1R – 1595

2007 – 2009 GWMR

10 / 13 / 2011

TETRA TECH

October 13, 2011

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

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

Mr. Von Gonten:

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

FACILITY BACKGROUND

Pit Closure

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

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

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subsoil would support a soil boring rig.

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

Groundwater Investigation

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

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

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

Gauging and Monitor Well Sampling

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

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

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

CONCLUSIONS

1. On May 25, 2007, initial sampling began at the site. In 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged, and sampled. The samples were preserved and delivered to Trace Analysis, Inc. of Midland, Texas for analysis of BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+.

2. The hydraulic gradient indicates a southeasterly direction.

3. All wells tested below the NMQQCC standards of 0.01 mg/L for benzene.

4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells. The chloride concentrations at the site range from 857 mg/L in monitor well MW-4 on July 13, 2010 to 122,000 mg/L in monitor well MW-1 on January 19, 2011.

RECOMMENDATIONS

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

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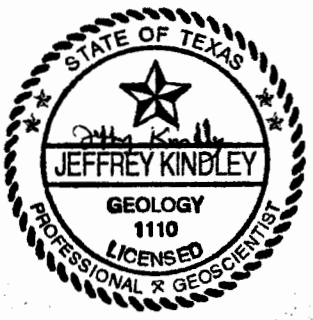
2. Additional monitor wells will be installed in order to further delineate the chloride plume at the site.

3. A remediation system consisting of either a low flow solar/electric pump or windmill system will be installed in recovery well RW-1. The recovered fluids will be collected in an above ground tank and utilized for possible water flooding purposes in the surrounding oilfield.

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



Respectfully submitted,
Tetra Tech, Inc.

Jeffrey Kindley, P.G.
Senior Environmental Geologist

cc: Bruce Woodard – Celero Energy II, LP

FIGURES

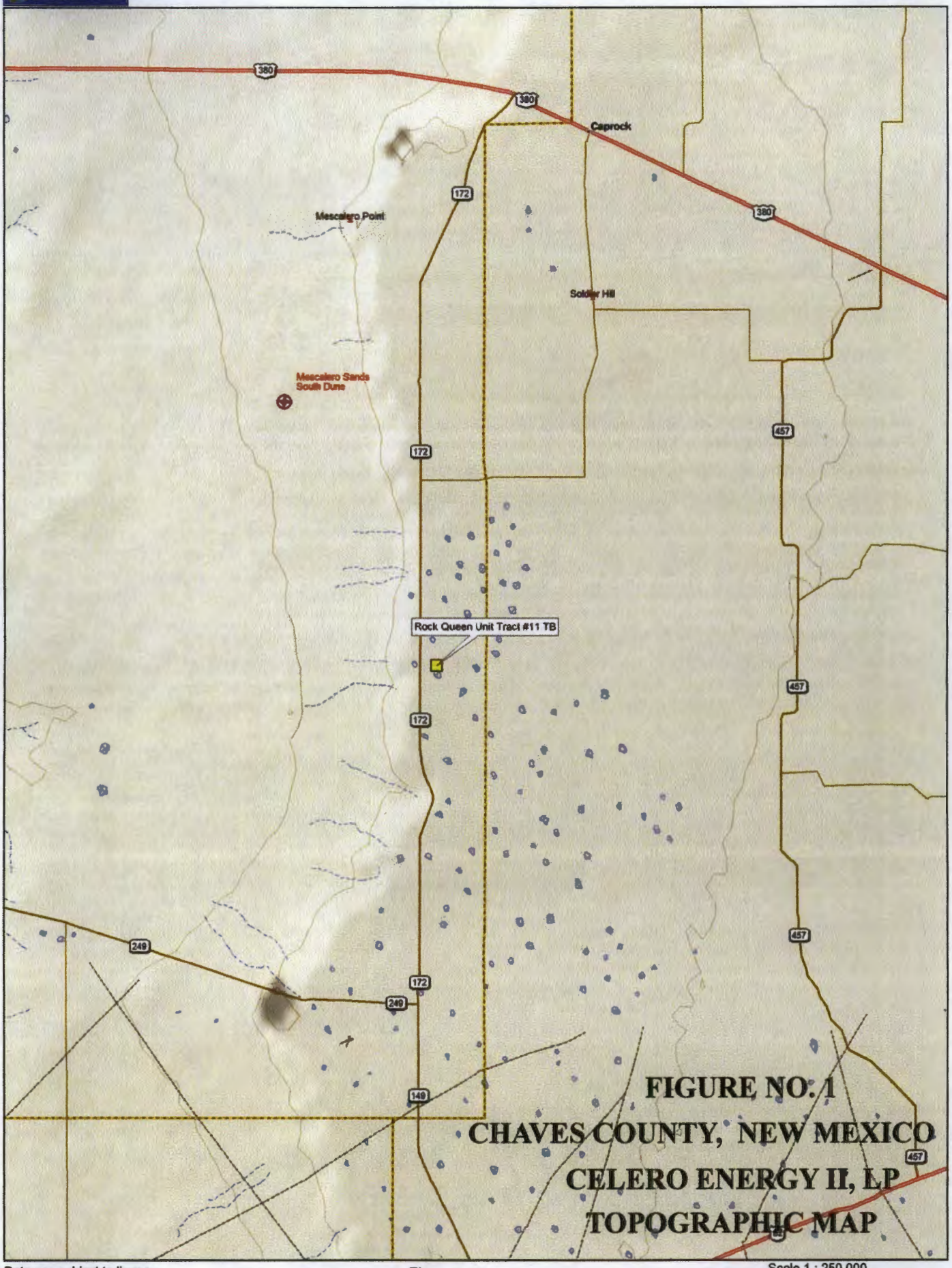


FIGURE NO. 1
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY II, LP
TOPOGRAPHIC MAP

TN
MN (7.7°E)

Scale 1 : 250,000
1" = 3.95 mi
Data Zoom 9-7

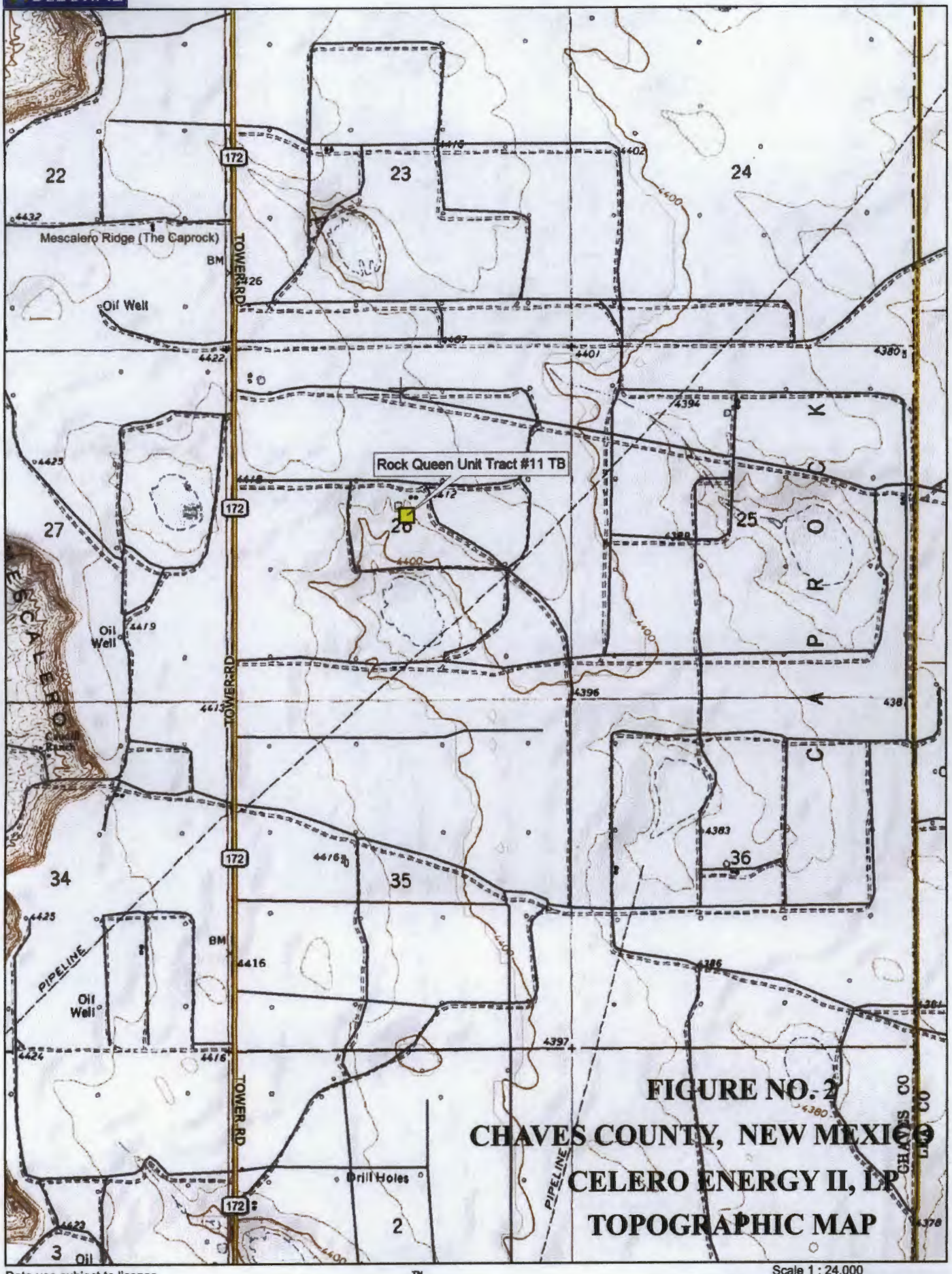


FIGURE NO. 2
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY II, LP
TOPOGRAPHIC MAP

