUGED ON 04/09/2012
TETRA TECH, INC. MIDLAND, TEXAS

DATE: 01/03/2012
DRAWN BY: TM
FILE: CHAVES.MXD R.O. 04/09/12.DWG

C.L. = 1'
0 100'

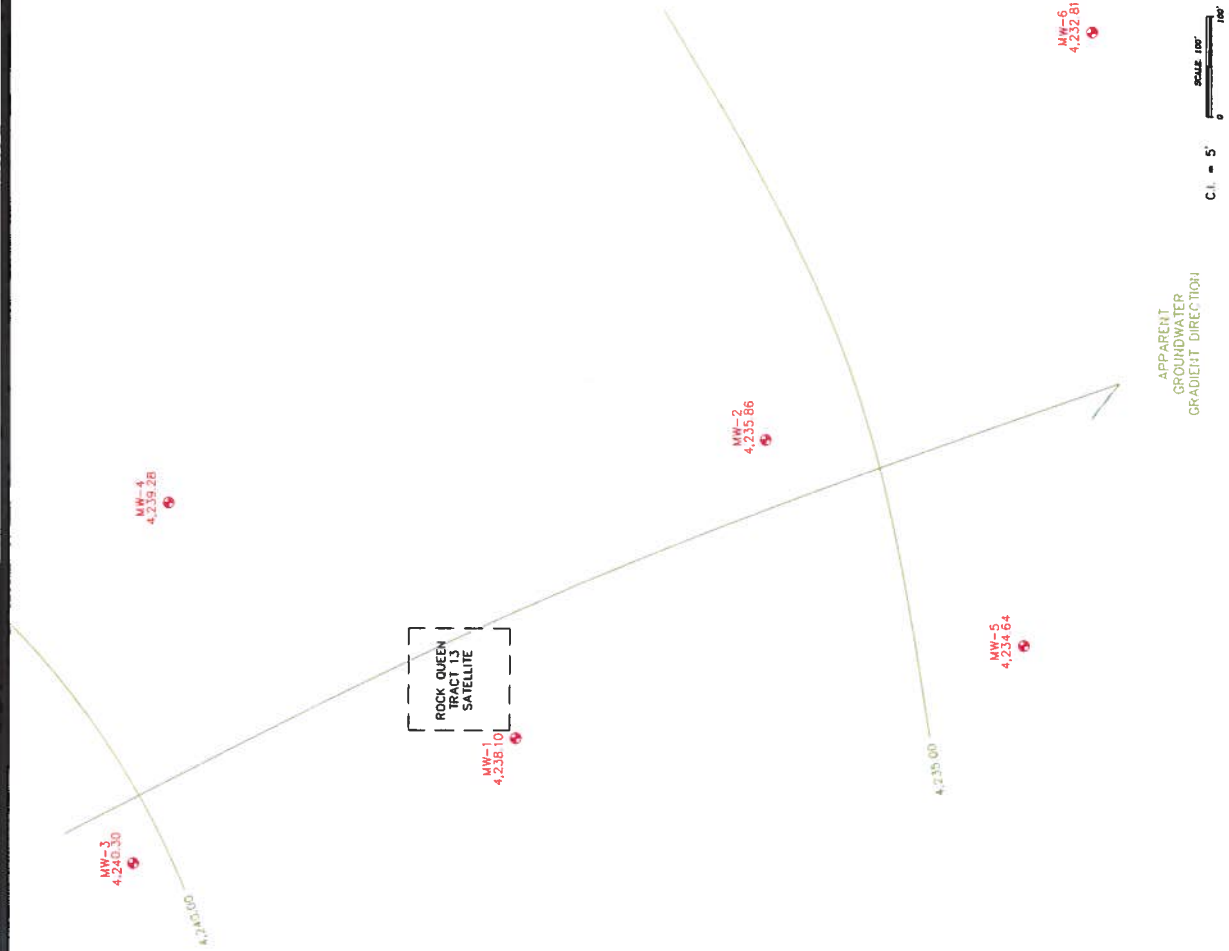


FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

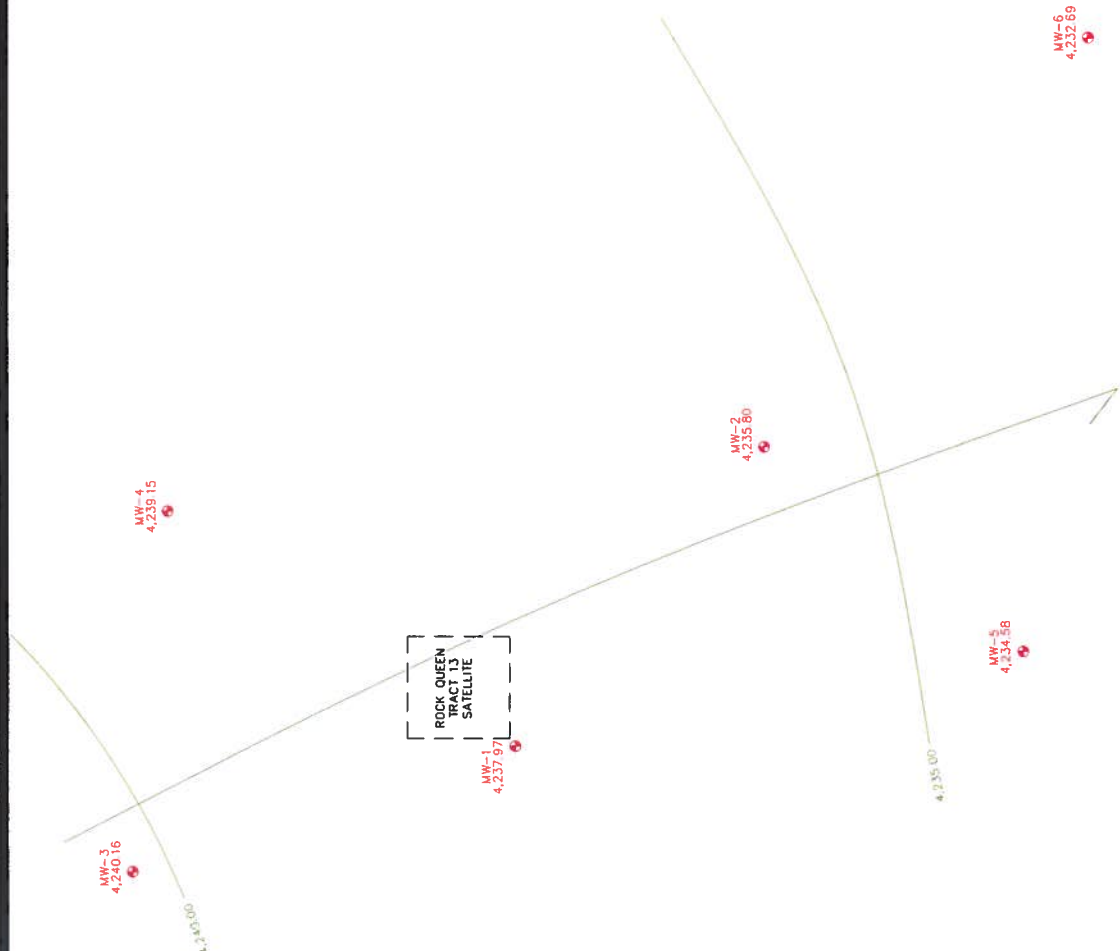
CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 07/25/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 7/25/2012
OWN: BY: IM
FILE: C:\Users\j13\A
8 0 0 13 00

C.I. = 5' SCALE 100'

APPARENT
GROUNDWATER
GRADIENT DIRECTION



ROCK QUEEN
UNIT TRACT
SATELLITE

FIGURE NO. 7

CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 10/24/2012
TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 10/24/2012
DRAWN BY: IM
FILE: C:\GEOLOGY\132A
10-24-12.DWG

SCALE: 1"=5'
0 5' 10'

APPARENT
GROUNDWATER
GRADIENT DIRECTION



MW-3
210

MW-4
194

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
46.50

MW-2
8.950

MW-5
1.200

MW-6
2.960

FIGURE NO. 8

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 01/05/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE:
01/05/2012

TOWN BY:
IN

FILE:
C:\CELERO\DATA
8 UNIT 13 CHLORIDE

RESULTS IN mg/L

SCALE 100'

0

100'



MW-3
124

MW-4
169

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
49.6

MW-2
8,990

MW-5
2,000

MW-6
3,260

FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 04/12/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 01/05/2012
DWG. BY: IM
FILE: C:\CELERO\3121
9 Unit 13 CHLORIDE

RESULTS IN mg/L

0 100'



MW-3
169

MW-4
178

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
59.2

MW-2
9,400

MW-5
753

MW-6
2550

FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 7/26/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 7/26/2012
OWN. BY: IN
FILE: C:\CELO\01111111
14 SEP 13 09:00:00

RESULTS IN mg/L
SCALE 100' 0 100'



MW-3
163

MW-4
165

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
60.2

MW-2
8.830

MW-5
723

MW-6
2.040

FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 10/24/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 10/24/2012
DRAWN BY: JM
FILE: C:\celero\proj\13
8 Unit 13 Chloride

RESULTS IN mg/L

SCALE 100'

0 100'

TABLES

Table 1
Celero Energy II, LP
Groundwater Gauging Data
Rock Queen Unit Tract 13 Tank Battery
Chaves County, New Mexico

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)				
MW-1	05/30/07	05/25/07	4,388.74	161.50	117.52	4,271.22				
	127.74				4,261.00					
	150.41				4,238.33					
	150.36				4,238.38					
	150.42				4,238.32					
	150.43				4,238.31					
	150.40				4,238.34					
	150.46				4,238.28					
	151.32				4,237.42					
	150.61				4,238.13					
	150.70				4,238.04					
	150.65				4,238.09					
	150.64				4,238.10					
	150.77				4,237.97					
MW-2	04/06/10	03/30/10	4,386.04	161.60	147.98	4,238.06				
	150.00				4,236.04					
	149.80				4,236.24					
	149.96				4,236.08					
	149.98				4,236.06					
	150.91				4,235.13					
	150.08				4,235.96					
	150.21				4,235.83					
	150.14				4,235.90					
	150.18				4,235.86					
	150.24				4,235.80					
	MW-3				04/06/10	03/31/10	4,388.48	161.90	147.78	4,240.70
					147.79				4,240.69	
					147.89				4,240.59	
147.89		4,240.59								
147.96		4,240.52								
148.87		4,239.61								
148.13		4,240.35								
148.25		4,240.23								
148.20		4,240.28								
148.18		4,240.30								
148.32		4,240.16								
MW-4		04/06/10	03/31/10	4,388.12	161.85				148.59	4,239.53

Table 1
Celero Energy II, LP
Groundwater Gauging Data
Rock Queen Unit Tract 13 Tank Battery
Chaves County, New Mexico

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
MW-4	07/12/10				148.62	4,239.50
	10/11/10				148.63	4,239.49
	01/17/11				148.56	4,239.56
	04/12/11				148.63	4,239.49
	07/28/11				149.59	4,238.53
	10/24/11				148.77	4,239.35
	01/03/12				148.91	4,239.21
	04/09/12				148.83	4,239.29
	07/25/12				148.84	4,239.28
	10/24/12				148.97	4,239.15
MW-5	01/17/11	12/02/10	4,383.81	177.60	148.91	4,234.90
	04/12/11				148.98	4,234.83
	07/28/11				149.90	4,233.91
	10/24/11				149.09	4,234.72
	01/03/12				149.25	4,234.56
	04/09/12				149.14	4,234.67
	07/25/12				149.17	4,234.64
	10/24/12				149.23	4,234.58
	01/17/11	12/03/10	4,387.81	169.65	154.88	4,232.93
	04/12/11				154.86	4,232.95
MW-6	07/28/11				155.79	4,232.02
	10/24/11				154.93	4,232.88
	01/03/12				155.10	4,232.71
	04/09/12				155.00	4,232.81
	07/25/12				155.00	4,232.81
	10/24/12				155.12	4,232.69

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 13 Tank Battery

Chaves County, New Mexico

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-1	06/01/07	282	24.4	2,020	20.1	<1.00	8.00	652	660	91.1	3,270	7,245	804	7.02
	04/06/10	130	7.61	11.40	5.96	<1.00	<1.00	226	226	42.7	43.6	699	356	8.28
	07/12/10	-	-	-	-	-	-	-	-	37.2	38.8	1,130	-	-
	10/11/10	-	-	-	-	-	-	-	-	49.6	52.3	445	-	-
	01/20/11	-	-	-	-	-	-	-	-	48.8	44.5	447	-	-
	04/13/11	-	-	-	-	-	-	-	-	52.4	52.7	481	-	-
	08/01/11	-	-	-	-	-	-	-	-	68.4	64.1	465	-	-
	10/26/11	-	-	-	-	-	-	-	-	55.4	63.3	492	-	-
	01/05/12	-	-	-	-	-	-	-	-	63.1	46.9	636	-	-
	04/12/12	-	-	-	-	-	-	-	-	45.3	49.6	443	-	-
07/26/12	-	-	-	-	-	-	-	-	-	59.2	-	-	-	-
10/25/12	-	-	-	-	-	-	-	-	-	65.3	60.2	466	-	-
MW-2	04/06/10	520	73.0	925	15.5	<1.00	<1.00	125	125	133.0	2,250	5,890	1,600	7.70
	07/12/10	-	-	-	-	-	-	-	-	189.0	9,870	27,200	-	-
	10/11/10	-	-	-	-	-	-	-	-	203.0	7,750	15,300	-	-
	01/20/11	-	-	-	-	-	-	-	-	202.0	9,070	15,200	-	-
	04/13/11	-	-	-	-	-	-	-	-	193.0	9,380	16,900	-	-
	08/01/11	-	-	-	-	-	-	-	-	148.0	8,450	9,760	-	-
	10/26/11	-	-	-	-	-	-	-	-	<292	8,870	18,700	-	-
	01/05/12	-	-	-	-	-	-	-	-	177	8,950	14,000	-	-
	04/12/12	-	-	-	-	-	-	-	-	184	9,990	19,400	-	-
	07/26/12	-	-	-	-	-	-	-	-	-	9,400	-	-	-
10/25/12	-	-	-	-	-	-	-	-	184	8,830	11,500	-	-	-
MW-3	04/06/10	76.1	10.3	78.7	4.33	<1.00	<1.00	183	183	116.0	58.4	696	232	8.26
	07/12/10	-	-	-	-	-	-	-	-	64.0	83.6	562	-	-
	10/11/10	-	-	-	-	-	-	-	-	84.5	170.0	608	-	-
	01/20/11	-	-	-	-	-	-	-	-	62.0	133.0	535	-	-
	04/13/11	-	-	-	-	-	-	-	-	84.1	148.0	630	-	-
	08/01/11	-	-	-	-	-	-	-	-	61.5	166.0	812	-	-
	10/26/11	-	-	-	-	-	-	-	-	65.5	225	1,110	-	-
	01/05/12	-	-	-	-	-	-	-	-	62.1	210	678	-	-
04/12/12	-	-	-	-	-	-	-	-	45.4	124	519	-	-	

Table 2
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract 13 Tank Battery
Chaves County, New Mexico

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-3	07/26/12	-	-	-	-	-	-	-	-	-	169	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	64.7	163	518	-	-
MW-4	04/06/10	89.5	11.5	40.5	3.34	<1.00	<1.00	145	145	116.0	58.2	506	270	8.35
	07/12/10	-	-	-	-	-	-	-	-	48.5	147.0	630	-	-
	10/11/10	-	-	-	-	-	-	-	-	56.4	163.0	616	-	-
	01/20/11	-	-	-	-	-	-	-	-	50.8	210.0	534	-	-
	04/13/11	-	-	-	-	-	-	-	-	49.4	174.0	604	-	-
	08/01/11	-	-	-	-	-	-	-	-	48.7	224	690	-	-
	10/26/11	-	-	-	-	-	-	-	-	50.2	188	626	-	-
	01/05/12	-	-	-	-	-	-	-	-	47.8	194	556	-	-
	04/12/12	-	-	-	-	-	-	-	-	46.8	169	555	-	-
	07/26/12	-	-	-	-	-	-	-	-	-	178	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	54.0	165	530	-	-
	01/20/11	-	-	-	-	-	-	-	-	128.0	5,690	7,890	-	-
MW-5	04/13/11	-	-	-	-	-	-	-	-	336.0	17,700	27,000	-	-
	08/01/11	-	-	-	-	-	-	-	-	77.2	2,800	4,140	-	-
	10/26/11	-	-	-	-	-	-	-	-	63.0	481	1,220	-	-
	01/05/12	-	-	-	-	-	-	-	-	46.6	1,200	2,060	-	-
	04/12/12	-	-	-	-	-	-	-	-	44.3	2,000	3,820	-	-
	07/26/12	-	-	-	-	-	-	-	-	-	753	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	37.9	723	1,210	-	-
MW-6	01/20/11	-	-	-	-	-	-	-	-	<250	2,880	4,690	-	-
	04/13/11	-	-	-	-	-	-	-	-	85.2	3,010	4,890	-	-
	08/01/11	-	-	-	-	-	-	-	-	59.3	2,130	2,930	-	-
	10/26/11	-	-	-	-	-	-	-	-	68.0	2,550	4,940	-	-
	01/05/12	-	-	-	-	-	-	-	-	70.4	2,960	4,610	-	-
	04/12/12	-	-	-	-	-	-	-	-	64.0	3,260	5,500	-	-
	07/26/12	-	-	-	-	-	-	-	-	-	2,570	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	90.2	2,040	3,240	-	-

NS - Not sampled
(-) Not Analyzed

Table 3
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract 13 Tank Battery
Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl- Benzene (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
MW-1	04/06/10	<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
	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	04/06/10	<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
	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	0.00290	0.00290
MW-3	04/06/10	<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
	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	01/30/13	<0.001	<0.001	<0.001	<0.001	<0.001
	04/24/13	<0.001	<0.001	<0.001	<0.001	<0.001
	07/24/13	<0.001	<0.001	<0.001	<0.001	<0.001
	10/30/13	<0.001	<0.001	<0.001	<0.001	<0.003
MW-4	04/06/10	<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
	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001

Table 3
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract 13 Tank Battery
Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl- Benzene (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
MW-4	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-6	01/20/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
	08/01/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/05/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/12/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/26/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001

APPENDIX A

LABORATORY ANALYTICAL



6701 Amerdean Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 988•586•3443 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

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: January 19, 2012

Work Order: 12010638



Project Name: Celero/Rock Queen #13
Project Number: 115-6403132

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285939	MW-1	water	2012-01-05	15:40	2012-01-06
285940	MW-2	water	2012-01-05	15:20	2012-01-06
285941	MW-3	water	2012-01-05	15:50	2012-01-06
285942	MW-4	water	2012-01-05	15:30	2012-01-06
285943	MW-5	water	2012-01-05	15:10	2012-01-06
285944	MW-6	water	2012-01-05	15:00	2012-01-06

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

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

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive style with a large, stylized 'M' and 'A'.

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

Report Contents

Case Narrative	5
Analytical Report	6
Sample 285939 (MW-1)	6
Sample 285940 (MW-2)	7
Sample 285941 (MW-3)	8
Sample 285942 (MW-4)	9
Sample 285943 (MW-5)	11
Sample 285944 (MW-6)	12
Method Blanks	14
QC Batch 87701 - Method Blank (1)	14
QC Batch 87762 - Method Blank (1)	14
QC Batch 87762 - Method Blank (1)	14
QC Batch 87813 - Method Blank (1)	14
QC Batch 87831 - Method Blank (1)	15
QC Batch 87831 - Method Blank (1)	15
QC Batch 87813 - Duplicate (2)	15
Laboratory Control Spikes	16
QC Batch 87701 - LCS (1)	16
QC Batch 87762 - LCS (1)	16
QC Batch 87762 - LCS (1)	17
QC Batch 87813 - LCS (1)	17
QC Batch 87813 - LCS (2)	17
QC Batch 87831 - LCS (1)	18
QC Batch 87831 - LCS (1)	18
QC Batch 87701 - MS (1)	19
QC Batch 87762 - MS (1)	19
QC Batch 87762 - MS (1)	20
QC Batch 87831 - MS (1)	20
QC Batch 87831 - MS (1)	20
Calibration Standards	22
QC Batch 87701 - CCV (1)	22
QC Batch 87701 - CCV (2)	22
QC Batch 87701 - CCV (3)	22
QC Batch 87762 - ICV (1)	22
QC Batch 87762 - ICV (1)	23
QC Batch 87762 - CCV (1)	23
QC Batch 87762 - CCV (1)	23
QC Batch 87831 - CCV (1)	23
QC Batch 87831 - CCV (1)	24
QC Batch 87831 - CCV (2)	24
QC Batch 87831 - CCV (2)	24

Appendix	25
Report Definitions	25
Laboratory Certifications	25
Standard Flags	25
Attachments	25

Case Narrative

Samples for project Celero/Rock Queen #13 were received by TraceAnalysis, Inc. on 2012-01-06 and assigned to work order 12010638. Samples for work order 12010638 were received intact without headspace and at a temperature of 1.3 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	74464	2012-01-10 at 14:00	87701	2012-01-10 at 17:31
Chloride (IC)	E 300.0	74527	2012-01-12 at 14:06	87762	2012-01-13 at 05:40
Chloride (IC)	E 300.0	74567	2012-01-16 at 10:04	87831	2012-01-17 at 14:44
SO4 (IC)	E 300.0	74527	2012-01-12 at 14:06	87762	2012-01-13 at 05:40
SO4 (IC)	E 300.0	74567	2012-01-16 at 10:04	87831	2012-01-17 at 14:44
TDS	SM 2540C	74508	2012-01-06 at 10:01	87813	2012-01-11 at 16:57

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 12010638 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 6 of 25

Analytical Report

Sample: 285939 - MW-1

Laboratory: Midland
Analysis: BTEX
QC Batch: 87701
Prep Batch: 74464

Analytical Method: S 8021B
Date Analyzed: 2012-01-10
Sample Preparation: 2012-01-10

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0980	mg/L	1	0.100	98	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0676	mg/L	1	0.100	68	67.5 - 140.8

Sample: 285939 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87762
Prep Batch: 74527

Analytical Method: E 300.0
Date Analyzed: 2012-01-13
Sample Preparation: 2012-01-12

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	46.9	mg/L	5	2.50

Sample: 285939 - MW-1

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87762
Prep Batch: 74527

Analytical Method: E 300.0
Date Analyzed: 2012-01-13
Sample Preparation: 2012-01-12

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q	1	63.1	mg/L	5	2.50

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 7 of 25

Sample: 285939 - MW-1

Laboratory: Midland
Analysis: TDS
QC Batch: 87813
Prep Batch: 74508

Analytical Method: SM 2540C
Date Analyzed: 2012-01-11
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	636	mg/L	2	10.0

Sample: 285940 - MW-2

Laboratory: Midland
Analysis: BTEX
QC Batch: 87701
Prep Batch: 74464

Analytical Method: S 8021B
Date Analyzed: 2012-01-10
Sample Preparation: 2012-01-10

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.117	mg/L	1	0.100	117	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0866	mg/L	1	0.100	87	67.5 - 140.8

Sample: 285940 - MW-2

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87762
Prep Batch: 74527

Analytical Method: E 300.0
Date Analyzed: 2012-01-13
Sample Preparation: 2012-01-12

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	8950	mg/L	500	2.50

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 8 of 25

Sample: 285940 - MW-2

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87762
Prep Batch: 74527

Analytical Method: E 300.0
Date Analyzed: 2012-01-13
Sample Preparation: 2012-01-12

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Qs	1	177	mg/L	5	2.50

Sample: 285940 - MW-2

Laboratory: Midland
Analysis: TDS
QC Batch: 87813
Prep Batch: 74508

Analytical Method: SM 2540C
Date Analyzed: 2012-01-11
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	14000	mg/L	100	10.0

Sample: 285941 - MW-3

Laboratory: Midland
Analysis: BTEX
QC Batch: 87701
Prep Batch: 74464

Analytical Method: S 8021B
Date Analyzed: 2012-01-10
Sample Preparation: 2012-01-10

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0998	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0706	mg/L	1	0.100	71	67.5 - 140.8

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 9 of 25

Sample: 285941 - MW-3

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2012-01-13	Analyzed By: AR
QC Batch: 87762	Sample Preparation: 2012-01-12	Prepared By: AR
Prep Batch: 74527		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	210	mg/L	5	2.50

Sample: 285941 - MW-3

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2012-01-13	Analyzed By: AR
QC Batch: 87762	Sample Preparation: 2012-01-12	Prepared By: AR
Prep Batch: 74527		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Qs	1	62.1	mg/L	5	2.50

Sample: 285941 - MW-3

Laboratory: Midland	Analytical Method: SM 2540C	Prep Method: N/A
Analysis: TDS	Date Analyzed: 2012-01-11	Analyzed By: AR
QC Batch: 87813	Sample Preparation: 2012-01-06	Prepared By: AR
Prep Batch: 74508		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	678	mg/L	2	10.0

Sample: 285942 - MW-4

Laboratory: Midland	Analytical Method: S 8021B	Prep Method: S 5030B
Analysis: BTEX	Date Analyzed: 2012-01-10	Analyzed By: AG
QC Batch: 87701	Sample Preparation: 2012-01-10	Prepared By: AG
Prep Batch: 74464		

continued ...