TN

MN (7.7°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 12-7

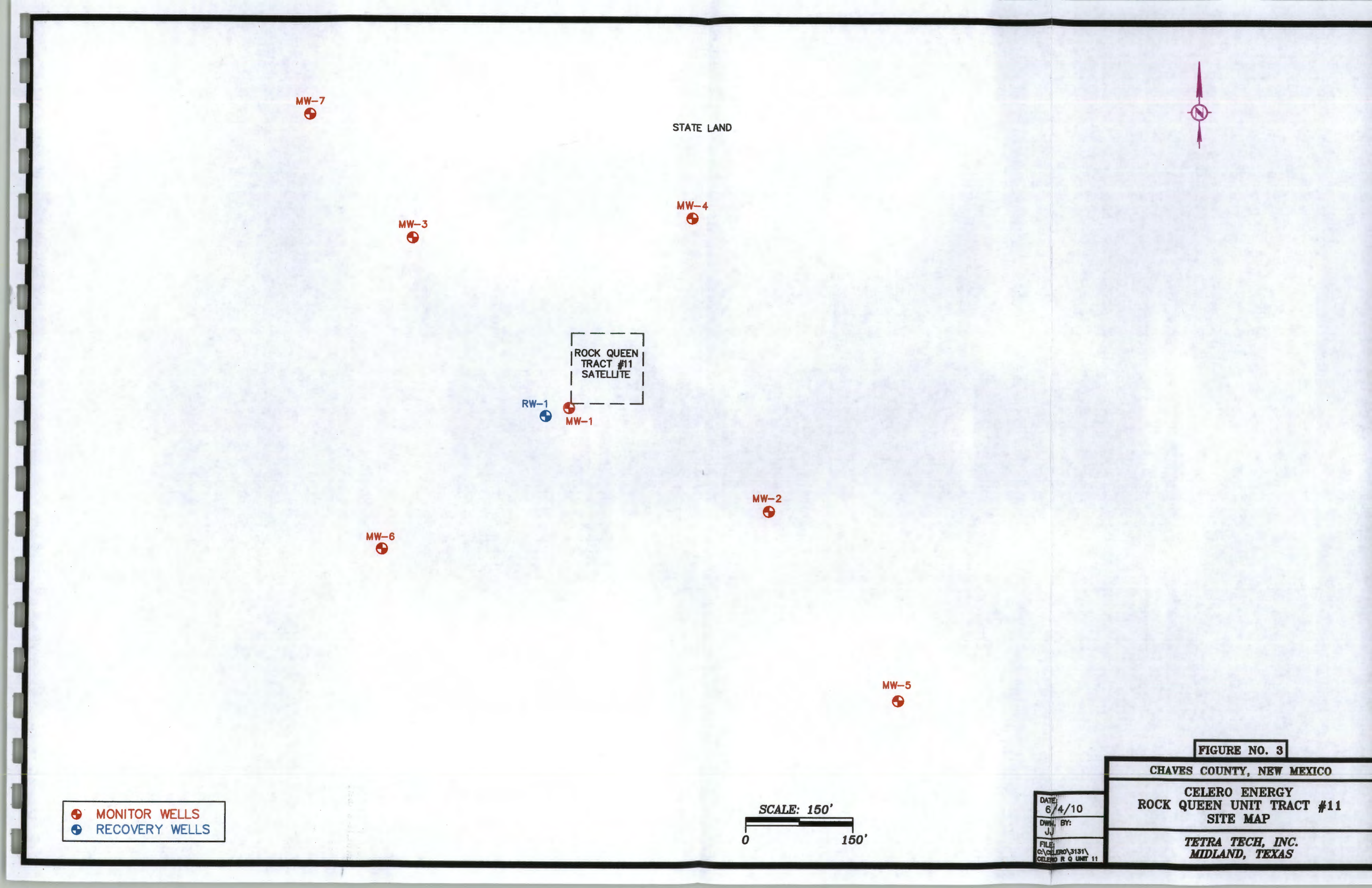
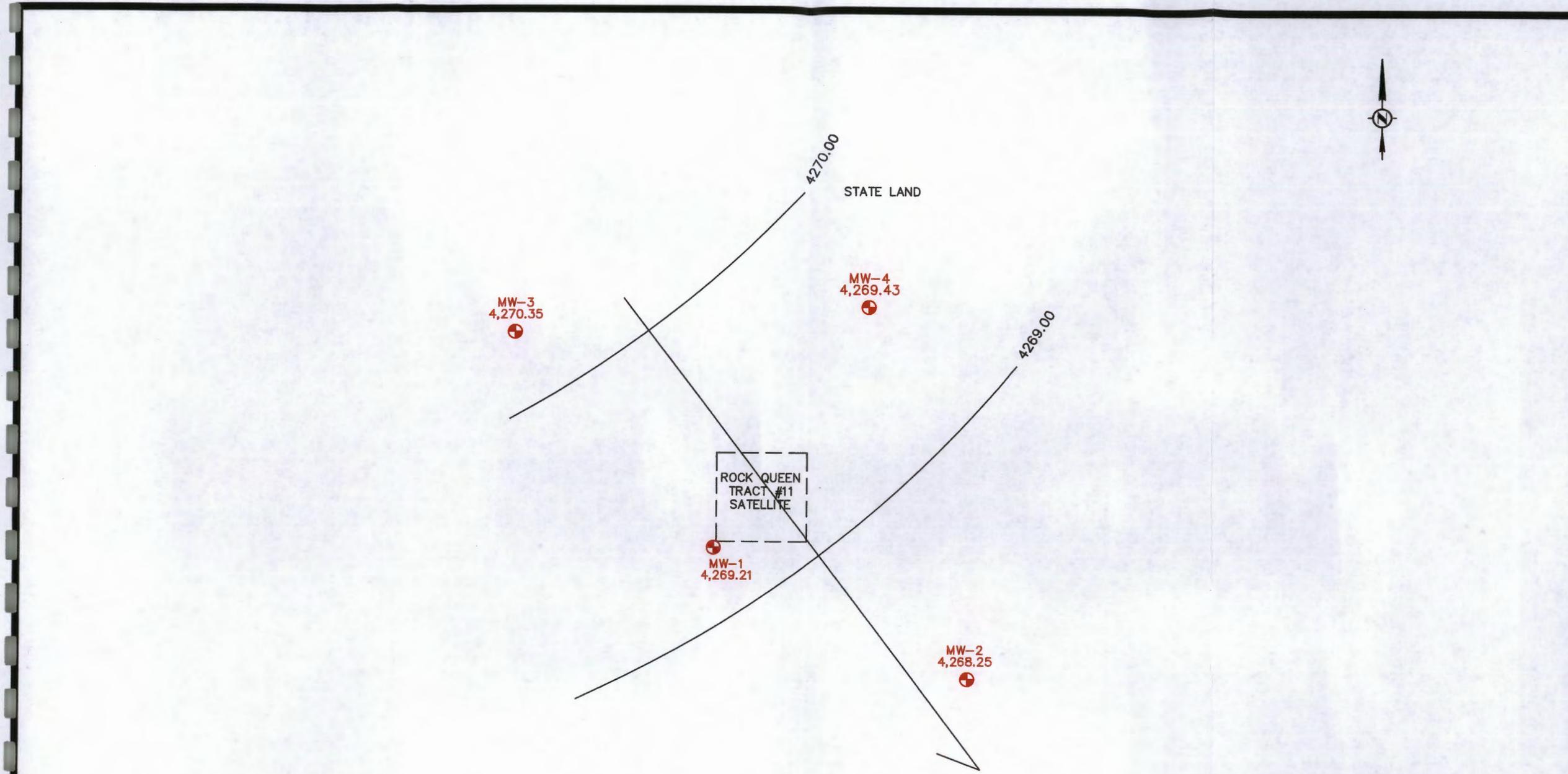


FIGURE NO. 3

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
SITE MAP

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS

C.I. = 1'

SCALE: 100'
0 100'

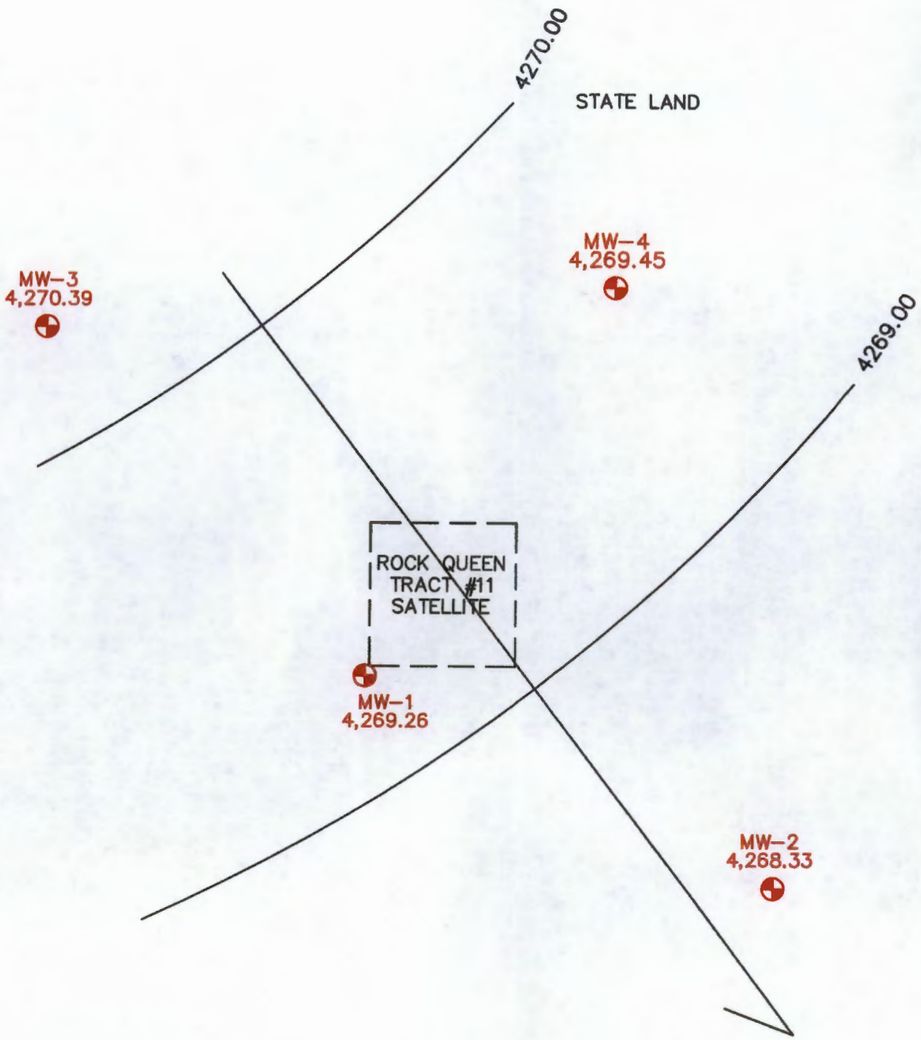
DATE: 2/25/2010
DWN. BY: IM
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 4

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS

C.I. = 1'

SCALE: 100'

0 100'

DATE: 7/13/2010

DWN. BY: IM

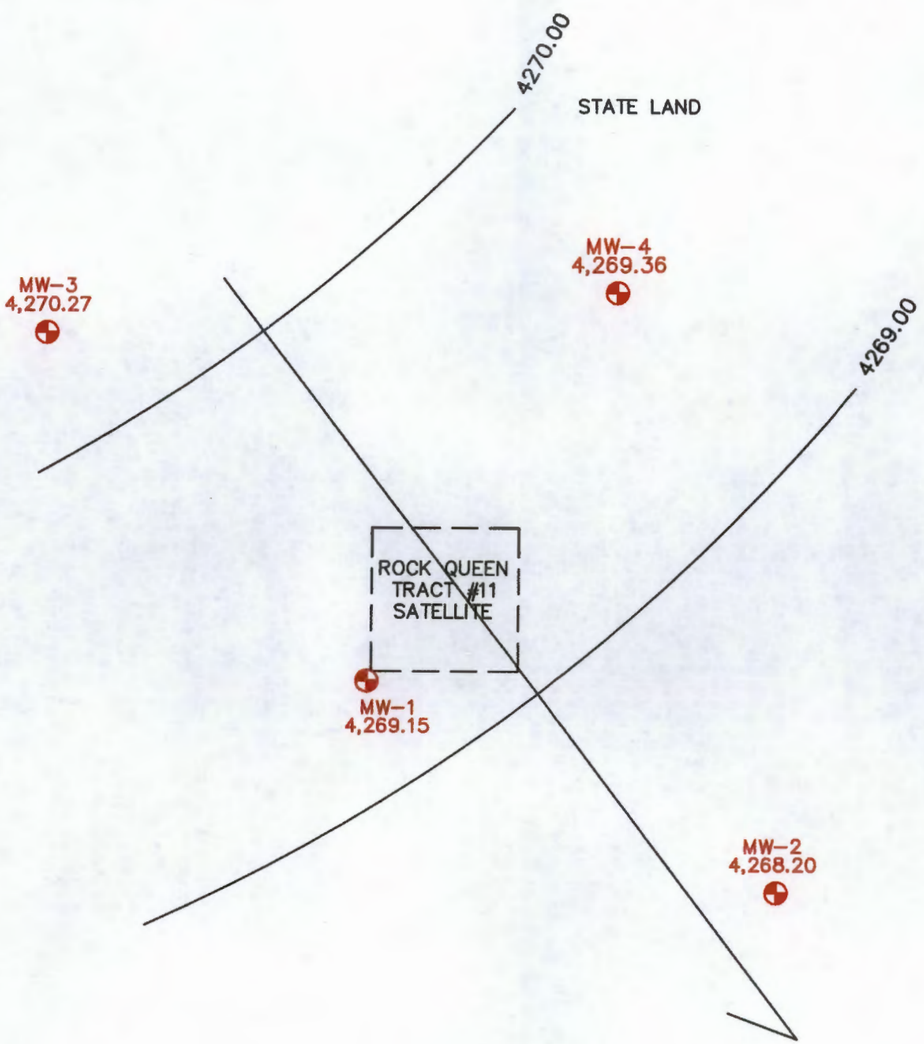
FILE: C:\CELERO\3131\ CELERO R Q UNIT 11

FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS

C.I. = 1'

SCALE: 100'

0 100'