sample 285942 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0996	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0722	mg/L	1	0.100	72	67.5 - 140.8

Sample: 285942 - MW-4

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2012-01-13	Analyzed By: AR
QC Batch: 87762	Sample Preparation: 2012-01-12	Prepared By: AR
Prep Batch: 74527		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	194	mg/L	5	2.50

Sample: 285942 - MW-4

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2012-01-13	Analyzed By: AR
QC Batch: 87762	Sample Preparation: 2012-01-12	Prepared By: AR
Prep Batch: 74527		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q*	1	47.8	mg/L	5	2.50

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 11 of 25

Sample: 285942 - MW-4

Laboratory: Midland

Analysis: TDS

QC Batch: 87813

Prep Batch: 74508

Analytical Method: SM 2540C

Date Analyzed: 2012-01-11

Sample Preparation: 2012-01-06

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	556	mg/L	2	10.0

Sample: 285943 - MW-5

Laboratory: Midland

Analysis: BTEX

QC Batch: 87701

Prep Batch: 74464

Analytical Method: S 8021B

Date Analyzed: 2012-01-10

Sample Preparation: 2012-01-10

Prep Method: S 5030B

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0981	mg/L	1	0.100	98	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0707	mg/L	1	0.100	71	67.5 - 140.8

Sample: 285943 - MW-5

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 87762

Prep Batch: 74527

Analytical Method: E 300.0

Date Analyzed: 2012-01-13

Sample Preparation: 2012-01-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1200	mg/L	50	2.50

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 12 of 25

Sample: 285943 - MW-5

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87762
Prep Batch: 74527

Analytical Method: E 300.0
Date Analyzed: 2012-01-13
Sample Preparation: 2012-01-12

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q	1	46.6	mg/L	5	2.50

Sample: 285943 - MW-5

Laboratory: Midland
Analysis: TDS
QC Batch: 87813
Prep Batch: 74508

Analytical Method: SM 2540C
Date Analyzed: 2012-01-11
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	2060	mg/L	5	10.0

Sample: 285944 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 87701
Prep Batch: 74464

Analytical Method: S 8021B
Date Analyzed: 2012-01-10
Sample Preparation: 2012-01-10

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0992	mg/L	1	0.100	99	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0726	mg/L	1	0.100	73	67.5 - 140.8

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 13 of 25

Sample: 285944 - MW-6

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2012-01-17	Analyzed By:	AR
QC Batch:	87831	Sample Preparation:	2012-01-16	Prepared By:	AR
Prep Batch:	74567				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	2960	mg/L	100	2.50

Sample: 285944 - MW-6

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	SO4 (IC)	Date Analyzed:	2012-01-17	Analyzed By:	AR
QC Batch:	87831	Sample Preparation:	2012-01-16	Prepared By:	AR
Prep Batch:	74567				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q ⁿ	1	70.4	mg/L	5	2.50

Sample: 285944 - MW-6

Laboratory:	Midland	Analytical Method:	SM 2540C	Prep Method:	N/A
Analysis:	TDS	Date Analyzed:	2012-01-11	Analyzed By:	AR
QC Batch:	87813	Sample Preparation:	2012-01-06	Prepared By:	AR
Prep Batch:	74508				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	4610	mg/L	5	10.0

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 14 of 25

Method Blanks

Method Blank (1) QC Batch: 87701

QC Batch: 87701
Prep Batch: 74464

Date Analyzed: 2012-01-10
QC Preparation: 2012-01-10

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0964	mg/L	1	0.100	96	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0701	mg/L	1	0.100	70	45.9 - 126.4

Method Blank (1) QC Batch: 87762

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	1.09	mg/L	2.5

Method Blank (1) QC Batch: 87762

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

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

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 15 of 25

Method Blank (1) QC Batch: 87813

QC Batch: 87813 Date Analyzed: 2012-01-11 Analyzed By: AR
Prep Batch: 74508 QC Preparation: 2012-01-06 Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Total Dissolved Solids		1	<9.75	mg/L	10

Method Blank (1) QC Batch: 87831

QC Batch: 87831 Date Analyzed: 2012-01-17 Analyzed By: AR
Prep Batch: 74567 QC Preparation: 2012-01-16 Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	1.39	mg/L	2.5

Method Blank (1) QC Batch: 87831

QC Batch: 87831 Date Analyzed: 2012-01-17 Analyzed By: AR
Prep Batch: 74567 QC Preparation: 2012-01-16 Prepared By: AR

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

Duplicates (2) Duplicated Sample: 285944

QC Batch: 87813 Date Analyzed: 2012-01-11 Analyzed By: AR
Prep Batch: 74508 QC Preparation: 2012-01-06 Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	5050	4610	mg/L	5	9	10
Total Dissolved Solids	1	5050	678	mg/L	5	9	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87701
Prep Batch: 74464

Date Analyzed: 2012-01-10
QC Preparation: 2012-01-10

Analyzed By: AG
Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.106	mg/L	1	0.100	<0.000400	106	76.8 - 120.3
Toluene		1	0.102	mg/L	1	0.100	<0.000300	102	80.9 - 122.2
Ethylbenzene		1	0.0962	mg/L	1	0.100	<0.000300	96	72.7 - 120.2
Xylene		1	0.285	mg/L	1	0.300	<0.000333	95	72.1 - 121.5

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.108	mg/L	1	0.100	<0.000400	108	76.8 - 120.3	2	20
Toluene		1	0.104	mg/L	1	0.100	<0.000300	104	80.9 - 122.2	2	20
Ethylbenzene		1	0.0983	mg/L	1	0.100	<0.000300	98	72.7 - 120.2	2	20
Xylene		1	0.291	mg/L	1	0.300	<0.000333	97	72.1 - 121.5	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.102	0.101	mg/L	1	0.100	102	101	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0912	0.0902	mg/L	1	0.100	91	90	56.4 - 127.9

Laboratory Control Spike (LCS-1)

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	25.0	mg/L	1	25.0	<0.265	100	90 - 110

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

continued . . .

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 17 of 25

control spikes continued . . .

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.0	mg/L	1	25.0	<0.265	100	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.7	mg/L	1	25.0	<0.177	103	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.7	mg/L	1	25.0	<0.177	103	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 87813
Prep Batch: 74508

Date Analyzed: 2012-01-11
QC Preparation: 2012-01-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	934	mg/L	1	1000	<9.75	93	85.5 - 112.7

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	952	mg/L	1	1000	<9.75	95	85.5 - 112.7	2	10

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

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 18 of 25

Laboratory Control Spike (LCS-2)

QC Batch: 87813
Prep Batch: 74508

Date Analyzed: 2012-01-11
QC Preparation: 2012-01-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	973	mg/L	1	1000	<9.75	97	85.5 - 112.7

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1020	mg/L	1	1000	<9.75	102	85.5 - 112.7	5	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 87831
Prep Batch: 74567

Date Analyzed: 2012-01-17
QC Preparation: 2012-01-16

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	25.2	mg/L	1	25.0	<0.265	101	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.6	mg/L	1	25.0	<0.265	102	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 87831
Prep Batch: 74567

Date Analyzed: 2012-01-17
QC Preparation: 2012-01-16

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.7	mg/L	1	25.0	<0.177	103	90 - 110

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

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 19 of 25

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.8	mg/L	1	25.0	<0.177	103	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: 285945

QC Batch: 87701
Prep Batch: 74464

Date Analyzed: 2012-01-10
QC Preparation: 2012-01-10

Analyzed By: AG
Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.112	mg/L	1	0.100	0.0068	105	66.9 - 128.2
Toluene		1	0.0945	mg/L	1	0.100	0.002	92	81.6 - 122.9
Ethylbenzene		1	0.0786	mg/L	1	0.100	<0.000300	79	62.7 - 117.9
Xylene		1	0.233	mg/L	1	0.300	<0.000333	78	62.9 - 118.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.113	mg/L	1	0.100	0.0068	106	66.9 - 128.2	1	20
Toluene		1	0.0960	mg/L	1	0.100	0.002	94	81.6 - 122.9	2	20
Ethylbenzene		1	0.0807	mg/L	1	0.100	<0.000300	81	62.7 - 117.9	3	20
Xylene		1	0.236	mg/L	1	0.300	<0.000333	79	62.9 - 118.2	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0966	0.114	mg/L	1	0.1	97	114	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.0986	0.116	mg/L	1	0.1	99	116	52.2 - 135.8

Matrix Spike (MS-1) Spiked Sample: 285933

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	3790	mg/L	100	2750	1130	97	90 - 110

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

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 20 of 25

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3810	mg/L	100	2750	1130	97	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 285933

QC Batch: 87762
Prep Batch: 74527

Date Analyzed: 2012-01-13
QC Preparation: 2012-01-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Q*	Q*	1	2580	mg/L	100	2750	120	89 90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Q*	Q*	1	2580	mg/L	100	2750	120	89 90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 285946

QC Batch: 87831
Prep Batch: 74567

Date Analyzed: 2012-01-17
QC Preparation: 2012-01-16

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	1710	mg/L	50	1380	204	110	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	1710	mg/L	50	1380	204	110	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: 285946

QC Batch: 87831
Prep Batch: 74567

Date Analyzed: 2012-01-17
QC Preparation: 2012-01-16

Analyzed By: AR
Prepared By: AR

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 21 of 25

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Q ⁺	Q ⁺	1	1450 mg/L	50	1380	238	88	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Q ⁺	Q ⁺	1	1460 mg/L	50	1380	238	89	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 (CCV-1)

QC Batch: 87701

Date Analyzed: 2012-01-10

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.104	104	80 - 120	2012-01-10
Toluene		1	mg/L	0.100	0.0962	96	80 - 120	2012-01-10
Ethylbenzene		1	mg/L	0.100	0.0892	89	80 - 120	2012-01-10
Xylene		1	mg/L	0.300	0.264	88	80 - 120	2012-01-10

Standard (CCV-2)

QC Batch: 87701

Date Analyzed: 2012-01-10

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2012-01-10
Toluene		1	mg/L	0.100	0.0955	96	80 - 120	2012-01-10
Ethylbenzene		1	mg/L	0.100	0.0897	90	80 - 120	2012-01-10
Xylene		1	mg/L	0.300	0.263	88	80 - 120	2012-01-10

Standard (CCV-3)

QC Batch: 87701

Date Analyzed: 2012-01-10

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.104	104	80 - 120	2012-01-10
Toluene		1	mg/L	0.100	0.0992	99	80 - 120	2012-01-10
Ethylbenzene		1	mg/L	0.100	0.0944	94	80 - 120	2012-01-10
Xylene		1	mg/L	0.300	0.277	92	80 - 120	2012-01-10

Standard (ICV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.9	100	90 - 110	2012-01-13

Standard (ICV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.6	102	90 - 110	2012-01-13

Standard (CCV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.4	102	90 - 110	2012-01-13

Standard (CCV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	26.0	104	90 - 110	2012-01-13

Standard (CCV-1)

QC Batch: 87831

Date Analyzed: 2012-01-17

Analyzed By: AR

Report Date: January 19, 2012
115-6403132

Work Order: 12010638
Celero/Rock Queen #13

Page Number: 24 of 25

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.2	101	90 - 110	2012-01-17

Standard (CCV-1)

QC Batch: 87831

Date Analyzed: 2012-01-17

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.8	103	90 - 110	2012-01-17

Standard (CCV-2)

QC Batch: 87831

Date Analyzed: 2012-01-17

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.3	101	90 - 110	2012-01-17

Standard (CCV-2)

QC Batch: 87831

Date Analyzed: 2012-01-17

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.8	103	90 - 110	2012-01-17

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	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 than 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.