DATE: 10/11/2010

DWN. BY: IM

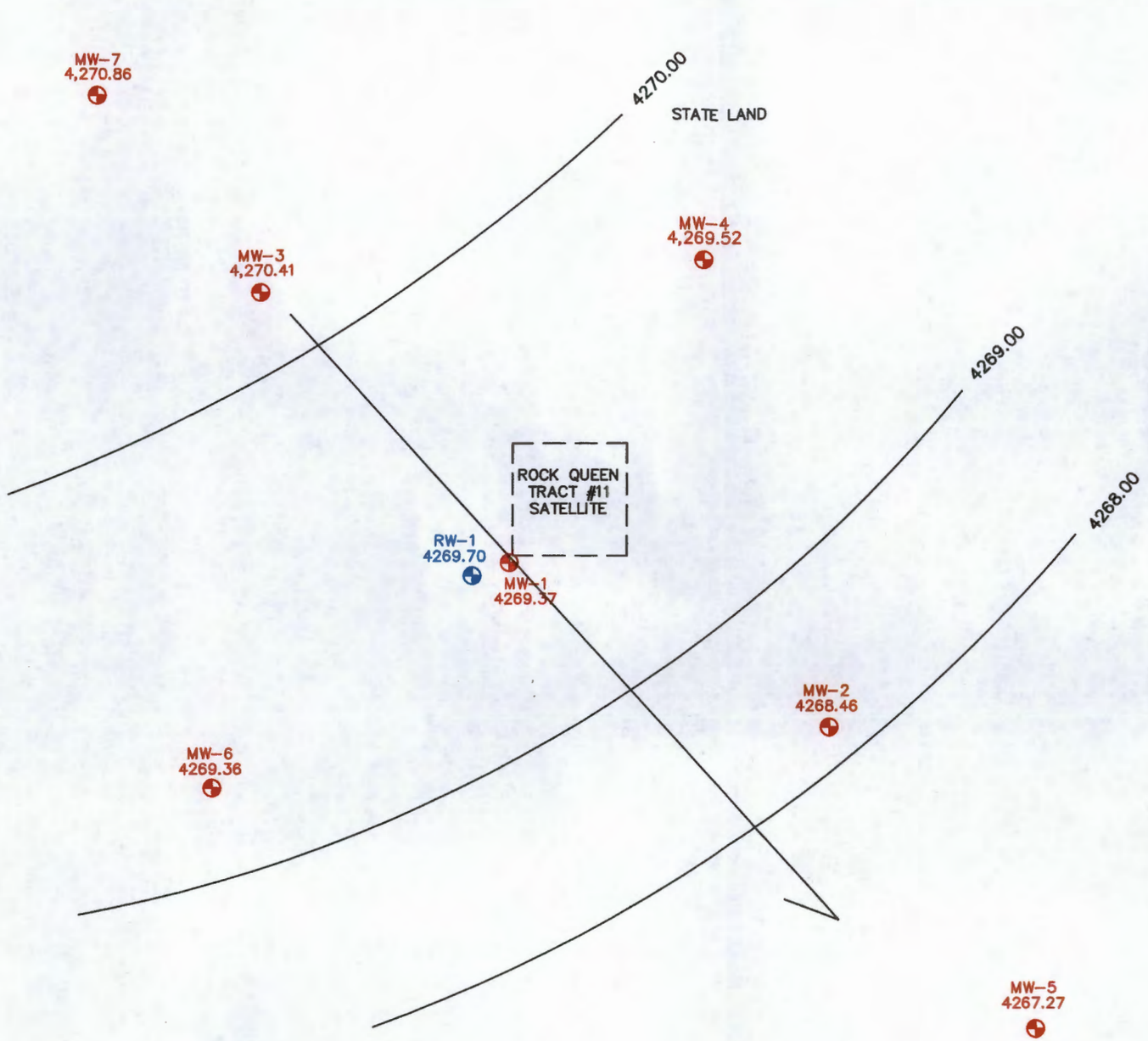
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS
RECOVERY WELLS

C.I. = 1'

SCALE: 150'
0 150'

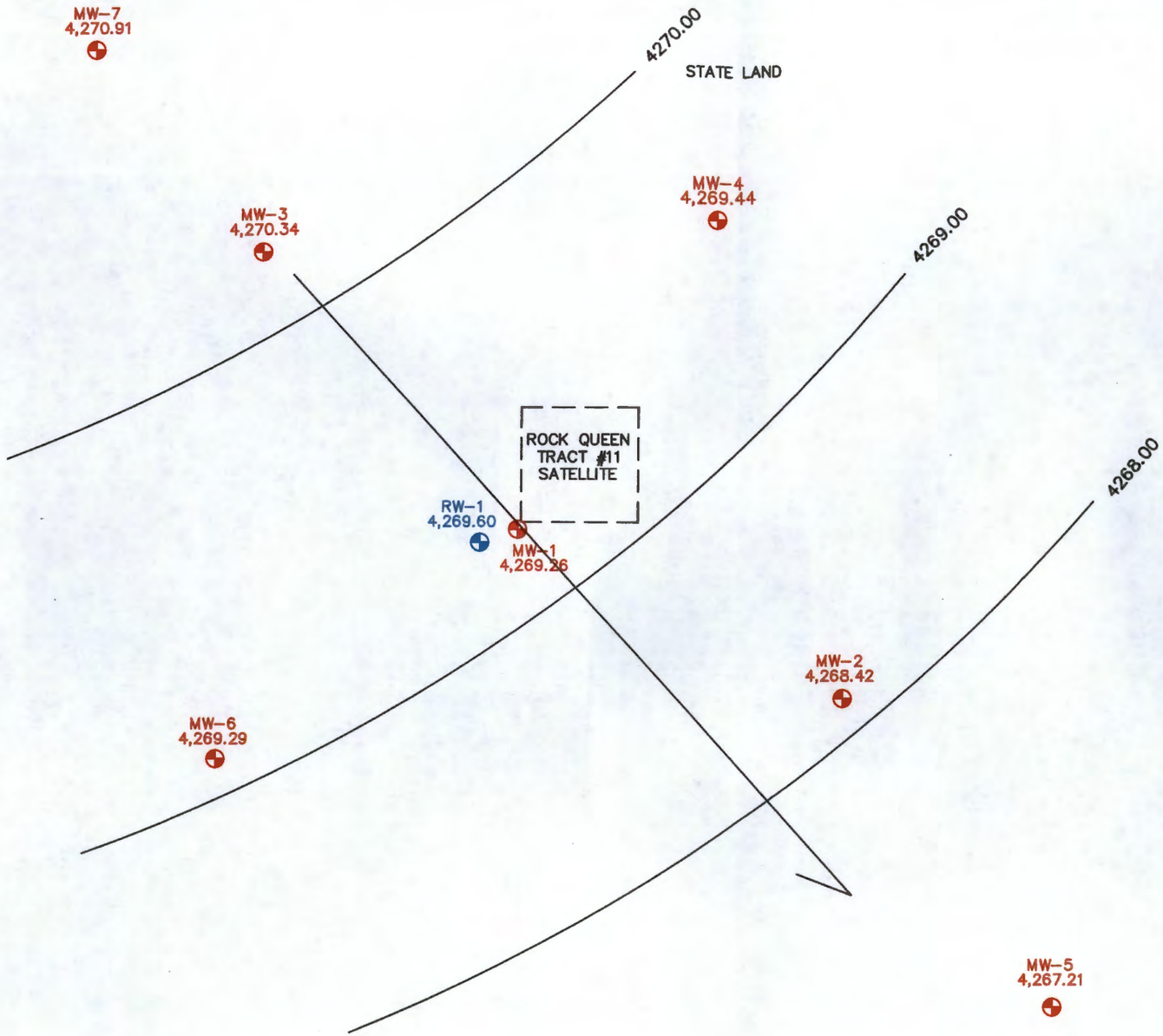
DATE: 01/17/2011
DWN. BY: IM
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 7

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS
RECOVERY WELLS

C.I. = 1'

SCALE: 150'
0 150'

DATE: 04/11/2011
DWN. BY: IM
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 8

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

STATE LAND

MW-3
1,990

MW-4
10,700

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
60,700

MW-2
5,670

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'
0 100'

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

FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

STATE LAND

MW-3
3,260

MW-4
857

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
12,300

MW-2
16,400

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'
0 100'

DATE: 7/13/2010
DWN. BY: IM
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

STATE LAND

MW-3
2,700

MW-4
7,140

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
20,400

MW-2
24,000

MONITOR WELLS

RESULTS IN mg/L

SCALE: 100'
0 100'

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

FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

MW–7
994

STATE LAND

MW–4
109,000

MW–3
50,100

ROCK QUEEN
TRACT #11
SATELLITE

RW–1
N/S

MW–1
122,000

MW–2
118,000

MW–6
25,800

MW–5
56,300

MONITOR WELLS
RECOVERY WELLS

RESULTS IN mg/L
N/S – NOT SAMPLED

SCALE: 100'
0 100'

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

FIGURE NO. 12

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

MW-7
1,230

STATE LAND

MW-4
7,210

MW-3
5,190

ROCK QUEEN
TRACT #11
SATELLITE

RW-1
N/S

MW-1
109,000

MW-2
67,600

MW-6
26,600

MW-5
49,900

MONITOR WELLS
RECOVERY WELLS

RESULTS IN mg/L
N/S–NOT SAMPLED

SCALE: 100'
0 100'

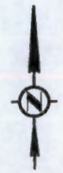
DATE: 2/25/2011
DWN. BY: IM
FILE: C:\CELERO\3131\CELERO R Q UNIT 11

FIGURE NO. 13

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS



STATE LAND

MW-7
1,350

MW-3
2,880

MW-4
12,200

ROCK QUEEN
TRACT #11
SATELLITE

RW-1
57,400

MW-1
N/S

MW-2
53,300

MW-6
1,800

MW-5
67,500

MONITOR WELLS
RECOVERY WELLS

RESULTS IN mg/L
N/S – NOT SAMPLED

SCALE: 100'
0 100'

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

FIGURE NO. 14

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

TABLES

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

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

Table 2
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract 11 Tank Battery
Chaves County, New Mexico

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

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 11 Tank Battery

Chaves County, New Mexico

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

NS - Not sampled

(-) Not Analyzed

APPENDIX A
BORING LOGS

SAMPLE LOG

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

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

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

SAMPLE LOG

Boring/Well MW-2
GPS N33.161183° W103.791136°
Project Number 114-6403131A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #11 Tank Battery
Site Location Chavez County, New Mexico
Letter G, Section 26, Township 13 South, Range 31 East
Total Depth 165
Date Installed 02/17/10

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

Total Depth: 165'

SAMPLE LOG

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

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

SAMPLE LOG

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

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

Total Depth: 165'

SAMPLE LOG

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

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

SAMPLE LOG

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

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

Total Depth: 170'

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

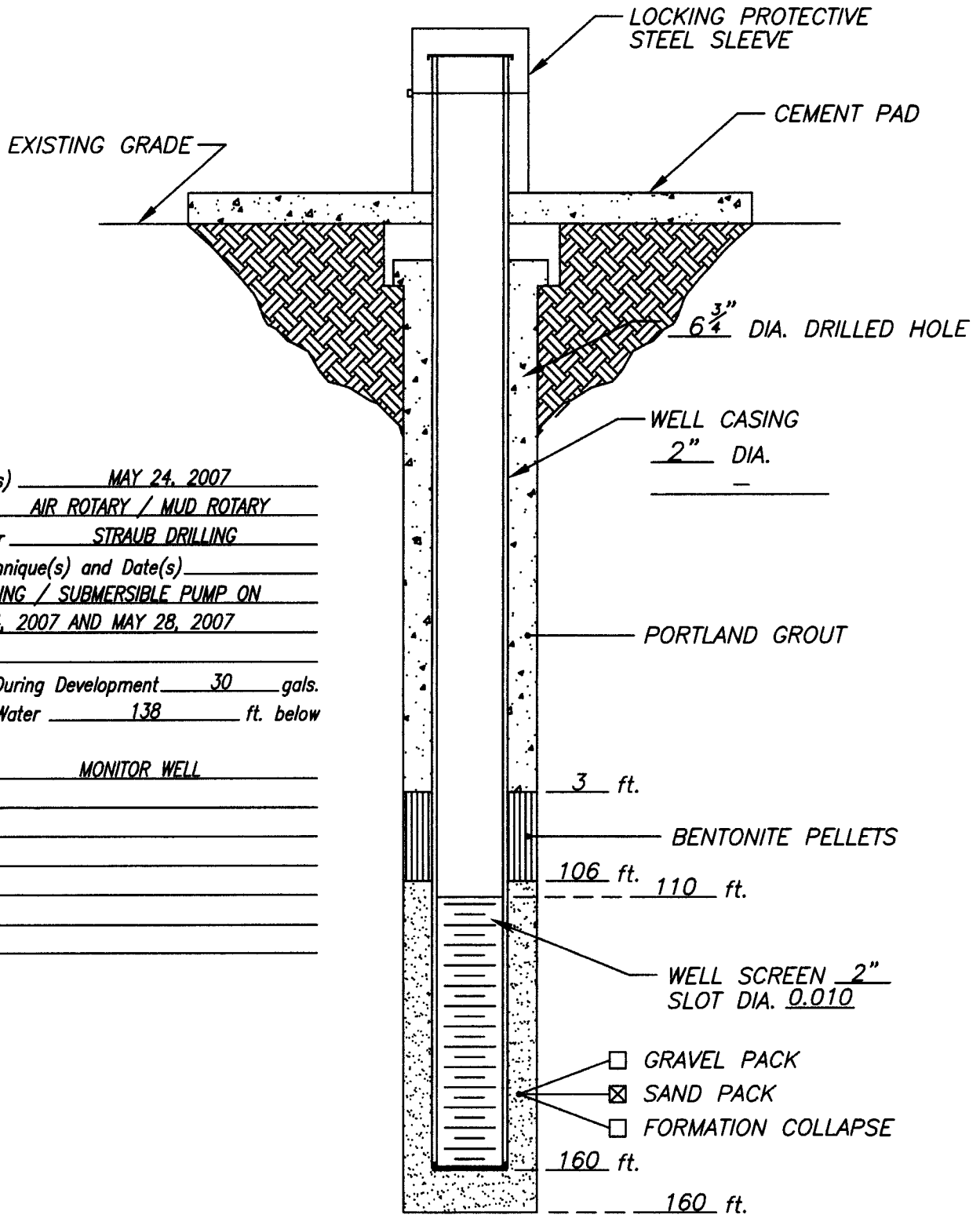
SAMPLE LOG

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

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

APPENDIX B
MONITOR WELL INSTALLATION DIAGRAMS

WELL CONSTRUCTION LOG



Installation Date(s) MAY 24, 2007
Drilling Method AIR ROTARY / MUD ROTARY
Drilling Contractor STRAUB DRILLING
Development Technique(s) and Date(s)
HAND BAILING / SUBMERSIBLE PUMP ON
MAY 24, 2007 AND MAY 28, 2007

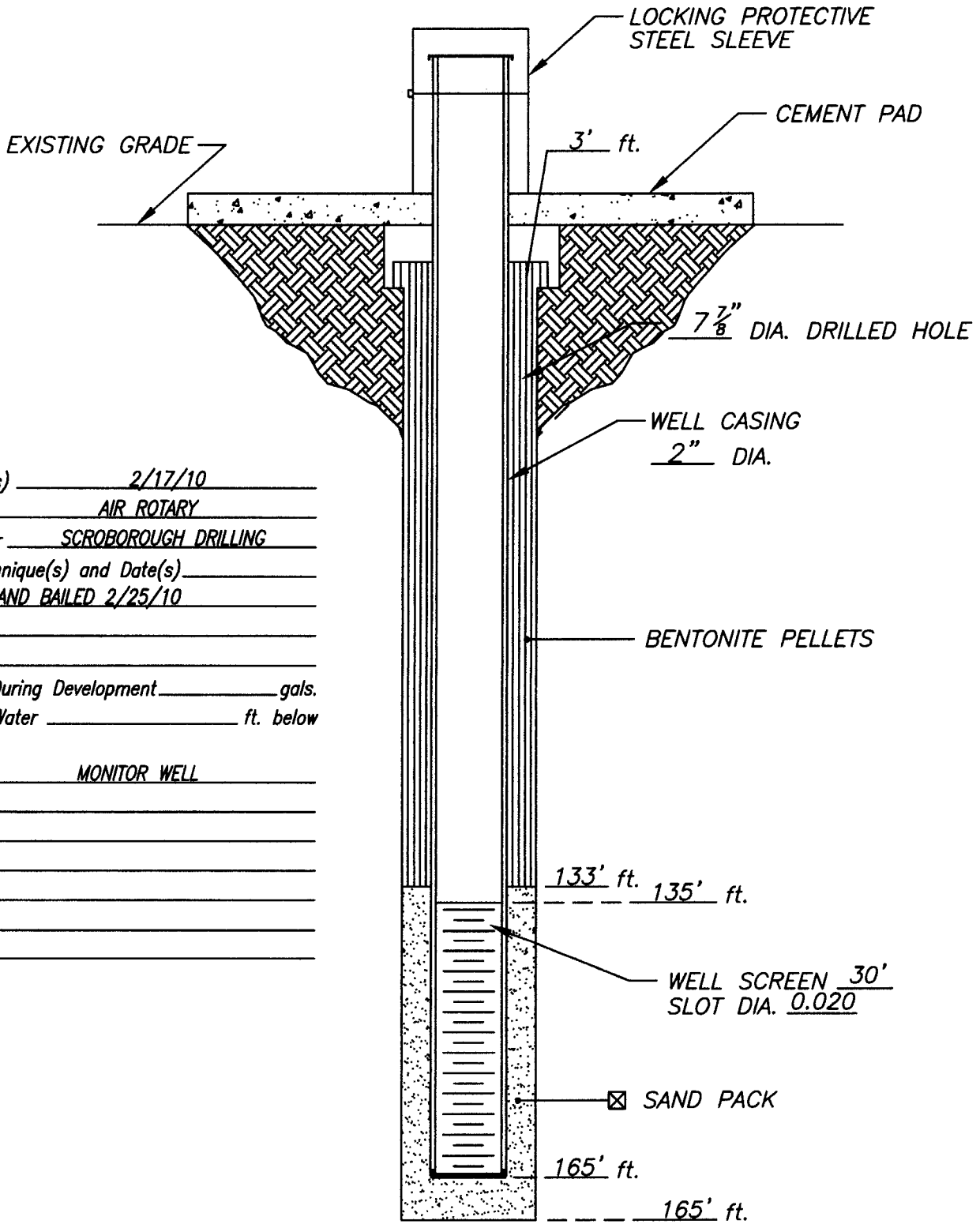
Water Removed During Development 30 gals.
Static Depth to Water 138 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 5/24/07	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN UNIT TRACT 11 TB	MW-1
	LOCATION: CHAVES COUNTY, NM	

115-6403131

WELL CONSTRUCTION LOG



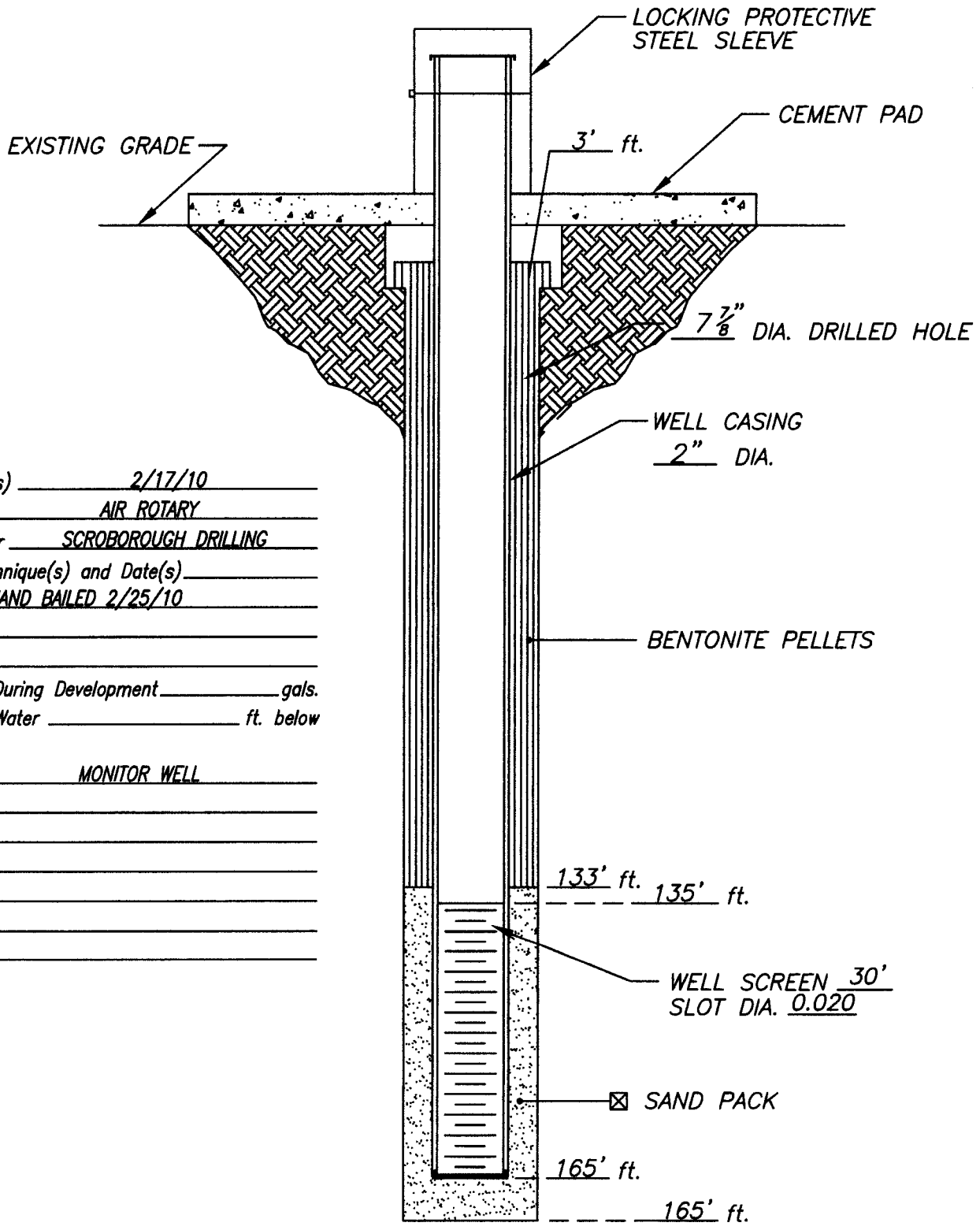
Installation Date(s) 2/17/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HAND BAILED 2/25/10

Water Removed During Development ____ gals.
Static Depth to Water ____ ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 2/19/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-2
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-6403131	