#12010638

Analysis Request of Chain of Custody Record



TETRA TECH

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: <u>Cellero</u>		SITE MANAGER: <u>Jeff Kindley</u>	
PROJECT NO.: <u>115-440332</u>		PROJECT NAME: <u>Cellero / Back Quern #13</u>	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
28599	2/5	1540	MW-1
940		1520	MW-2
941		1530	MW-3
942		1530	MW-4
943		1510	MW-5
944		1500	MW-6

NUMBER OF CONTAINERS	PREPARED (Y/N)	HCL	HNO3	ICE	NONE
4	X	X			

TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Aln)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	
X											X				X	

RELINQUISHED BY: (Signature)	Date: <u>1/12/12</u>	Time: <u>15:00</u>
RELINQUISHED BY: (Signature)	Date: <u>1/12/12</u>	Time: <u>15:00</u>
RELINQUISHED BY: (Signature)	Date: <u>1/12/12</u>	Time: <u>15:00</u>
RECEIVING LABORATORY: <u>Midland</u>	STATE: <u>TX</u>	ZIP: <u>79701</u>
CITY: <u>Midland</u>	PHONE: <u>432-682-4559</u>	DATE: <u>1/12/12</u>
SAMPLE CONDITION WHEN RECEIVED: <u>1.38</u>		
REMARKS: <u>1.38</u>		

SAMPLED BY: (Print & Initial)	Date: <u>1/12/12</u>	Time: <u>15:00</u>
SAMPLE SHIPPED BY: (Circle) <u>FEDX</u>	AIRBILL #: <u>11512</u>	OTHER: <u>RS</u>
DELIVERED BY: <u>UPS</u>	DATE: <u>1/12/12</u>	TIME: <u>15:00</u>
TETRA TECH CONTACT PERSON: <u>Jeff Kindley</u>		
RESULTS BY: <u>Jeff Kindley</u>		
RUSH CHARGES AUTHORIZED: <u>Yes</u>		

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1296
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
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: April 23, 2012

Work Order: 12041301



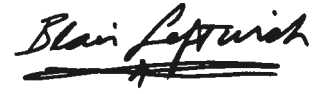
Project Location: Chavez Co., NM
Project Name: Celero/Rock Queen Tract #13 TB
Project Number: 115-6403132A

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
294152	MW-1	water	2012-04-12	09:10	2012-04-12
294153	MW-2	water	2012-04-12	08:50	2012-04-12
294154	MW-3	water	2012-04-12	09:20	2012-04-12
294155	MW-4	water	2012-04-12	09:00	2012-04-12
294156	MW-5	water	2012-04-12	08:40	2012-04-12
294157	MW-6	water	2012-04-12	08:30	2012-04-12

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

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style and is underlined with two horizontal lines.

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

Report Contents

Case Narrative	5
Analytical Report	6
Sample 294152 (MW-1)	6
Sample 294153 (MW-2)	7
Sample 294154 (MW-3)	8
Sample 294155 (MW-4)	9
Sample 294156 (MW-5)	11
Sample 294157 (MW-6)	12
Method Blanks	14
QC Batch 90279 - Method Blank (1)	14
QC Batch 90315 - Method Blank (1)	14
QC Batch 90365 - Method Blank (1)	14
QC Batch 90366 - Method Blank (1)	15
QC Batch 90401 - Method Blank (1)	15
QC Batch 90445 - Method Blank (1)	15
QC Batch 90445 - Method Blank (1)	16
QC Batch 90448 - Method Blank (1)	16
QC Batch 90448 - Method Blank (1)	16
QC Batch 90450 - Method Blank (1)	16
QC Batch 90451 - Method Blank (1)	17
QC Batch 90279 - Duplicate (2)	17
QC Batch 90365 - Duplicate (1)	17
Laboratory Control Spikes	18
QC Batch 90279 - LCS (2)	18
QC Batch 90315 - LCS (1)	18
QC Batch 90365 - LCS (1)	19
QC Batch 90366 - LCS (1)	19
QC Batch 90401 - LCS (1)	20
QC Batch 90445 - LCS (1)	20
QC Batch 90445 - LCS (1)	21
QC Batch 90448 - LCS (1)	21
QC Batch 90448 - LCS (1)	21
QC Batch 90450 - LCS (1)	22
QC Batch 90451 - LCS (1)	22
QC Batch 90315 - MS (1)	23
QC Batch 90366 - MS (1)	23
QC Batch 90401 - MS (1)	24
QC Batch 90445 - MS (1)	25
QC Batch 90445 - MS (1)	25
QC Batch 90448 - MS (1)	25
QC Batch 90448 - MS (1)	26
QC Batch 90450 - MS (1)	26
QC Batch 90451 - MS (1)	26

Calibration Standards	28
QC Batch 90315 - CCV (2)	28
QC Batch 90315 - CCV (3)	28
QC Batch 90366 - CCV (1)	28
QC Batch 90366 - CCV (2)	28
QC Batch 90401 - CCV (1)	29
QC Batch 90401 - CCV (2)	29
QC Batch 90445 - CCV (1)	29
QC Batch 90445 - CCV (1)	30
QC Batch 90445 - CCV (2)	30
QC Batch 90445 - CCV (2)	30
QC Batch 90448 - CCV (1)	30
QC Batch 90448 - CCV (1)	31
QC Batch 90448 - CCV (2)	31
QC Batch 90448 - CCV (2)	31
QC Batch 90450 - CCV (1)	31
QC Batch 90450 - CCV (2)	32
QC Batch 90451 - CCV (1)	32
QC Batch 90451 - CCV (2)	32
Appendix	33
Report Definitions	33
Laboratory Certifications	33
Standard Flags	33
Attachments	33

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2012-04-12 and assigned to work order 12041301. Samples for work order 12041301 were received intact without headspace and at a temperature of 2.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	76629	2012-04-16 at 09:29	90315	2012-04-16 at 11:02
BTEX	S 8021B	76670	2012-04-18 at 12:45	90366	2012-04-18 at 19:02
BTEX	S 8021B	76700	2012-04-19 at 10:35	90401	2012-04-20 at 11:02
Chloride (IC)	E 300.0	76737	2012-04-19 at 12:00	90445	2012-04-20 at 09:09
Chloride (IC)	E 300.0	76738	2012-04-19 at 12:00	90448	2012-04-20 at 09:13
Chloride (IC)	E 300.0	76739	2012-04-20 at 11:00	90450	2012-04-23 at 09:20
SO4 (IC)	E 300.0	76737	2012-04-19 at 12:00	90445	2012-04-20 at 09:09
SO4 (IC)	E 300.0	76738	2012-04-19 at 12:00	90448	2012-04-20 at 09:13
SO4 (IC)	E 300.0	76740	2012-04-21 at 14:00	90451	2012-04-23 at 09:36
TDS	SM 2540C	76564	2012-04-15 at 13:31	90279	2012-04-16 at 14:22
TDS	SM 2540C	76601	2012-04-16 at 10:25	90365	2012-04-17 at 16:53

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 12041301 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 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 6 of 33
Chavez Co., NM

Analytical Report

Sample: 294152 - MW-1

Laboratory: Midland
Analysis: BTEX
QC Batch: 90315
Prep Batch: 76629

Analytical Method: S 8021B
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-16

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Q _u , U	2	<0.00100	mg/L	1	0.00100
Toluene	U	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q _u , U	2	<0.00100	mg/L	1	0.00100
Xylene	Q _u , U	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Q _u	Q _u	0.0611	mg/L	1	0.100	61	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0652	mg/L	1	0.100	65	51.1 - 122.9

Sample: 294152 - MW-1

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90445
Prep Batch: 76737

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	49.6	mg/L	1	2.50

Sample: 294152 - MW-1

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90445
Prep Batch: 76737

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	45.3	mg/L	5	2.50

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 7 of 33
Chavez Co., NM

Sample: 294152 - MW-1

Laboratory: Midland
Analysis: TDS
QC Batch: 90279
Prep Batch: 76564

Analytical Method: SM 2540C
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-15

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	443	mg/L	1	10.0

Sample: 294153 - MW-2

Laboratory: Midland
Analysis: BTEX
QC Batch: 90401
Prep Batch: 76700

Analytical Method: S 8021B
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Q _s , U	2	<0.00100	mg/L	1	0.00100
Toluene	Q _s , U	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q _s , U	2	<0.00100	mg/L	1	0.00100
Xylene	Q _s , U	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0997	mg/L	1	0.100	100	51.1 - 122.9

Sample: 294153 - MW-2

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	9990	mg/L	500	2.50

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 8 of 33
Chavez Co., NM

Sample: 294153 - MW-2

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90451
Prep Batch: 76740

Analytical Method: E 300.0
Date Analyzed: 2012-04-23
Sample Preparation: 2012-04-21

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	184	mg/L	50	2.50

Sample: 294153 - MW-2

Laboratory: Midland
Analysis: TDS
QC Batch: 90279
Prep Batch: 76564

Analytical Method: SM 2540C
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-15

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	19400	mg/L	100	10.0

Sample: 294154 - MW-3

Laboratory: Midland
Analysis: BTEX
QC Batch: 90366
Prep Batch: 76670

Analytical Method: S 8021B
Date Analyzed: 2012-04-18
Sample Preparation: 2012-04-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	2	<0.00100	mg/L	1	0.00100
Toluene	u	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	2	<0.00100	mg/L	1	0.00100
Xylene	u	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TF'T)			0.100	mg/L	1	0.100	100	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0983	mg/L	1	0.100	98	51.1 - 122.9

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 9 of 33
Chavez Co., NM

Sample: 294154 - MW-3

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	124	mg/L	5	2.50

Sample: 294154 - MW-3

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	45.4	mg/L	1	2.50

Sample: 294154 - MW-3

Laboratory: Midland
Analysis: TDS
QC Batch: 90279
Prep Batch: 76564

Analytical Method: SM 2540C
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-15

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	519	mg/L	1	10.0

Sample: 294155 - MW-4

Laboratory: Midland
Analysis: BTEX
QC Batch: 90366
Prep Batch: 76670

Analytical Method: S 8021B
Date Analyzed: 2012-04-18
Sample Preparation: 2012-04-18

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

continued ...

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 10 of 33
Chavez Co., NM

sample 294155 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	2	<0.00100	mg/L	1	0.00100
Toluene	u	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	2	<0.00100	mg/L	1	0.00100
Xylene	u	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0997	mg/L	1	0.100	100	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0986	mg/L	1	0.100	99	51.1 - 122.9

Sample: 294155 - MW-4

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	169	mg/L	5	2.50

Sample: 294155 - MW-4

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	46.8	mg/L	1	2.50

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 11 of 33
Chavez Co., NM

Sample: 294155 - MW-4

Laboratory: Midland
Analysis: TDS
QC Batch: 90279
Prep Batch: 76564

Analytical Method: SM 2540C
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-15

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	555	mg/L	1	10.0

Sample: 294156 - MW-5

Laboratory: Midland
Analysis: BTEX
QC Batch: 90366
Prep Batch: 76670

Analytical Method: S 8021B
Date Analyzed: 2012-04-18
Sample Preparation: 2012-04-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	2	<0.00100	mg/L	1	0.00100
Toluene	u	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	2	<0.00100	mg/L	1	0.00100
Xylene	u	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0980	mg/L	1	0.100	98	51.1 - 122.9

Sample: 294156 - MW-5

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90448
Prep Batch: 76738

Analytical Method: E 300.0
Date Analyzed: 2012-04-20
Sample Preparation: 2012-04-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	2000	mg/L	100	2.50

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 12 of 33
Chavez Co., NM

Sample: 294156 - MW-5

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90451
Prep Batch: 76740

Analytical Method: E 300.0
Date Analyzed: 2012-04-23
Sample Preparation: 2012-04-21

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	44.3	mg/L	10	2.50

Sample: 294156 - MW-5

Laboratory: Midland
Analysis: TDS
QC Batch: 90279
Prep Batch: 76564

Analytical Method: SM 2540C
Date Analyzed: 2012-04-16
Sample Preparation: 2012-04-15

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	3820	mg/L	5	10.0

Sample: 294157 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 90366
Prep Batch: 76670

Analytical Method: S 8021B
Date Analyzed: 2012-04-18
Sample Preparation: 2012-04-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	2	<0.00100	mg/L	1	0.00100
Toluene	u	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	2	<0.00100	mg/L	1	0.00100
Xylene	u	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0889	mg/L	1	0.100	89	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0914	mg/L	1	0.100	91	51.1 - 122.9

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 13 of 33
Chavez Co., NM

Sample: 294157 - MW-6

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90450
Prep Batch: 76739

Analytical Method: E 300.0
Date Analyzed: 2012-04-23
Sample Preparation: 2012-04-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	3260	mg/L	100	2.50

Sample: 294157 - MW-6

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90451
Prep Batch: 76740

Analytical Method: E 300.0
Date Analyzed: 2012-04-23
Sample Preparation: 2012-04-21

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	64.0	mg/L	10	2.50

Sample: 294157 - MW-6

Laboratory: Midland
Analysis: TDS
QC Batch: 90365
Prep Batch: 76601

Analytical Method: SM 2540C
Date Analyzed: 2012-04-17
Sample Preparation: 2012-04-16

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	5500	mg/L	5	10.0

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 14 of 33
Chavez Co., NM

Method Blanks

Method Blank (1) QC Batch: 90279

QC Batch: 90279
Prep Batch: 76564

Date Analyzed: 2012-04-16
QC Preparation: 2012-04-15

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Total Dissolved Solids		2	<9.75	mg/L	10

Method Blank (1) QC Batch: 90315

QC Batch: 90315
Prep Batch: 76629

Date Analyzed: 2012-04-16
QC Preparation: 2012-04-16

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		2	<0.000600	mg/L	0.001
Toluene		2	<0.000400	mg/L	0.001
Ethylbenzene		2	<0.000600	mg/L	0.001
Xylene		2	<0.00130	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	74.2 - 126
4-Bromofluorobenzene (4-BFB)			0.100	mg/L	1	0.100	100	51.3 - 124.6