WELL CONSTRUCTION LOG



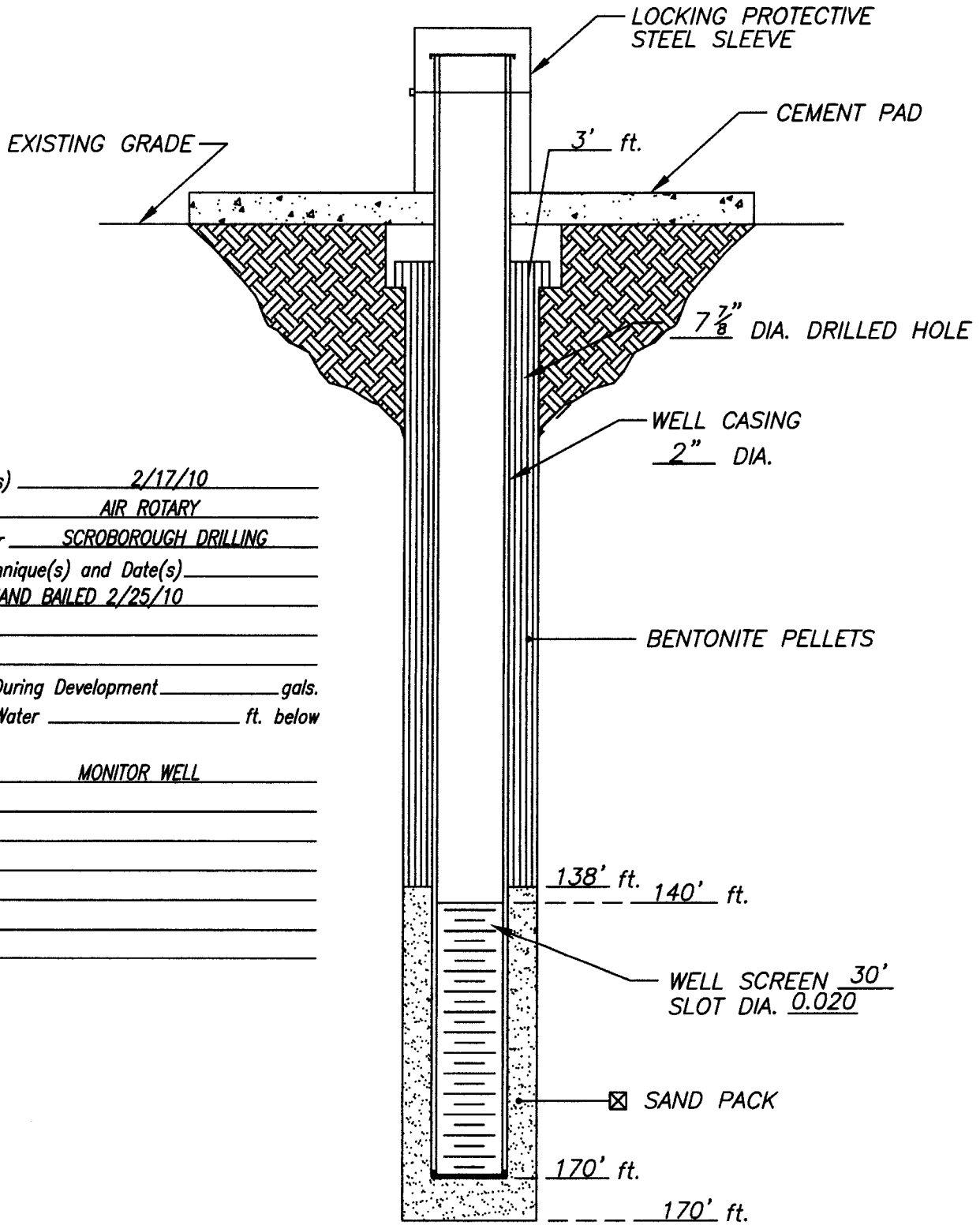
Installation Date(s) 2/17/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HAND BAILED 2/25/10

Water Removed During Development _____ gals.
Static Depth to Water _____ ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 2/19/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-3
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-6403131	

WELL CONSTRUCTION LOG



Installation Date(s) 2/17/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HAND BAILED 2/25/10

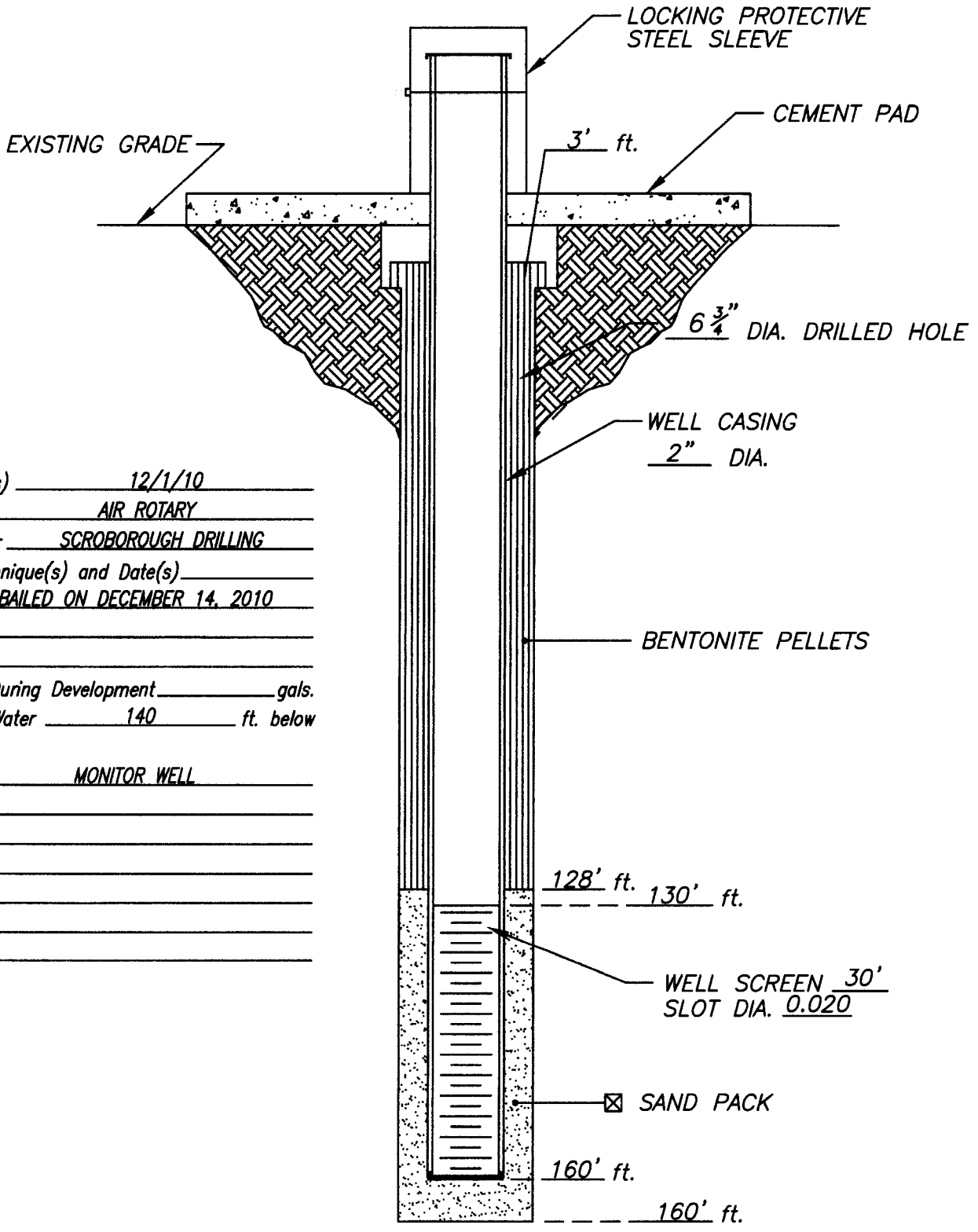
Water Removed During Development _____ gals.
Static Depth to Water _____ ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 2/19/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-4
	LOCATION: CHAVES COUNTY, NEW MEXICO	

115-6403131

WELL CONSTRUCTION LOG



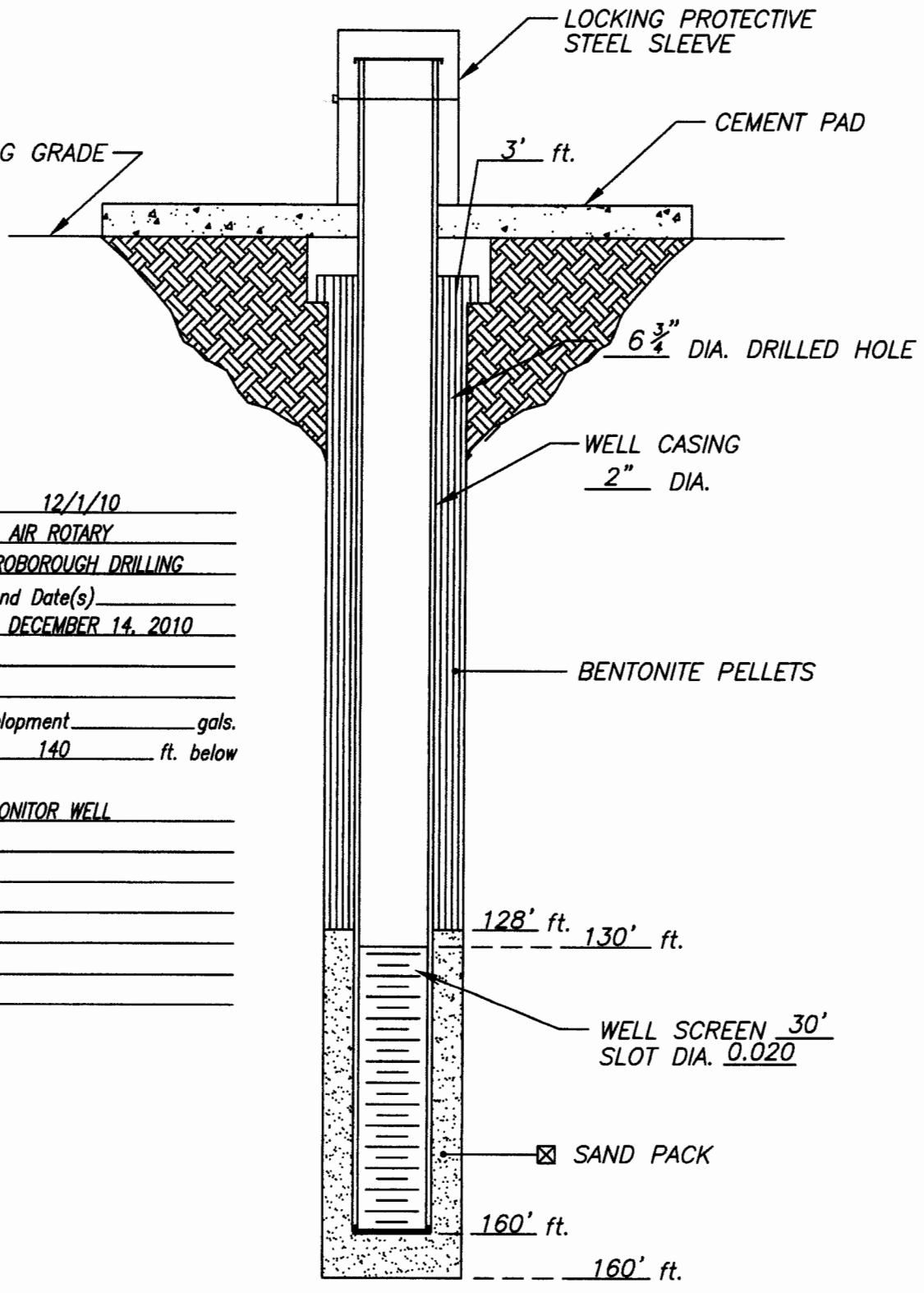
Installation Date(s) 12/1/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development ____ gals.
Static Depth to Water 140 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 12/1/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-5
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-6403131	

WELL CONSTRUCTION LOG



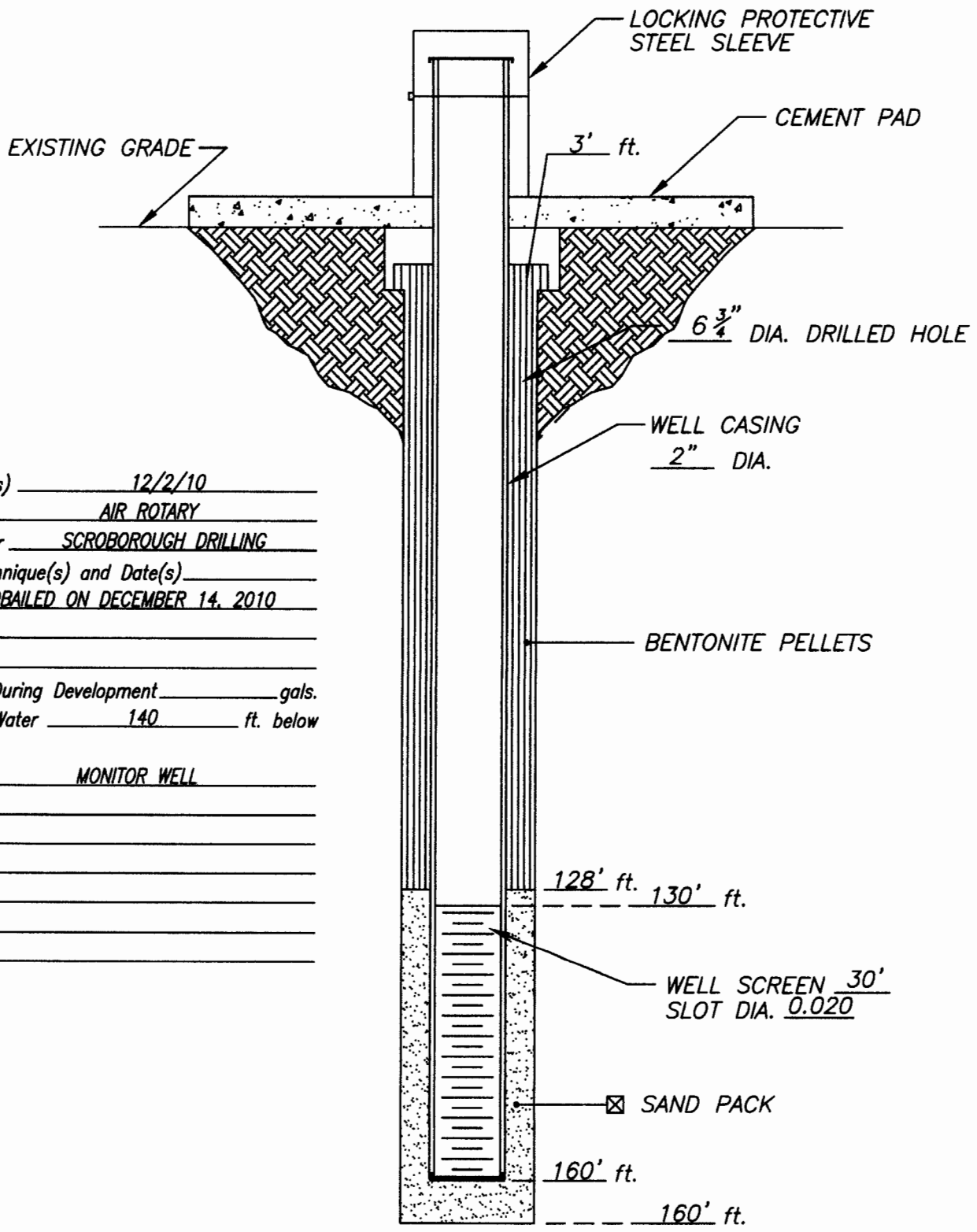
Installation Date(s) 12/1/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development ____ gals.
Static Depth to Water 140 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 12/1/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-6
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-6403131	