Method Blank (1) QC Batch: 90365

QC Batch: 90365
Prep Batch: 76601

Date Analyzed: 2012-04-17
QC Preparation: 2012-04-16

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Total Dissolved Solids		2	<9.75	mg/L	10

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 15 of 33
Chavez Co., NM

Method Blank (1) QC Batch: 90366

QC Batch: 90366
Prep Batch: 76670

Date Analyzed: 2012-04-18
QC Preparation: 2012-04-18

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		2	<0.000600	mg/L	0.001
Toluene		2	<0.000400	mg/L	0.001
Ethylbenzene		2	<0.000600	mg/L	0.001
Xylene		2	<0.00130	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0907	mg/L	1	0.100	91	74.2 - 126
4-Bromofluorobenzene (4-BFB)			0.0891	mg/L	1	0.100	89	51.3 - 124.6

Method Blank (1) QC Batch: 90401

QC Batch: 90401
Prep Batch: 76700

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		2	<0.000600	mg/L	0.001
Toluene		2	<0.000400	mg/L	0.001
Ethylbenzene		2	<0.000600	mg/L	0.001
Xylene		2	<0.00130	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	74.2 - 126
4-Bromofluorobenzene (4-BFB)			0.101	mg/L	1	0.100	101	51.3 - 124.6

Method Blank (1) QC Batch: 90445

QC Batch: 90445
Prep Batch: 76737

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 16 of 33
Chavez Co., NM

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	<0.209	mg/L	2.5

Method Blank (1) QC Batch: 90445

QC Batch: 90445 Date Analyzed: 2012-04-20 Analyzed By: RL
Prep Batch: 76737 QC Preparation: 2012-04-19 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1	<0.179	mg/L	2.5

Method Blank (1) QC Batch: 90448

QC Batch: 90448 Date Analyzed: 2012-04-20 Analyzed By: RL
Prep Batch: 76738 QC Preparation: 2012-04-19 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.427	mg/L	2.5

Method Blank (1) QC Batch: 90448

QC Batch: 90448 Date Analyzed: 2012-04-20 Analyzed By: RL
Prep Batch: 76738 QC Preparation: 2012-04-19 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1	<0.179	mg/L	2.5

Method Blank (1) QC Batch: 90450

QC Batch: 90450 Date Analyzed: 2012-04-23 Analyzed By: RL
Prep Batch: 76739 QC Preparation: 2012-04-20 Prepared By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 17 of 33
Chavez Co., NM

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.239	mg/L	2.5

Method Blank (1) QC Batch: 90451

QC Batch: 90451 Date Analyzed: 2012-04-23 Analyzed By: RL
Prep Batch: 76740 QC Preparation: 2012-04-21 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1	<0.179	mg/L	2.5

Duplicates (2) Duplicated Sample: 294156

QC Batch: 90279 Date Analyzed: 2012-04-16 Analyzed By: AR
Prep Batch: 76564 QC Preparation: 2012-04-15 Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	2	3850	212000	mg/L	5	1	10
Total Dissolved Solids	2	3850	3820	mg/L	5	1	10

Duplicates (1) Duplicated Sample: 294165

QC Batch: 90365 Date Analyzed: 2012-04-17 Analyzed By: AR
Prep Batch: 76601 QC Preparation: 2012-04-16 Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	2	13800	12900	mg/L	20	6	10

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 18 of 33
Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-2)

QC Batch: 90279
Prep Batch: 76564

Date Analyzed: 2012-04-16
QC Preparation: 2012-04-15

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		2	967	mg/L	1	1000	<9.75	97	85.5 - 112.7

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		2	1020	mg/L	1	1000	<9.75	102	85.5 - 112.7	5	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 90315
Prep Batch: 76629

Date Analyzed: 2012-04-16
QC Preparation: 2012-04-16

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.104	mg/L	1	0.100	<0.000600	104	79.7 - 117.6
Toluene		2	0.103	mg/L	1	0.100	<0.000400	103	73.9 - 123.9
Ethylbenzene		2	0.101	mg/L	1	0.100	<0.000600	101	76.8 - 120.8
Xylene		2	0.302	mg/L	1	0.300	<0.00130	101	76.2 - 120.5

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.106	mg/L	1	0.100	<0.000600	106	79.7 - 117.6	2	20
Toluene		2	0.106	mg/L	1	0.100	<0.000400	106	73.9 - 123.9	3	20
Ethylbenzene		2	0.104	mg/L	1	0.100	<0.000600	104	76.8 - 120.8	3	20
Xylene		2	0.312	mg/L	1	0.300	<0.00130	104	76.2 - 120.5	3	20

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

continued ...

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 19 of 33
Chavez Co., NM

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0919	0.0923	mg/L	1	0.100	92	92	72.5 - 117
4-Bromofluorobenzene (4-BFB)	0.0912	0.0949	mg/L	1	0.100	91	95	69.4 - 124

Laboratory Control Spike (LCS-1)

QC Batch: 90365
Prep Batch: 76601

Date Analyzed: 2012-04-17
QC Preparation: 2012-04-16

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		2	1020	mg/L	1	1000	<9.75	102	85.5 - 112.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		2	1040	mg/L	1	1000	<9.75	104	85.5 - 112.7	2	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 90366
Prep Batch: 76670

Date Analyzed: 2012-04-18
QC Preparation: 2012-04-18

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.111	mg/L	1	0.100	<0.000600	111	79.7 - 117.6
Toluene		2	0.112	mg/L	1	0.100	<0.000400	112	73.9 - 123.9
Ethylbenzene		2	0.111	mg/L	1	0.100	<0.000600	111	76.8 - 120.8
Xylene		2	0.331	mg/L	1	0.300	<0.00130	110	76.2 - 120.5

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.107	mg/L	1	0.100	<0.000600	107	79.7 - 117.6	4	20
Toluene		2	0.107	mg/L	1	0.100	<0.000400	107	73.9 - 123.9	5	20

continued ...

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 20 of 33
Chavez Co., NM

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		2	0.108	mg/L	1	0.100	<0.000600	108	76.8 - 120.8	3	20
Xylene		2	0.324	mg/L	1	0.300	<0.00130	108	76.2 - 120.5	2	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.101	0.0944	mg/L	1	0.100	101	94	72.5 - 117
4-Bromofluorobenzene (4-BFB)	0.102	0.0960	mg/L	1	0.100	102	96	69.4 - 124

Laboratory Control Spike (LCS-1)

QC Batch: 90401
Prep Batch: 76700

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.102	mg/L	1	0.100	<0.000600	102	79.7 - 117.6
Toluene		2	0.102	mg/L	1	0.100	<0.000400	102	73.9 - 123.9
Ethylbenzene		2	0.102	mg/L	1	0.100	<0.000600	102	76.8 - 120.8
Xylene		2	0.306	mg/L	1	0.300	<0.00130	102	76.2 - 120.5

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.108	mg/L	1	0.100	<0.000600	108	79.7 - 117.6	6	20
Toluene		2	0.108	mg/L	1	0.100	<0.000400	108	73.9 - 123.9	6	20
Ethylbenzene		2	0.109	mg/L	1	0.100	<0.000600	109	76.8 - 120.8	7	20
Xylene		2	0.328	mg/L	1	0.300	<0.00130	109	76.2 - 120.5	7	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0898	0.0924	mg/L	1	0.100	90	92	72.5 - 117
4-Bromofluorobenzene (4-BFB)	0.0920	0.0933	mg/L	1	0.100	92	93	69.4 - 124

Laboratory Control Spike (LCS-1)

QC Batch: 90445
Prep Batch: 76737

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 21 of 33
Chavez Co., NM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	24.7	mg/L	1	25.0	<0.209	99	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.8	mg/L	1	25.0	<0.209	99	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: 90445
Prep Batch: 76737

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	24.9	mg/L	1	25.0	<0.179	100	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	24.9	mg/L	1	25.0	<0.179	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: 90448
Prep Batch: 76738

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	24.0	mg/L	1	25.0	<0.209	96	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.6	mg/L	1	25.0	<0.209	98	90 - 110	2	20

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

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 22 of 33
Chavez Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: 90448
Prep Batch: 76738

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	23.9	mg/L	1	25.0	<0.179	96	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	24.2	mg/L	1	25.0	<0.179	97	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 90450
Prep Batch: 76739

Date Analyzed: 2012-04-23
QC Preparation: 2012-04-20

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	25.4	mg/L	1	25.0	<0.209	102	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.2	mg/L	1	25.0	<0.209	101	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 90451
Prep Batch: 76740

Date Analyzed: 2012-04-23
QC Preparation: 2012-04-21

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.0	mg/L	1	25.0	<0.179	100	90 - 110

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

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 23 of 33
Chavez Co., NM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.3	mg/L	1	25.0	<0.179	101	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: 294303

QC Batch: 90315
Prep Batch: 76629

Date Analyzed: 2012-04-16
QC Preparation: 2012-04-16

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	Q*	Q*	2	0.308	mg/L	10	1.00	0.1368	17
Toluene			2	1.25	mg/L	10	1.00	0.0521	120
Ethylbenzene	Q*	Q*	2	1.42	mg/L	10	1.00	1.2127	21
Xylene	Q*	Q*	2	2.73	mg/L	10	3.00	1.5002	41

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	Q*	Q*	2	0.338	mg/L	10	1.00	0.1368	20	86.6 - 130.3	9
Toluene			2	1.19	mg/L	10	1.00	0.0521	114	82.2 - 120.1	5
Ethylbenzene	Q*	Q*	2	1.47	mg/L	10	1.00	1.2127	26	66.8 - 119.2	4
Xylene	Q*	Q*	2	2.81	mg/L	10	3.00	1.5002	44	66.5 - 118.4	3

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.957	1.04	mg/L	10	1	96	104	73.2 - 116.6
4-Bromofluorobenzene (4-BFB)	0.980	1.03	mg/L	10	1	98	103	64.8 - 125.7

Matrix Spike (MS-1) Spiked Sample: 294164

QC Batch: 90366
Prep Batch: 76670

Date Analyzed: 2012-04-18
QC Preparation: 2012-04-18

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.111	mg/L	1	0.100	<0.000600	111	86.6 - 130.3
Toluene		2	0.111	mg/L	1	0.100	<0.000400	111	82.2 - 120.1
Ethylbenzene		2	0.112	mg/L	1	0.100	<0.000600	112	66.8 - 119.2

continued ...

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 24 of 33
Chavez Co., NM

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene		2	0.335	mg/L	1	0.300	<0.00130	112	66.5 - 118.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.109	mg/L	1	0.100	<0.000600	109	86.6 - 130.3	2	20
Toluene		2	0.109	mg/L	1	0.100	<0.000400	109	82.2 - 120.1	2	20
Ethylbenzene		2	0.110	mg/L	1	0.100	<0.000600	110	66.8 - 119.2	2	20
Xylene		2	0.331	mg/L	1	0.300	<0.00130	110	66.5 - 118.4	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.104	0.0996	mg/L	1	0.1	104	100	73.2 - 116.6
4-Bromofluorobenzene (4-BFB)	0.102	0.0945	mg/L	1	0.1	102	94	64.8 - 125.7

Matrix Spike (MS-1) Spiked Sample: 294170

QC Batch: 90401
Prep Batch: 76700

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: tc
Prepared By: tc

Param				MS			Spike	Matrix		Rec.
	F	C		Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	Q*	Q*	2	<0.000600	mg/L	1	0.100	<0.000600	0	86.6 - 130.3
Toluene	Q*	Q*	2	<0.000400	mg/L	1	0.100	<0.000400	0	82.2 - 120.1
Ethylbenzene	Q*	Q*	2	<0.000600	mg/L	1	0.100	<0.000600	0	66.8 - 119.2
Xylene	Q*	Q*	2	<0.00130	mg/L	1	0.300	<0.00130	0	66.5 - 118.4

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

Param	F	C	MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit	
			Result	Units								
Benzene	Q*	Q*	2	<0.000600	mg/L	1	0.100	<0.000600	0	86.6 - 130.3	0	20
Toluene	Q*	Q*	2	<0.000400	mg/L	1	0.100	<0.000400	0	82.2 - 120.1	0	20
Ethylbenzene	Q*	Q*	2	<0.000600	mg/L	1	0.100	<0.000600	0	66.8 - 119.2	0	20
Xylene	Q*	Q*	2	<0.00130	mg/L	1	0.300	<0.00130	0	66.5 - 118.4	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0780	0.0955	mg/L	1	0.1	78	96	73.2 - 116.6
4-Bromofluorobenzene (4-BFB)	0.0747	0.0956	mg/L	1	0.1	75	96	64.8 - 125.7

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 25 of 33
Chavez Co., NM

Matrix Spike (MS-1) Spiked Sample: 294152

QC Batch: 90445
Prep Batch: 76737

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	150	mg/L	5	104	42.2	104	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	149	mg/L	5	104	42.2	103	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: 294152

QC Batch: 90445
Prep Batch: 76737

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	139	mg/L	5	104	45.3	90	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	144	mg/L	5	104	45.3	95	90 - 110	4	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: 294156

QC Batch: 90448
Prep Batch: 76738

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	3990	mg/L	100	2080	2000	96	90 - 110

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

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 26 of 33
Chavez Co., NM

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3980	mg/L	100	2080	2000	95	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: 294156

QC Batch: 90448
Prep Batch: 76738

Date Analyzed: 2012-04-20
QC Preparation: 2012-04-19

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2140	mg/L	100	2080	56.9	100	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	2110	mg/L	100	2080	56.9	98	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 294161

QC Batch: 90450
Prep Batch: 76739

Date Analyzed: 2012-04-23
QC Preparation: 2012-04-20

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	191	mg/L	5	104	87.5	100	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	192	mg/L	5	104	87.5	100	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: 294163

QC Batch: 90451
Prep Batch: 76740

Date Analyzed: 2012-04-23
QC Preparation: 2012-04-21

Analyzed By: RL
Prepared By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 27 of 33
Chavez Co., NM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	607	mg/L	10	417	157	108	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	611	mg/L	10	417	157	109	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 (CCV-2)

QC Batch: 90315

Date Analyzed: 2012-04-16

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.112	112	80 - 120	2012-04-16
Toluene		2	mg/L	0.100	0.112	112	80 - 120	2012-04-16
Ethylbenzene		2	mg/L	0.100	0.113	113	80 - 120	2012-04-16
Xylene		2	mg/L	0.300	0.337	112	80 - 120	2012-04-16

Standard (CCV-3)

QC Batch: 90315

Date Analyzed: 2012-04-16

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.107	107	80 - 120	2012-04-16
Toluene		2	mg/L	0.100	0.106	106	80 - 120	2012-04-16
Ethylbenzene		2	mg/L	0.100	0.106	106	80 - 120	2012-04-16
Xylene		2	mg/L	0.300	0.318	106	80 - 120	2012-04-16

Standard (CCV-1)

QC Batch: 90366

Date Analyzed: 2012-04-18

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.104	104	80 - 120	2012-04-18
Toluene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-18
Ethylbenzene		2	mg/L	0.100	0.106	106	80 - 120	2012-04-18
Xylene		2	mg/L	0.300	0.313	104	80 - 120	2012-04-18

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 29 of 33
Chavez Co., NM

Standard (CCV-2)

QC Batch: 90366

Date Analyzed: 2012-04-18

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.110	110	80 - 120	2012-04-18
Toluene		2	mg/L	0.100	0.109	109	80 - 120	2012-04-18
Ethylbenzene		2	mg/L	0.100	0.111	111	80 - 120	2012-04-18
Xylene		2	mg/L	0.300	0.332	111	80 - 120	2012-04-18

Standard (CCV-1)

QC Batch: 90401

Date Analyzed: 2012-04-20

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.104	104	80 - 120	2012-04-20
Toluene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-20
Ethylbenzene		2	mg/L	0.100	0.107	107	80 - 120	2012-04-20
Xylene		2	mg/L	0.300	0.320	107	80 - 120	2012-04-20

Standard (CCV-2)

QC Batch: 90401

Date Analyzed: 2012-04-20

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.104	104	80 - 120	2012-04-20
Toluene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-20
Ethylbenzene		2	mg/L	0.100	0.104	104	80 - 120	2012-04-20
Xylene		2	mg/L	0.300	0.312	104	80 - 120	2012-04-20

Standard (CCV-1)

QC Batch: 90445

Date Analyzed: 2012-04-20

Analyzed By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 30 of 33
Chavez Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.8	99	90 - 110	2012-04-20

Standard (CCV-1)

QC Batch: 90445

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.2	101	90 - 110	2012-04-20

Standard (CCV-2)

QC Batch: 90445

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.7	95	90 - 110	2012-04-20

Standard (CCV-2)

QC Batch: 90445

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	23.6	94	90 - 110	2012-04-20

Standard (CCV-1)

QC Batch: 90448

Date Analyzed: 2012-04-20

Analyzed By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 31 of 33
Chavez Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.7	95	90 - 110	2012-04-20

Standard (CCV-1)

QC Batch: 90448

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	23.6	94	90 - 110	2012-04-20

Standard (CCV-2)

QC Batch: 90448

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.5	102	90 - 110	2012-04-20

Standard (CCV-2)

QC Batch: 90448

Date Analyzed: 2012-04-20

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.2	101	90 - 110	2012-04-20

Standard (CCV-1)

QC Batch: 90450

Date Analyzed: 2012-04-23

Analyzed By: RL

Report Date: April 23, 2012
115-6403132A

Work Order: 12041301
Celero/Rock Queen Tract #13 TB

Page Number: 32 of 33
Chavez Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.8	99	90 - 110	2012-04-23

Standard (CCV-2)

QC Batch: 90450

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.8	103	90 - 110	2012-04-23

Standard (CCV-1)

QC Batch: 90451

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.3	101	90 - 110	2012-04-23

Standard (CCV-2)

QC Batch: 90451

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.4	102	90 - 110	2012-04-23

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-7	Lubbock
2	NELAP	T104704392-11-3	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 than 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.

12041301

Analysis Request of Chain of Custody Record

**TETRA TECH**
 1910 N. Big Spring St.
 Midland, Texas 79705
 (432) 682-4559 • Fax (432) 682-3946

CLIENT NAME:

SITE MANAGER:

Jeff Kindley

PROJECT NO.:

PROJECT NAME:

Rock Queen # 13

LAB I.D. NUMBER

DATE

TIME

MATRIX

COMB

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

PRESERVATIVE METHOD

HCL

HNO3

ICE

NONE

FILTERED (Y/N)

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Vt Pd Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH (TDS)

304

X

X

X

X

X

24152

4/12

0910

W

Y

MW-1

4

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

153

0850

0920

MW-2

MW-3

MW-4

MW-5

MW-6

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

154

0900

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

155

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

156

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

157

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

158

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

159

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

160

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

161

08-10

0630

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

162

08-10

12041301

Analysis Request of Chain of Custody Record

OF: 1

PAGE:

ANALYSIS REQUEST
(Circle or Specify Method No.)**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: Celero

SITE MANAGER: Jeff Kindley

PROJECT NAME: Rock Quarry # 13

LAB I.D. NUMBER

DATE

TIME

GRAB

COM

MATRIX

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

PRESERVATIVE METHOD

HCL

HNO3

ICE

NONE

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RESULTS BY: Jeff Kindley

RUSH CHARGES AUTHORIZED: Yes

No

SAMPLE CONDITION WHEN RECEIVED: 3.2

3.1

REMARKS: 3.2

3.1

3.2

3.1

3.2

3.1

3.2

3.1

3.2

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1296
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4844
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

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 7, 2012

Work Order: 12072627



Project Location: Chavez Co., NM
Project Name: Celero/Rock Queen Tract #13 TB
Project Number: 115-6403132A

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
304896	MW-1	water	2012-07-26	07:35	2012-07-26
304897	MW-2	water	2012-07-26	07:50	2012-07-26
304898	MW-3	water	2012-07-26	07:25	2012-07-26
304899	MW-4	water	2012-07-26	07:15	2012-07-26
304900	MW-5	water	2012-07-26	08:00	2012-07-26
304901	MW-6	water	2012-07-26	08:10	2012-07-26

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

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive, flowing style.

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

Report Contents

Case Narrative	4
Analytical Report	5
Sample 304896 (MW-1)	5
Sample 304897 (MW-2)	5
Sample 304898 (MW-3)	6
Sample 304899 (MW-4)	7
Sample 304900 (MW-5)	7
Sample 304901 (MW-6)	8
Method Blanks	10
QC Batch 93539 - Method Blank (1)	10
QC Batch 93590 - Method Blank (1)	10
QC Batch 93592 - Method Blank (1)	10
Laboratory Control Spikes	11
QC Batch 93539 - LCS (1)	11
QC Batch 93590 - LCS (1)	11
QC Batch 93592 - LCS (1)	12
QC Batch 93539 - MS (1)	12
QC Batch 93590 - MS (1)	13
QC Batch 93592 - MS (1)	13
Calibration Standards	14
QC Batch 93539 - CCV (1)	14
QC Batch 93539 - CCV (2)	14
QC Batch 93539 - CCV (3)	14
QC Batch 93590 - CCV (1)	14
QC Batch 93590 - CCV (2)	15
QC Batch 93592 - CCV (1)	15
QC Batch 93592 - CCV (2)	15
Appendix	16
Report Definitions	16
Laboratory Certifications	16
Standard Flags	16
Attachments	16

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2012-07-26 and assigned to work order 12072627. Samples for work order 12072627 were received intact without headspace and at a temperature of 4.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	79321	2012-08-01 at 15:45	93539	2012-08-01 at 15:37
Chloride (IC)	E 300.0	79316	2012-08-01 at 09:16	93590	2012-08-02 at 10:23
Chloride (IC)	E 300.0	79317	2012-08-01 at 09:17	93592	2012-08-02 at 11:17

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 12072627 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 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 5 of 16
Chavez Co., NM

Analytical Report

Sample: 304896 - MW-1

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93539
Prep Batch: 79321

Analytical Method: S 8021B
Date Analyzed: 2012-08-01
Sample Preparation: 2012-08-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0863	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0845	mg/L	1	0.100	84	70 - 130

Sample: 304896 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93590
Prep Batch: 79316

Analytical Method: E 300.0
Date Analyzed: 2012-08-02
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	59.2	mg/L	5	2.50

Sample: 304897 - MW-2

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93539
Prep Batch: 79321

Analytical Method: S 8021B
Date Analyzed: 2012-08-01
Sample Preparation: 2012-08-01

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

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 6 of 16
Chavez Co., NM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0808	mg/L	1	0.100	81	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0793	mg/L	1	0.100	79	70 - 130

Sample: 304897 - MW-2

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93590
Prep Batch: 79316

Analytical Method: E 300.0
Date Analyzed: 2012-08-02
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs	2	9400	mg/L	1000	2.50

Sample: 304898 - MW-3

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93539
Prep Batch: 79321

Analytical Method: S 8021B
Date Analyzed: 2012-08-01
Sample Preparation: 2012-08-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0819	mg/L	1	0.100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0823	mg/L	1	0.100	82	70 - 130

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 7 of 16
Chavez Co., NM

Sample: 304898 - MW-3

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93590
Prep Batch: 79316

Analytical Method: E 300.0
Date Analyzed: 2012-08-02
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q ^a	2	169	mg/L	10	2.50

Sample: 304899 - MW-4

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93539
Prep Batch: 79321

Analytical Method: S 8021B
Date Analyzed: 2012-08-01
Sample Preparation: 2012-08-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0854	mg/L	1	0.100	85	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0785	mg/L	1	0.100	78	70 - 130

Sample: 304899 - MW-4

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93590
Prep Batch: 79316

Analytical Method: E 300.0
Date Analyzed: 2012-08-02
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q ^a	2	178	mg/L	10	2.50

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 8 of 16
Chavez Co., NM

Sample: 304900 - MW-5

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 93539

Prep Batch: 79321

Analytical Method: S 8021B

Date Analyzed: 2012-08-01

Sample Preparation: 2012-08-01

Prep Method: S 5030B

Analyzed By: ZLM

Prepared By: ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0824	mg/L	1	0.100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0831	mg/L	1	0.100	83	70 - 130

Sample: 304900 - MW-5

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 93592

Prep Batch: 79317

Analytical Method: E 300.0

Date Analyzed: 2012-08-02

Sample Preparation: 2012-08-01

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	753	mg/L	50	2.50

Sample: 304901 - MW-6

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 93539

Prep Batch: 79321

Analytical Method: S 8021B

Date Analyzed: 2012-08-01

Sample Preparation: 2012-08-01

Prep Method: S 5030B

Analyzed By: ZLM

Prepared By: ZLM

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

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 9 of 16
Chavez Co., NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0804	mg/L	1	0.100	80	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0805	mg/L	1	0.100	80	70 - 130

Sample: 304901 - MW-6

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93592
Prep Batch: 79317

Analytical Method: E 300.0
Date Analyzed: 2012-08-02
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	2570	mg/L	100	2.50

Method Blanks

Method Blank (1) QC Batch: 93539

QC Batch: 93539
Prep Batch: 79321

Date Analyzed: 2012-08-01
QC Preparation: 2012-08-01

Analyzed By: ZLM
Prepared By: ZLM

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000310	mg/L	0.001
Toluene		1	0.000400	mg/L	0.001
Ethylbenzene		1	<0.000291	mg/L	0.001
Xylene		1	0.00190	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0896	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0843	mg/L	1	0.100	84	70 - 130

Method Blank (1) QC Batch: 93590

QC Batch: 93590
Prep Batch: 79316

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	<0.265	mg/L	2.5

Method Blank (1) QC Batch: 93592

QC Batch: 93592
Prep Batch: 79317

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	0.766	mg/L	2.5

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 11 of 16
Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 93539
Prep Batch: 79321

Date Analyzed: 2012-08-01
QC Preparation: 2012-08-01

Analyzed By: ZLM
Prepared By: ZLM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0890	mg/L	1	0.100	<0.000310	89	74.2 - 120
Toluene		1	0.0890	mg/L	1	0.100	0.0004	89	75.8 - 120
Ethylbenzene		1	0.0894	mg/L	1	0.100	<0.000291	89	71.8 - 120
Xylene		1	0.276	mg/L	1	0.300	0.0019	92	73.8 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0899	mg/L	1	0.100	<0.000310	90	74.2 - 120	1	20
Toluene		1	0.0901	mg/L	1	0.100	0.0004	90	75.8 - 120	1	20
Ethylbenzene		1	0.0901	mg/L	1	0.100	<0.000291	90	71.8 - 120	1	20
Xylene		1	0.276	mg/L	1	0.300	0.0019	92	73.8 - 120	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0909	0.0931	mg/L	1	0.100	91	93	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0861	0.0885	mg/L	1	0.100	86	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 93590
Prep Batch: 79316

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	25.5	mg/L	1	25.0	<0.265	102	90 - 110

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

continued ...