WELL CONSTRUCTION LOG



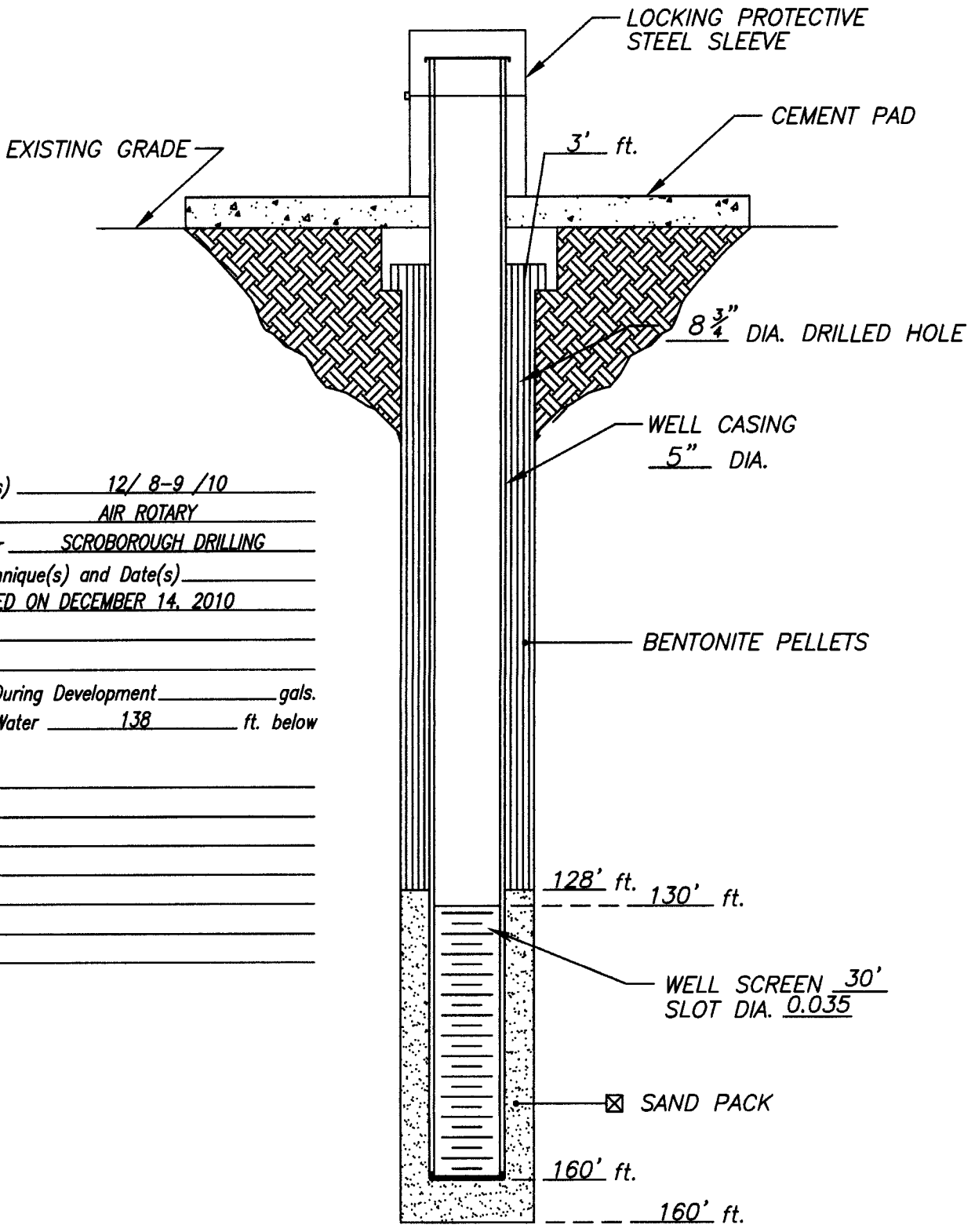
Installation Date(s) 12/2/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development ____ gals.
Static Depth to Water 140 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 12/2/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 11 TB	MW-7
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-8403131	

WELL CONSTRUCTION LOG



Installation Date(s) 12/ 8-9 /10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development _____ gals.
Static Depth to Water 138 ft. below *Ground Level*
Well Purpose _____

Remarks _____

DATE: 12/10/10	**CLIENT:** *CELERO ENERGY II, LLC*	WELL NO.
TETRA TECH, INC.	**PROJECT:** *ROCK QUEEN TRACT 11 TB*	RW-1
MIDLAND, TEXAS	**LOCATION:** *CHAVES COUNTY, NEW MEXICO*	

115-6403131

APPENDIX C
LABORATORY ANALYSIS

TRACEANALYSIS, INC.

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 888•588•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

Analytical and Quality Control Report

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

Report Date: June 15, 2007

Work Order: 7060508

Project Location: Chaves Co. NM
Project Name: Celero Energy-Rock Queen ESA
Project Number: 2972

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
126448	RQU Tract 11 MW-1	water	2007-05-31	16:45	2007-06-04
126449	RQU Tract 13 MW-1	water	2007-06-01	14:30	2007-06-04

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

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

Blair Leftwich

Dr. Blair Leftwich, Director

Standard Flags

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

Analytical Report

Sample: 126448 - RQU Tract 11 MW-1

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

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**110**	mg/L as CaCo3	1	4.00
Total Alkalinity		**110**	mg/L as CaCo3	1	4.00

Sample: 126448 - RQU Tract 11 MW-1

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

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

Sample: 126448 - RQU Tract 11 MW-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	38153	Date Analyzed:	2007-06-13	Analyzed By:	ER
Prep Batch:	33031	Sample Preparation:	2007-06-13	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**37800**	mg/L	5000	0.500

Sample: 126448 - RQU Tract 11 MW-1

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

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

Sample: 126448 - RQU Tract 11 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Potassium		**416**		mg/L	20	0.500

Sample: 126448 - RQU Tract 11 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Magnesium		**1050**		mg/L	20	0.500

Sample: 126448 - RQU Tract 11 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Sodium		**19400**		mg/L	200	0.500

Sample: 126448 - RQU Tract 11 MW-1

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	37918 [a]	Date Analyzed:	2007-06-05	Analyzed By:	JS
Prep Batch:	32839	Sample Preparation:	2007-06-05	Prepared By:	JS

[a]samples were ran in the lab

Parameter	Flag	Result	RL	Units	Dilution	RL
pH		**7.06**		s.u.	1	0.00

Sample: 126448 - RQU Tract 11 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**1080**		mg/L	50	0.500

Sample: 126448 - RQU Tract 11 MW-1

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	38061	Date Analyzed:	2007-06-11	Analyzed By:	ER
Prep Batch:	32957	Sample Preparation:	2007-06-06	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**59400**		mg/L	200	10.00

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Hydroxide Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Carbonate Alkalinity		**8.00**		mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**652**		mg/L as CaCo3	1	4.00
Total Alkalinity		**660**		mg/L as CaCo3	1	4.00

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		**282**		mg/L	5	0.500

Sample: 126449 - RQU Tract 13 MW-1

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	38153	Date Analyzed:	2007-06-13	Analyzed By:	ER
Prep Batch:	33031	Sample Preparation:	2007-06-13	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**3270**		mg/L	500	0.500

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Hardness (by ICP)		**804**		mg eq CaCO3/L	1	0.00

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Potassium		**20.1**		mg/L	5	0.500

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Magnesium		**24.4**		mg/L	5	0.500

Sample: 126449 - RQU Tract 13 MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Sodium		**2020**		mg/L	50	0.500

Sample: 126449 - RQU Tract 13 MW-1

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	37918 [a]	Date Analyzed:	2007-06-05	Analyzed By:	JS
Prep Batch:	32839	Sample Preparation:	2007-06-05	Prepared By:	JS

[a]samples were ran in the lab

Parameter	Flag	RL Result	Units	Dilution	RL
pH		**7.02**	s.u.	1	0.00

Sample: 126449 - RQU Tract 13 MW-1

Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	38204	Date Analyzed:	2007-06-15	Analyzed By:	ER
Prep Batch:	33077	Sample Preparation:	2007-06-14	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**91.1**	mg/L	5	0.500

Sample: 126449 - RQU Tract 13 MW-1

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	38061	Date Analyzed:	2007-06-11	Analyzed By:	ER
Prep Batch:	32957	Sample Preparation:	2007-06-06	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**7245**	mg/L	5	10.00

Method Blank (1) QC Batch: 38061

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

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Method Blank (1) QC Batch: 38113

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

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.0290	mg/L	0.5

Method Blank (1) QC Batch: 38113

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

Parameter	Flag	MDL Result	Units	RL
Dissolved Potassium		<0.307	mg/L	0.5

Method Blank (1) QC Batch: 38113

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

Parameter	Flag	MDL Result	Units	RL
Dissolved Magnesium		<0.0740	mg/L	0.5

Method Blank (1) QC Batch: 38113

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

Parameter	Flag	MDL Result	Units	RL
Dissolved Sodium		<0.529	mg/L	0.5

Method Blank (1) QC Batch: 38153

QC Batch:	38153	Date Analyzed:	2007-06-13	Analyzed By:	ER
Prep Batch:	33031	QC Preparation:	2007-06-13	Prepared By:	ER

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

Method Blank (1) QC Batch: 38153

QC Batch:	38153	Date Analyzed:	2007-06-13	Analyzed By:	ER
Prep Batch:	33031	QC Preparation:	2007-06-13	Prepared By:	ER

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

Method Blank (1) QC Batch: 38159

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

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

Method Blank (1) QC Batch: 38204

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

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

Duplicates (1)

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

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	7.09	7.06	s.u.	1	0	0.8

Duplicates (1)

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

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

Duplicates (1)

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

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	928	764	mg/L as CaCo3	1	19	20
Total Alkalinity	928	764	mg/L as CaCo3	1	19	20

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	51.0	mg/L	1	50.0	<0.0290	102	79.1 - 121	1	20

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Potassium	51.9	mg/L	1	50.0	<0.307	104	78.8 - 114	1	20

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Magnesium	50.1	mg/L	1	50.0	<0.0740	100	80.2 - 120

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Magnesium	50.6	mg/L	1	50.0	<0.0740	101	80.2 - 120	1	20

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Sodium	53.1	mg/L	1	50.0	<0.529	106	79.4 - 123