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 12 of 16
Chavez Co., NM

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	24.9	mg/L	1	25.0	<0.265	100	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 93592
Prep Batch: 79317

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	25.0	mg/L	1	25.0	<0.265	100	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	25.2	mg/L	1	25.0	<0.265	101	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: 304889

QC Batch: 93539
Prep Batch: 79321

Date Analyzed: 2012-08-01
QC Preparation: 2012-08-01

Analyzed By: ZLM
Prepared By: ZLM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0679	mg/L	1	0.100	<0.000310	68	47 - 131
Toluene		1	0.0600	mg/L	1	0.100	<0.000259	60	52.2 - 128
Ethylbenzene		1	0.0622	mg/L	1	0.100	<0.000291	62	26.5 - 154
Xylene		1	0.191	mg/L	1	0.300	0.0025	63	50.1 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0635	mg/L	1	0.100	<0.000310	64	47 - 131	7	20
Toluene		1	0.0551	mg/L	1	0.100	<0.000259	55	52.2 - 128	8	20

continued ...

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 13 of 16
Chavez Co., NM

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1	0.0585	mg/L	1	0.100	<0.000291	58	26.5 - 154	6	20
Xylene		1	0.179	mg/L	1	0.300	0.0025	59	50.1 - 130	6	20

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

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	0.0389	0.0405	mg/L	1	0.1	39	40	70 - 130
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	0.0355	0.0369	mg/L	1	0.1	36	37	70 - 130

Matrix Spike (MS-1) Spiked Sample: 304893

QC Batch: 93590
Prep Batch: 79316

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q _{sr}	Q _{sr}	242	mg/L	5	138	72.6	123	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q _{sr}	Q _{sr}	244	mg/L	5	138	72.6	125	80 - 120	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: 305239

QC Batch: 93592
Prep Batch: 79317

Date Analyzed: 2012-08-02
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q _{sr}	Q _{sr}	254	mg/L	5	138	39.9	156	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q _{sr}	Q _{sr}	252	mg/L	5	138	39.9	154	80 - 120	1	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 93539

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0872	87	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0893	89	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0892	89	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.276	92	80 - 120	2012-08-01

Standard (CCV-2)

QC Batch: 93539

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0851	85	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0864	86	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0856	86	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.262	87	80 - 120	2012-08-01

Standard (CCV-3)

QC Batch: 93539

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0880	88	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0875	88	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0873	87	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.267	89	80 - 120	2012-08-01

Report Date: August 7, 2012
115-6403132A

Work Order: 12072627
Celero/Rock Queen Tract #13 TB

Page Number: 15 of 16
Chavez Co., NM

Standard (CCV-1)

QC Batch: 93590

Date Analyzed: 2012-08-02

Analyzed 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	25.5	102	90 - 110	2012-08-02

Standard (CCV-2)

QC Batch: 93590

Date Analyzed: 2012-08-02

Analyzed 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	24.9	100	90 - 110	2012-08-02

Standard (CCV-1)

QC Batch: 93592

Date Analyzed: 2012-08-02

Analyzed 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	24.9	100	90 - 110	2012-08-02

Standard (CCV-2)

QC Batch: 93592

Date Analyzed: 2012-08-02

Analyzed 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	25.2	101	90 - 110	2012-08-02

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock
2	NELAP	T104704392-12-4	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 than 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.



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
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
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

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 5, 2012

Work Order: 12102913



Project Location: Chavez Co., NM
Project Name: Celero/Rock Queen Tract #13 TB
Project Number: 115-6403132A

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
312882	MW-1	water	2012-10-25	12:30	2012-10-26
312883	MW-2	water	2012-10-25	12:40	2012-10-26
312884	MW-3	water	2012-10-25	12:25	2012-10-26
312885	MW-4	water	2012-10-25	12:20	2012-10-26
312886	MW-5	water	2012-10-25	12:35	2012-10-26
312887	MW-6	water	2012-10-25	12:45	2012-10-26

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

Michael Abel

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

Report Contents

Case Narrative	5
Analytical Report	6
Sample 312882 (MW-1)	6
Sample 312883 (MW-2)	7
Sample 312884 (MW-3)	8
Sample 312885 (MW-4)	9
Sample 312886 (MW-5)	11
Sample 312887 (MW-6)	12
Method Blanks	14
QC Batch 96181 - Method Blank (1)	14
QC Batch 96190 - Method Blank (1)	14
QC Batch 96214 - Method Blank (1)	14
QC Batch 96214 - Method Blank (1)	15
QC Batch 96215 - Method Blank (1)	15
QC Batch 96215 - Method Blank (1)	15
QC Batch 96287 - Method Blank (1)	15
QC Batch 96181 - Duplicate (2)	16
Laboratory Control Spikes	17
QC Batch 96181 - LCS (1)	17
QC Batch 96190 - LCS (1)	17
QC Batch 96214 - LCS (1)	18
QC Batch 96214 - LCS (1)	18
QC Batch 96215 - LCS (1)	18
QC Batch 96215 - LCS (1)	19
QC Batch 96287 - LCS (1)	19
QC Batch 96190 - MS (1)	20
QC Batch 96214 - MS (1)	21
QC Batch 96214 - MS (1)	21
QC Batch 96215 - MS (1)	21
QC Batch 96215 - MS (1)	22
QC Batch 96287 - MS (1)	22
Calibration Standards	24
QC Batch 96190 - CCV (1)	24
QC Batch 96190 - CCV (2)	24
QC Batch 96190 - CCV (3)	24
QC Batch 96214 - CCV (1)	24
QC Batch 96214 - CCV (1)	25
QC Batch 96214 - CCV (2)	25
QC Batch 96214 - CCV (2)	25
QC Batch 96215 - CCV (1)	25
QC Batch 96215 - CCV (1)	26
QC Batch 96215 - CCV (2)	26

QC Batch 96215 - CCV (2)	26
QC Batch 96287 - CCV (1)	26
QC Batch 96287 - CCV (2)	27
QC Batch 96287 - CCV (3)	27

Appendix	28
Report Definitions	28
Laboratory Certifications	28
Standard Flags	28
Attachments	28

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2012-10-26 and assigned to work order 12102913. Samples for work order 12102913 were received intact without headspace and at a temperature of 2.5 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	81530	2012-10-31 at 09:16	96190	2012-10-31 at 09:16
BTEX	S 8021B	81605	2012-11-03 at 09:49	96287	2012-11-03 at 09:49
Chloride (IC)	E 300.0	81476	2012-10-29 at 10:19	96214	2012-10-30 at 15:06
Chloride (IC)	E 300.0	81478	2012-10-29 at 10:21	96215	2012-10-31 at 15:07
SO4 (IC)	E 300.0	81476	2012-10-29 at 10:19	96214	2012-10-30 at 15:06
SO4 (IC)	E 300.0	81478	2012-10-29 at 10:21	96215	2012-10-31 at 15:07
TDS	SM 2540C	81517	2012-10-29 at 09:59	96181	2012-10-30 at 15:00

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 12102913 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 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 6 of 28
Chavez Co., NM

Analytical Report

Sample: 312882 - MW-1

Laboratory: Midland
Analysis: BTEX
QC Batch: 96287
Prep Batch: 81605

Analytical Method: S 8021B
Date Analyzed: 2012-11-03
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q*, U	1	<0.00100	mg/L	1	0.00100
Xylene	Q*, U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0874	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0871	mg/L	1	0.100	87	70 - 130

Sample: 312882 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	60.2	mg/L	5	2.50

Sample: 312882 - MW-1

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	65.3	mg/L	5	2.50

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 7 of 28
Chavez Co., NM

Sample: 312882 - MW-1

Laboratory: Midland

Analysis: TDS

QC Batch: 96181

Prep Batch: 81517

Analytical Method: SM 2540C

Date Analyzed: 2012-10-30

Sample Preparation: 2012-10-29

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	466	mg/L	1	10.0

Sample: 312883 - MW-2

Laboratory: Midland

Analysis: BTEX

QC Batch: 96190

Prep Batch: 81530

Analytical Method: S 8021B

Date Analyzed: 2012-10-31

Sample Preparation: 2012-10-31

Prep Method: S 5030B

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	1	<0.00100	mg/L	1	0.00100
Toluene	u	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q*U	1	<0.00100	mg/L	1	0.00100
Xylene		1	0.00290	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0899	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0848	mg/L	1	0.100	85	70 - 130

Sample: 312883 - MW-2

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 96214

Prep Batch: 81476

Analytical Method: E 300.0

Date Analyzed: 2012-10-30

Sample Preparation: 2012-10-29

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	8830	mg/L	1000	2.50

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 8 of 28
Chavez Co., NM

Sample: 312883 - MW-2

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	184	mg/L	10	2.50

Sample: 312883 - MW-2

Laboratory: Midland
Analysis: TDS
QC Batch: 96181
Prep Batch: 81517

Analytical Method: SM 2540C
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	11500	mg/L	100	10.0

Sample: 312884 - MW-3

Laboratory: Midland
Analysis: BTEX
QC Batch: 96190
Prep Batch: 81530

Analytical Method: S 8021B
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-31

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q*,U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0914	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0870	mg/L	1	0.100	87	70 - 130

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 9 of 28
Chavez Co., NM

Sample: 312884 - MW-3

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	163	mg/L	10	2.50

Sample: 312884 - MW-3

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	64.7	mg/L	10	2.50

Sample: 312884 - MW-3

Laboratory: Midland
Analysis: TDS
QC Batch: 96181
Prep Batch: 81517

Analytical Method: SM 2540C
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	518	mg/L	2	10.0

Sample: 312885 - MW-4

Laboratory: Midland
Analysis: BTEX
QC Batch: 96190
Prep Batch: 81530

Analytical Method: S 8021B
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-31

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

continued ...