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Sodium	53.3	mg/L	1	50.0	<0.529	107	79.4 - 123	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 38153 | Date Analyzed: 2007-06-13 | Analyzed By: ER
Prep Batch: 33031 | QC Preparation: 2007-06-13 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12.2	mg/L	1	12.5	<0.172	98	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12.1	mg/L	1	12.5	<0.172	97	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 38153 | Date Analyzed: 2007-06-13 | Analyzed By: ER
Prep Batch: 33031 | QC Preparation: 2007-06-13 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	12.4	mg/L	1	12.5	<0.777	99	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	11.6	mg/L	1	12.5	<0.777	93	90 - 110	7	20

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	12.0	mg/L	1	12.5	<0.777	96	90 - 110	6	20

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

Matrix Spike (MS-1) Spiked Sample: 126448

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

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

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	[2]	1290	mg/L	1	50.0	1300	-20	69 - 130	0	20

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

Matrix Spike (MS-1) Spiked Sample: 126448

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Potassium	468	mg/L	1	50.0	416	104	76.8 - 117	5	20

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

Matrix Spike (MS-1) Spiked Sample: 126448

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Magnesium	[4]	1050	mg/L	1	50.0	1050	0	77.9 - 122

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 126448

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Sodium	[6]	19400	mg/L	1	50.0	19400	0	84.2 - 120

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Sodium	[7]	19900	mg/L	1	50.0	19400	1000	84.2 - 120	2	20

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

Matrix Spike (MS-1) Spiked Sample: 126147

QC Batch: 38153 | Date Analyzed: 2007-06-13 | Analyzed By: ER
Prep Batch: 33031 | QC Preparation: 2007-06-13 | Prepared By: ER

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	787	mg/L	50	625	185.563	96	10 - 188	1	20

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

Matrix Spike (MS-1) Spiked Sample: 126147

QC Batch: 38153 | Date Analyzed: 2007-06-13 | Analyzed By: ER
Prep Batch: 33031 | QC Preparation: 2007-06-13 | Prepared By: ER

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	670	mg/L	50	625	<38.8	107	83.1 - 114	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: 126449

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

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	159	mg/L	5	62.5	91.0693	109	83.1 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	151	mg/L	5	62.5	91.0693	96	83.1 - 114	5	20

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

Standard (ICV-1)

QC Batch: 37918 Date Analyzed: 2007-06-05 Analyzed By: JS

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

Standard (CCV-1)

QC Batch: 37918 Date Analyzed: 2007-06-05 Analyzed By: JS

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

Standard (ICV-1)

QC Batch: 38061 Date Analyzed: 2007-06-11 Analyzed By: ER

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

Standard (CCV-1)

QC Batch: 38061 Date Analyzed: 2007-06-11 Analyzed By: ER

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

Standard (ICV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (ICV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (ICV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (ICV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (CCV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (CCV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (CCV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (CCV-1)

QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP

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

Standard (ICV-1)

QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ER

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

Standard (ICV-1)

QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ER

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

Standard (CCV-1)

QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ER

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

Standard (CCV-1)

QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ER

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

Standard (ICV-1)

QC Batch: 38159 Date Analyzed: 2007-06-14 Analyzed By: JS

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

Standard (CCV-1)

QC Batch: 38159 Date Analyzed: 2007-06-14 Analyzed By: JS

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

Standard (ICV-1)

QC Batch: 38204 Date Analyzed: 2007-06-15 Analyzed By: ER

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.5	11.6	93	90 - 110	2007-06-15

Standard (CCV-1)

QC Batch: 38204 Date Analyzed: 2007-06-15 Analyzed By: ER

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

~~work order # 7060436~~ 7060508

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

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

PAGE: 1 OF: 1

CLIENT NAME: Celero
SITE MANAGER: Gary miller
PROJECT NO.: 2972
PROJECT NAME: Rock Queen ESA, Chaves Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602; MTBE 8020/602; TPH 418.1 8015 MOD. TX1005; PAH 8270; RCRA Metals Ag As Ba Cd Cr Pb Hg Se; TCLP Metals Ag As Ba Cd Cr 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; BOD, TSS, pH, TDS, Chloride; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); Major Ions

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	Major Ions
126448	5-31-07	4:45	W		X	RQU Tract 11 MW-1	1				X		X
449	6-1-07	2:30	W		X	RQU Tract 13 MW-1	1				X		X

RELINQUISHED BY: (Signature) [signature] Date: 6-4-07 Time: 1:57
RECEIVED BY: (Signature) [signature] Date: 6-4-07 Time: 13:57

RELINQUISHED BY: (Signature) [signature] Date: 6-4-07 Time: 17:30
RECEIVED BY: (Signature) [signature] Date: 060507 Time: 930

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Jeremy Jones [signature] Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL # ; HAND DELIVERED UPS OTHER:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX. ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
MATRIX: W-Water (circled) A-Air SD-Solid S-Soil SL-Sludge O-Other
REMARKS: all tests - Lubbock; see attached sheet for analysis

MA 1.5 P2492422 -1°

TRACEANALYSIS, INC.

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 888•588•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

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 9, 2010

Work Order: 10022629

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

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

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

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

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 223824 - MW-1

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

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

Sample: 223824 - MW-1

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

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

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

Sample: 223824 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		**3280**		mg/L	100	0.100

continued ...

sample 223824 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		**737**	mg/L	100	0.100
Dissolved Magnesium		**2240**	mg/L	100	0.100
Dissolved Sodium		**28500**	mg/L	1000	0.100

Sample: 223824 - MW-1

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**60700**	mg/L	5000	0.500

Sample: 223824 - MW-1

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

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

Sample: 223824 - MW-1

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

Parameter	Flag	RL Result	Units	Dilution	RL
pH		**6.24**	s.u.	1	0.00

Sample: 223824 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**1360**		mg/L	50	0.500

Sample: 223824 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**104000**		mg/L	100	10.0

Sample: 223825 - MW-2

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Hydroxide Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**132**		mg/L as CaCo3	1	4.00
Total Alkalinity		**132**		mg/L as CaCo3	1	4.00

Sample: 223825 - MW-2

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

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

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

Sample: 223825 - MW-2

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

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

Sample: 223825 - MW-2

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5670**	mg/L	500	0.500

Sample: 223825 - MW-2

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

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

Sample: 223825 - MW-2

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

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

Sample: 223825 - MW-2

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

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

Sample: 223825 - MW-2

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

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

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**138**	mg/L as CaCo3	1	4.00
Total Alkalinity		**138**	mg/L as CaCo3	1	4.00

Sample: 223826 - MW-3

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

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

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

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**370**	mg/L	10	0.100
Dissolved Potassium		**14.2**	mg/L	1	0.100
Dissolved Magnesium		**88.4**	mg/L	1	0.100
Dissolved Sodium		**1060**	mg/L	10	0.100

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1990**	mg/L	100	0.500

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Hardness (by ICP)		**1290**	mg eq CaCO3/L	1	0.00

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
pH		**8.13**	s.u.	1	0.00

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**120**	mg/L	5	0.500

Sample: 223826 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**3460**	mg/L	5	10.0

Sample: 223827 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**148**	mg/L as CaCo3	1	4.00
Total Alkalinity		**148**	mg/L as CaCo3	1	4.00

Sample: 223827 - MW-4

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

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

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

Sample: 223827 - MW-4

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		**540**		mg/L	10	0.100
Dissolved Potassium		**295**		mg/L	10	0.100
Dissolved Magnesium		**385**		mg/L	10	0.100
Dissolved Sodium		**4670**		mg/L	1000	0.100

Sample: 223827 - MW-4

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**10700**		mg/L	1000	0.500

Sample: 223827 - MW-4

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Hardness (by ICP)		**2930**		mg eq CaCO3/L	1	0.00

Sample: 223827 - MW-4

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

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

Sample: 223827 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	67932	Date Analyzed:	2010-03-02	Analyzed By:	AR
Prep Batch:	58087	Sample Preparation:	2010-03-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**290**	mg/L	5	0.500

Sample: 223827 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**25800**	mg/L	100	10.0

Method Blank (1) QC Batch: 67894

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

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

Method Blank (1) QC Batch: 67911

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

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

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

Method Blank (1) QC Batch: 67931

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

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

Method Blank (1) QC Batch: 67931

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

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

Method Blank (1) QC Batch: 67932

QC Batch: 67932 | Date Analyzed: 2010-03-02 | Analyzed By: AR
Prep Batch: 58087 | QC Preparation: 2010-03-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 67932

QC Batch:	67932	Date Analyzed:	2010-03-02	Analyzed By:	AR
Prep Batch:	58087	QC Preparation:	2010-03-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 67940

QC Batch:	67940	Date Analyzed:	2010-03-02	Analyzed By:	RR
Prep Batch:	58109	QC Preparation:	2010-03-02	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.00216	mg/L	0.1
Dissolved Potassium		<0.00645	mg/L	0.1
Dissolved Magnesium		<0.00594	mg/L	0.1
Dissolved Sodium		<0.00548	mg/L	0.1

Method Blank (1) QC Batch: 68098

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

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

Duplicates (1) Duplicated Sample: 223824

QC Batch:	67873	Date Analyzed:	2010-02-26	Analyzed By:	AG
Prep Batch:	58060	QC Preparation:	2010-02-26	Prepared By:	AG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	6.22	6.24	s.u.	1	0	1.5

Duplicates (1) Duplicated Sample: 223818

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

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	192	194	mg/L as CaCo3	1	1	20
Total Alkalinity	192	194	mg/L as CaCo3	1	1	20

Duplicates (1) Duplicated Sample: 223828

QC Batch: 68098 | Date Analyzed: 2010-03-09 | Analyzed By: AR
Prep Batch: 58103 | QC Preparation: 2010-03-02 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0957	mg/L	1	0.100	<0.000300	96	79.4 - 112.4	1	20
Toluene	0.0954	mg/L	1	0.100	<0.000200	95	79.3 - 110	1	20
Ethylbenzene	0.0952	mg/L	1	0.100	<0.000200	95	73.8 - 113.1	2	20
Xylene	0.287	mg/L	1	0.300	<0.000900	96	73.9 - 113.6	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0954	0.0943	mg/L	1	0.100	95	94	76.2 - 129.6
4-Bromofluorobenzene (4-BFB)	0.112	0.111	mg/L	1	0.100	112	111	77.9 - 119.8

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	27.3	mg/L	1	25.0	<0.475	109	90 - 110

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

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

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.8	mg/L	1	25.0	<0.217	99	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.8	mg/L	1	25.0	<0.217	99	90 - 110	0	

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

Laboratory Control Spike (LCS-1)

QC Batch: 67932 | Date Analyzed: 2010-03-02 | Analyzed By: AR
Prep Batch: 58087 | QC Preparation: 2010-03-01 | Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 67932 | Date Analyzed: 2010-03-02 | Analyzed By: AR
Prep Batch: 58087 | QC Preparation: 2010-03-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	23.2	mg/L	1	25.0	<0.217	93	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	23.1	mg/L	1	25.0	<0.217	92	90 - 110	0	

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

Laboratory Control Spike (LCS-1)

QC Batch: 67940 | Date Analyzed: 2010-03-02 | Analyzed By: RR
Prep Batch: 58109 | QC Preparation: 2010-03-02 | Prepared By: KV

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	51.0	mg/L	1	50.0	<0.00216	102	85 - 115	4	20
Dissolved Potassium	49.7	mg/L	1	50.0	<0.00645	99	85 - 115	4	20
Dissolved Magnesium	51.5	mg/L	1	50.0	<0.00594	103	85 - 115	5	20
Dissolved Sodium	49.0	mg/L	1	50.0	<0.00548	98	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 68098 | Date Analyzed: 2010-03-09 | Analyzed By: AR
Prep Batch: 58103 | QC Preparation: 2010-03-02 | Prepared By: AR

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control spikes continued ...