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 10 of 28
Chavez Co., NM

sample 312885 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	1	<0.00100	mg/L	1	0.00100
Toluene	u	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Q,u	1	<0.00100	mg/L	1	0.00100
Xylene	u	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0903	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0863	mg/L	1	0.100	86	70 - 130

Sample: 312885 - MW-4

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2012-10-30	Analyzed By: AR
QC Batch: 96214	Sample Preparation: 2012-10-29	Prepared By: AR
Prep Batch: 81476		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	165	mg/L	5	2.50

Sample: 312885 - MW-4

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2012-10-30	Analyzed By: AR
QC Batch: 96214	Sample Preparation: 2012-10-29	Prepared By: AR
Prep Batch: 81476		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	54.0	mg/L	5	2.50

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 11 of 28
Chavez Co., NM

Sample: 312885 - MW-4

Laboratory: Midland

Analysis: TDS

QC Batch: 96181

Prep Batch: 81517

Analytical Method: SM 2540C

Date Analyzed: 2012-10-30

Sample Preparation: 2012-10-29

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	530	mg/L	2	10.0

Sample: 312886 - MW-5

Laboratory: Midland

Analysis: BTEX

QC Batch: 96190

Prep Batch: 81530

Analytical Method: S 8021B

Date Analyzed: 2012-10-31

Sample Preparation: 2012-10-31

Prep Method: S 5030B

Analyzed By: YG

Prepared By: YG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qs, U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0900	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0853	mg/L	1	0.100	85	70 - 130

Sample: 312886 - MW-5

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 96214

Prep Batch: 81476

Analytical Method: E 300.0

Date Analyzed: 2012-10-30

Sample Preparation: 2012-10-29

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	723	mg/L	50	2.50

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 12 of 28
Chavez Co., NM

Sample: 312886 - MW-5

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96214
Prep Batch: 81476

Analytical Method: E 300.0
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	37.9	mg/L	5	2.50

Sample: 312886 - MW-5

Laboratory: Midland
Analysis: TDS
QC Batch: 96181
Prep Batch: 81517

Analytical Method: SM 2540C
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	1210	mg/L	2	10.0

Sample: 312887 - MW-6

Laboratory: Midland
Analysis: BTEX
QC Batch: 96190
Prep Batch: 81530

Analytical Method: S 8021B
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-31

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	Qs, U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFI)			0.0896	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0850	mg/L	1	0.100	85	70 - 130

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 13 of 28
Chavez Co., NM

Sample: 312887 - MW-6

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96215
Prep Batch: 81478

Analytical Method: E 300.0
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-31

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	1	2040	mg/L	100	2.50

Sample: 312887 - MW-6

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96215
Prep Batch: 81478

Analytical Method: E 300.0
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-31

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	90.2	mg/L	10	2.50

Sample: 312887 - MW-6

Laboratory: Midland
Analysis: TDS
QC Batch: 96181
Prep Batch: 81517

Analytical Method: SM 2540C
Date Analyzed: 2012-10-30
Sample Preparation: 2012-10-29

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	3240	mg/L	5	10.0

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 14 of 28
Chavez Co., NM

Method Blanks

Method Blank (1) QC Batch: 96181

QC Batch: 96181
Prep Batch: 81517

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Total Dissolved Solids		1	<9.75	mg/L	10

Method Blank (1) QC Batch: 96190

QC Batch: 96190
Prep Batch: 81530

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-31

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000600	mg/L	0.001
Toluene		1	<0.000600	mg/L	0.001
Ethylbenzene		1	<0.000800	mg/L	0.001
Xylene		1	<0.000767	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0918	mg/L	1	0.100	92	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0904	mg/L	1	0.100	90	70 - 130

Method Blank (1) QC Batch: 96214

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	<0.265	mg/L	2.5

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 15 of 28
Chavez Co., NM

Method Blank (1) QC Batch: 96214

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96215

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	1.01	mg/L	2.5

Method Blank (1) QC Batch: 96215

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1	0.230	mg/L	2.5

Method Blank (1) QC Batch: 96287

QC Batch: 96287
Prep Batch: 81605

Date Analyzed: 2012-11-03
QC Preparation: 2012-11-03

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000600	mg/L	0.001
Toluene		1	<0.000600	mg/L	0.001
Ethylbenzene		1	<0.000800	mg/L	0.001
Xylene		1	<0.000767	mg/L	0.001

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 16 of 28
Chavez Co., NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0883	mg/L	1	0.100	88	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0867	mg/L	1	0.100	87	70 - 130

Duplicates (2) Duplicated Sample: 312898

QC Batch: 96181
Prep Batch: 81517

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	58100	54200	mg/L	100	7	10
Total Dissolved Solids	1	58100	115000	mg/L	100	7	10

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 17 of 28
Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 96181
Prep Batch: 81517

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1090	mg/L	1	1000	<9.75	109	90 - 110	1	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 96190
Prep Batch: 81530

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-31

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0882	mg/L	1	0.100	<0.000600	88	70 - 130
Toluene		1	0.0899	mg/L	1	0.100	<0.000600	90	70 - 130
Ethylbenzene		1	0.0861	mg/L	1	0.100	<0.000800	86	70 - 130
Xylene		1	0.272	mg/L	1	0.300	<0.000767	91	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0869	mg/L	1	0.100	<0.000600	87	70 - 130	2	20
Toluene		1	0.0890	mg/L	1	0.100	<0.000600	89	70 - 130	1	20
Ethylbenzene		1	0.0856	mg/L	1	0.100	<0.000800	86	70 - 130	1	20
Xylene		1	0.270	mg/L	1	0.300	<0.000767	90	70 - 130	1	20

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

continued ...

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 18 of 28
Chavez Co., NM

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0888	0.0900	mg/L	1	0.100	89	90	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0875	0.0879	mg/L	1	0.100	88	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	23.8	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.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	23.7	mg/L	1	25.0	<0.265	95	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	24.5	mg/L	1	25.0	<0.177	98	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.0	mg/L	1	25.0	<0.177	100	90 - 110	2	20

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

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 19 of 28
Chavez Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	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.

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	23.5	mg/L	1	25.0	<0.265	94	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.9	mg/L	1	25.0	<0.177	104	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	23.3	mg/L	1	25.0	<0.177	93	90 - 110	11	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: 96287
Prep Batch: 81605

Date Analyzed: 2012-11-03
QC Preparation: 2012-11-03

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0945	mg/L	1	0.100	<0.000600	94	70 - 130
Toluene		1	0.0922	mg/L	1	0.100	<0.000600	92	70 - 130
Ethylbenzene		1	0.0853	mg/L	1	0.100	<0.000800	85	70 - 130

continued ...

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 20 of 28
Chavez Co., NM

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene		1	0.268	mg/L	1	0.300	<0.000767	89	70 - 130

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0951	mg/L	1	0.100	<0.000600	95	70 - 130	1	20
Toluene		1	0.0929	mg/L	1	0.100	<0.000600	93	70 - 130	1	20
Ethylbenzene		1	0.0863	mg/L	1	0.100	<0.000800	86	70 - 130	1	20
Xylene		1	0.271	mg/L	1	0.300	<0.000767	90	70 - 130	1	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0889	0.0871	mg/L	1	0.100	89	87	70 - 130
4-Bromofluorobenzene (4-BFB)	0.113	0.0881	mg/L	1	0.100	113	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 312882

QC Batch: 96190
Prep Batch: 81530

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-31

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0834	mg/L	1	0.100	<0.000600	83	70 - 130
Toluene		1	0.0904	mg/L	1	0.100	0.0043	86	70 - 130
Ethylbenzene		1	0.0866	mg/L	1	0.100	0.0048	82	70 - 130
Xylene		1	0.274	mg/L	1	0.300	0.0164	86	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0784	mg/L	1	0.100	<0.000600	78	70 - 130	6	20
Toluene		1	0.0775	mg/L	1	0.100	0.0043	73	70 - 130	15	20
Ethylbenzene	Q+	Q+	0.0726	mg/L	1	0.100	0.0048	68	70 - 130	18	20
Xylene		1	0.228	mg/L	1	0.300	0.0164	70	70 - 130	18	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0909	0.0907	mg/L	1	0.1	91	91	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0885	0.0879	mg/L	1	0.1	88	88	70 - 130

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 21 of 28
Chavez Co., NM

Matrix Spike (MS-1) Spiked Sample: 312883

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	41400	mg/L	1000	30000	8830	108	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	41600	mg/L	1000	30000	8830	109	80 - 120	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: 312883

QC Batch: 96214
Prep Batch: 81476

Date Analyzed: 2012-10-30
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	28500	mg/L	1000	30000	282	94	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	28700	mg/L	1000	30000	282	95	80 - 120	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: 312890

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param			F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q*	Q*		1	233000	mg/L	500	150000	52100	121	80 - 120

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

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 22 of 28
Chavez Co., NM

Param			MSD			Spike	Matrix		Rec.		RPD	
	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit	
Chloride	Q _u	Q _u	1	233000	mg/L	500	150000	52100	121	80 - 120	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: 312890

QC Batch: 96215
Prep Batch: 81478

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-29

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	139000	mg/L	500	150000	168	92	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	141000	mg/L	500	150000	168	94	80 - 120	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: 312905

QC Batch: 96287
Prep Batch: 81605

Date Analyzed: 2012-11-03
QC Preparation: 2012-11-03

Analyzed By: YG
Prepared By: YG

Param			MS	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	
	F	C	Result							
Benzene			1	0.0851	mg/L	1	0.100	<0.000600	85	70 - 130
Toluene			1	0.0730	mg/L	1	0.100	<0.000600	73	70 - 130
Ethylbenzene	Q ^u	Q ^u	1	0.0589	mg/L	1	0.100	<0.000800	59	70 - 130
Xylene	Q ^u	Q ^u	1	0.126	mg/L	1	0.300	<0.000767	42	70 - 130

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

Param			MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit	
	F	C	Result	Units								
Benzene			1	0.0866	mg/L	1	0.100	<0.000600	87	70 - 130	2	20
Toluene			1	0.0746	mg/L	1	0.100	<0.000600	75	70 - 130	2	20
Ethylbenzene	Q _s	Q _s	1	0.0608	mg/L	1	0.100	<0.000800	61	70 - 130	3	20
Xylene	Q _s	Q _s	1	0.130	mg/L	1	0.300	<0.000767	43	70 - 130	3	20

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

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 23 of 28
Chavez Co., NM

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	0.0649	0.0662	mg/L	1	0.1	65	66	70 - 130
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	0.0527	0.0502	mg/L	1	0.1	53	50	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 96190

Date Analyzed: 2012-10-31

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0880	88	80 - 120	2012-10-31
Toluene		1	mg/L	0.100	0.0904	90	80 - 120	2012-10-31
Ethylbenzene		1	mg/L	0.100	0.0872	87	80 - 120	2012-10-31
Xylene		1	mg/L	0.300	0.274	91	80 - 120	2012-10-31

Standard (CCV-2)

QC Batch: 96190

Date Analyzed: 2012-10-31

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0832	83	80 - 120	2012-10-31
Toluene		1	mg/L	0.100	0.0868	87	80 - 120	2012-10-31
Ethylbenzene		1	mg/L	0.100	0.0832	83	80 - 120	2012-10-31
Xylene		1	mg/L	0.300	0.262	87	80 - 120	2012-10-31

Standard (CCV-3)

QC Batch: 96190

Date Analyzed: 2012-10-31

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0950	95	80 - 120	2012-10-31
Toluene		1	mg/L	0.100	0.0935	94	80 - 120	2012-10-31
Ethylbenzene		1	mg/L	0.100	0.0871	87	80 - 120	2012-10-31
Xylene		1	mg/L	0.300	0.273	91	80 - 120	2012-10-31

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 25 of 28
Chavez Co., NM

Standard (CCV-1)

QC Batch: 96214

Date Analyzed: 2012-10-30

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.7	99	90 - 110	2012-10-30

Standard (CCV-1)

QC Batch: 96214

Date Analyzed: 2012-10-30

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	26.7	107	90 - 110	2012-10-30

Standard (CCV-2)

QC Batch: 96214

Date Analyzed: 2012-10-30

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.1	96	90 - 110	2012-10-30

Standard (CCV-2)

QC Batch: 96214

Date Analyzed: 2012-10-30

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2012-10-30

Standard (CCV-1)

QC Batch: 96215

Date Analyzed: 2012-10-31

Analyzed By: AR

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 26 of 28
Chavez Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.1	96	90 - 110	2012-10-31

Standard (CCV-1)

QC Batch: 96215

Date Analyzed: 2012-10-31

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2012-10-31

Standard (CCV-2)

QC Batch: 96215

Date Analyzed: 2012-10-31

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.7	95	90 - 110	2012-10-31

Standard (CCV-2)

QC Batch: 96215

Date Analyzed: 2012-10-31

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2012-10-31

Standard (CCV-1)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

Report Date: November 5, 2012
115-6403132A

Work Order: 12102913
Celero/Rock Queen Tract #13 TB

Page Number: 27 of 28
Chavez Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0937	94	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0914	91	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0845	84	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.265	88	80 - 120	2012-11-03

Standard (CCV-2)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0925	92	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0905	90	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0844	84	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.264	88	80 - 120	2012-11-03

Standard (CCV-3)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0909	91	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0886	89	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0819	82	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.258	86	80 - 120	2012-11-03

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	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 than 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.

12102913

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

ANALYSIS REQUEST
(Circle or Specify Method No.)**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME:

Celero

SITE MANAGER:

Jeff Kinley

PROJECT NO.:

115-6403132A 4410 Rock Queen Unit tract #13

PRESERVATIVE
METHOD

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

GRAB

COMP

MATRIX

TIME

DATE

LAB I.D. NUMBER

SAMPLE IDENTIFICATION

CHAVEZ CO, NM

MW 1

MW 2

MW 3

MW 4

MW 5

MW 6

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Alf)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

Sulfates

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13

Time: 14:15

RELINQUISHED BY: (Signature)

Date: 10-26-13

Time: 14:15

RECEIVED BY: (Signature)

Date: 10-26-13