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	1020	mg/L	1	1000	<9.75	102	90 - 110	0	10

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

Matrix Spike (MS-1) Spiked Sample: 223853

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

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	10.9	mg/L	50	5.00	5.9567	99	77.3 - 117.4
Toluene	6.30	mg/L	50	5.00	1.5038	96	75 - 111.8
Ethylbenzene	5.23	mg/L	50	5.00	0.5072	94	78.8 - 106.6
Xylene	14.6	mg/L	50	15.0	0.6358	93	68.9 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	10.6	mg/L	50	5.00	5.9567	93	77.3 - 117.4	3	20
Toluene	5.98	mg/L	50	5.00	1.5038	90	75 - 111.8	5	20
Ethylbenzene	4.79	mg/L	50	5.00	0.5072	86	78.8 - 106.6	9	20
Xylene	13.5	mg/L	50	15.0	0.6358	86	68.9 - 114	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	4.41	4.27	mg/L	50	5	88	85	76.3 - 129.8
4-Bromofluorobenzene (4-BFB)	5.17	4.98	mg/L	50	5	103	100	75.2 - 112.8

Matrix Spike (MS-1) Spiked Sample: 223826

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[1]	2350	mg/L	5	138	<2.38	1709	90 - 110

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	[2]	2350	mg/L	5	138	<2.38	1709	90 - 110	0	

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

Matrix Spike (MS-1) Spiked Sample: 223826

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

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

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	[4]	213	mg/L	5	138	120	68	90 - 110	5	

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

Matrix Spike (MS-1) Spiked Sample: 223829

QC Batch: 67932 | Date Analyzed: 2010-03-02 | Analyzed By: AR
Prep Batch: 58087 | QC Preparation: 2010-03-01 | Prepared By: AR

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[5]	27200	mg/L	50	1380	24013	232	90 - 110

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	[6]	27300	mg/L	50	1380	24013	239	90 - 110	0	

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

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

Matrix Spike (MS-1) Spiked Sample: 223829

QC Batch: 67932 | Date Analyzed: 2010-03-02 | Analyzed By: AR
Prep Batch: 58087 | QC Preparation: 2010-03-01 | Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate [8]	1590	mg/L	50	1380	463	82	90 - 110	6	

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

Matrix Spike (MS-1) Spiked Sample: 223817

QC Batch: 67940 | Date Analyzed: 2010-03-02 | Analyzed By: RR
Prep Batch: 58109 | QC Preparation: 2010-03-02 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	366	mg/L	1	50.0	306	120	75 - 125
Dissolved Potassium	72.6	mg/L	1	50.0	20.6	104	75 - 125
Dissolved Magnesium	117	mg/L	1	50.0	71	92	75 - 125
Dissolved Sodium	485	mg/L	1	50.0	439	92	75 - 125

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

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

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

Standard (ICV-1)

QC Batch: 67873 | Date Analyzed: 2010-02-26 | Analyzed By: AG

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

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	6.99	100	98 - 102	2010-02-26

Standard (CCV-1)

QC Batch: 67873 Date Analyzed: 2010-02-26 Analyzed By: AG

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

Standard (ICV-1)

QC Batch: 67894 Date Analyzed: 2010-03-01 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	17.0		0 - 200	2010-03-01
Carbonate Alkalinity		mg/L as CaCo3	0.00	244		0 - 200	2010-03-01
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2010-03-01
Total Alkalinity		mg/L as CaCo3	250	261	104	90 - 110	2010-03-01

Standard (CCV-1)

QC Batch: 67894 Date Analyzed: 2010-03-01 Analyzed By: AR

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

Standard (CCV-2)

QC Batch: 67911 Date Analyzed: 2010-03-01 Analyzed By: AG

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

Standard (CCV-3)

QC Batch: 67911 Date Analyzed: 2010-03-01 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0957	96	80 - 120	2010-03-01
Toluene		mg/L	0.100	0.0944	94	80 - 120	2010-03-01
Ethylbenzene		mg/L	0.100	0.0932	93	80 - 120	2010-03-01
Xylene		mg/L	0.300	0.281	94	80 - 120	2010-03-01

Standard (ICV-1)

QC Batch: 67931 Date Analyzed: 2010-03-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.8	95	90 - 110	2010-03-02

Standard (ICV-1)

QC Batch: 67931 Date Analyzed: 2010-03-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-03-02

Standard (CCV-1)

QC Batch: 67931 Date Analyzed: 2010-03-02 Analyzed By: AR

Order #: 10022629

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: Celero Energy
SITE MANAGER: Jeff Kindley
PROJECT NO.: 115-640 3131 A
PROJECT NAME: Celero Energy / Rock Queen #11 Chaves Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 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 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 (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
223824	2/25	1705	W		X	MW-1	4	N	3		X	1	X															X
825		1715				MW-2																						
826		1708				MW-3																						
827		1725				MW-4																						

RELINQUISHED BY: (Signature) Date: 2/26/10 Time: 1500
RECEIVED BY: (Signature) Date: 2/26/10 Time: 15:00
SAMPLED BY: (Print & Initial) JT / TH Date: 2/25/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS
HAND DELIVERED UPS
AIRBILL #:
OTHER:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Jeff Kindley

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2.6°c Intact

REMARKS: Midland-Anions, TDS, pH, BTEX Lubbock-Cations, hardness

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

Order #. 100226629

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
Celero Energy	Jeff Kindley

PROJECT NO.:	PROJECT NAME:
115-640 3131 A	Celero Energy / Rock Queen #11 Chaves Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 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 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 (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
223824	2/25	1705	W		X	MW-1	4	N	3		X		X															X
825		1715				MW-2																						
826		1706				MW-3																						
827		1725				MW-4																						

RELINQUISHED BY: (Signature)	Date: 2/26/10 Time: 1500	RECEIVED BY: (Signature)	Date: 2/26/10 Time: 3:00
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: 2/27/10 Time: 10:10
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT / TH — Date: 2/25/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

TETRA TECH CONTACT PERSON: Jeff Kindley

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Texas
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 2.6°C intact

REMARKS: Midland-Anions, TDS, pH, BTEX Lubbock-Cations, hardness

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

Long Star Tl n2n14c 5.2°C.

TRACEANALYSIS, INC.

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 888•588•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

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: August 5, 2010

Work Order: 10071416

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

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

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

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

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 237463 - MW-1

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

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

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

Sample: 237463 - MW-1

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**12300**	mg/L	1000	2.50

Sample: 237463 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

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

Sample: 237463 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**11600**		mg/L	100	10.0

Sample: 237464 - MW-2

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0927	mg/L	1	0.100	93	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0752	mg/L	1	0.100	75	51.1 - 128

Sample: 237464 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**16400**		mg/L	1000	2.50

Sample: 237464 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**355**		mg/L	100	2.50

Sample: 237464 - MW-2

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**31700**		mg/L	100	10.0

Sample: 237465 - MW-3

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

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

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

Sample: 237465 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

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

Sample: 237465 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**52.8**		mg/L	5	2.50

Sample: 237465 - MW-3

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**4190**		mg/L	10	10.0

Sample: 237466 - MW-4

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

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

continued ...

sample 237466 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0995	mg/L	1	0.100	100	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0786	mg/L	1	0.100	79	51.1 - 128

Sample: 237466 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**857**	mg/L	100	2.50

Sample: 237466 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71930	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61483	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**47.4**	mg/L	5	2.50

Sample: 237466 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**1610**	mg/L	10	10.0

Method Blank (1) QC Batch: 71724

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0973	mg/L	1	0.100	97	70.2 - 118
4-Bromofluorobenzene (4-BFB)		0.0848	mg/L	1	0.100	85	47.3 - 116

Method Blank (1) QC Batch: 71930

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

Parameter	Flag	MDL Result	Units	RL
Chloride		0.425	mg/L	2.5

Method Blank (1) QC Batch: 71930

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

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

Method Blank (1) QC Batch: 72039

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

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

Method Blank (1) QC Batch: 72386

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

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

Duplicates (2) Duplicated Sample: 237468

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

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.101	mg/L	1	0.100	<0.000600	101	82.9 - 108	1	20
Toluene	0.101	mg/L	1	0.100	<0.000600	101	82.7 - 107	2	20
Ethylbenzene	0.0967	mg/L	1	0.100	<0.000800	97	78.8 - 106	2	20
Xylene	0.292	mg/L	1	0.300	<0.000767	97	79.3 - 106	2	20

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

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	25.8	mg/L	1	25.0	<0.265	103	90 - 110

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

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

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

Laboratory Control Spike (LCS-1)

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

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

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

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

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

Laboratory Control Spike (LCS-2)

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

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

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

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

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.9	mg/L	1	25.0	<0.0402	96	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	24.3	mg/L	1	25.0	<0.0402	97	90 - 110	2	20

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

Matrix Spike (MS-1) Spiked Sample: 237430

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

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

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		0.0908	mg/L	1	0.100	0.0031	88	77.9 - 114	10	20
Toluene	[3]	0.0719	mg/L	1	0.100	<0.000600	72	78.3 - 111	11	20
Ethylbenzene	[4]	0.0623	mg/L	1	0.100	<0.000800	62	75.3 - 110	11	20
Xylene	[5]	0.189	mg/L	1	0.300	<0.000767	63	75.7 - 109	11	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[6] [7]	0.0434	0.0551	mg/L	1	0.1	43	55	68.3 - 107

continued ...

[1] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[2] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[3] MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[4] MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[5] MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[6] Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.
[7] Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

matrix spikes continued ...

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	[8] [9]	0.0418	0.0525	mg/L	1	0.1	42	52	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 237466

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

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 237466

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	[10]	1150	mg/L	50	1380	51.6	80	90 - 110

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	[11]	1180	mg/L	50	1380	51.6	82	90 - 110	3	20

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

Matrix Spike (MS-1) Spiked Sample: 237710

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

[8] Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.
[9] Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.
[10] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[11] MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	3470	mg/L	100	2500	1140	93	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	3440	mg/L	100	2500	1140	92	90 - 110	1	20

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

Standard (CCV-1)

QC Batch: 71724 Date Analyzed: 2010-07-14 Analyzed By: AG

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

Standard (CCV-2)

QC Batch: 71724 Date Analyzed: 2010-07-14 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0999	100	80 - 120	2010-07-14
Toluene		mg/L	0.100	0.100	100	80 - 120	2010-07-14
Ethylbenzene		mg/L	0.100	0.0966	97	80 - 120	2010-07-14
Xylene		mg/L	0.300	0.292	97	80 - 120	2010-07-14

Standard (CCV-3)

QC Batch: 71724 Date Analyzed: 2010-07-14 Analyzed By: AG

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

Standard (ICV-1)

QC Batch: 71930 | Date Analyzed: 2010-07-16 | Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 71930 | Date Analyzed: 2010-07-16 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	26.4	106	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71930 | Date Analyzed: 2010-07-16 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	25.1	100	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71930 | Date Analyzed: 2010-07-16 | Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 72386 | Date Analyzed: 2010-08-05 | Analyzed By: SS

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

Standard (CCV-2)

QC Batch: 72386 | Date Analyzed: 2010-08-05 | Analyzed By: SS

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

Order #: 100744116

Analysis Request of Chain of Custody Record

PAGE: / OF:

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 NO.: 115-6403131

PROJECT NAME: Celero / Rock Queen #11 Chaves Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 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 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 (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	Sulfate
239463	7/13	1530	W		X	MW-1	4	N	X		X		X											X				X	X
464		~~1530~~ 1546				MW-2																							
465		~~1520~~ 1520				MW-3																							
466		1510				MW-4																							

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) — Date: 7/14/2010 Time:
RECEIVED BY: (Signature) — Date: 7/14/10 Time: 9:25
SAMPLED BY: (Print & Initial) JT / GP — Date: 7/13/10 Time:

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Jeff Kindley
Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.9°c intact

REMARKS: All tests Midland

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

TRACEANALYSIS, INC.

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 888•588•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

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: November 10, 2010

Work Order: 10101410

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

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

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

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

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 247518 - MW-1

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

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

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

Sample: 247518 - MW-1

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

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

Sample: 247518 - MW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	75231	Date Analyzed:	2010-11-09	Analyzed By:	PG
Prep Batch:	64531	Sample Preparation:	2010-11-09	Prepared By:	PG

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

Sample: 247518 - MW-1

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

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

Sample: 247519 - MW-2

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

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

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

Sample: 247519 - MW-2

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

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

Sample: 247519 - MW-2

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	75231	Date Analyzed:	2010-11-09	Analyzed By:	PG
Prep Batch:	64531	Sample Preparation:	2010-11-09	Prepared By:	PG

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

Sample: 247519 - MW-2

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

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

Sample: 247520 - MW-3

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0968	mg/L	1	0.100	97	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0811	mg/L	1	0.100	81	39 - 138

Sample: 247520 - MW-3

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2700**		mg/L	100	2.50

Sample: 247520 - MW-3

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**73.6**		mg/L	5	2.50

Sample: 247520 - MW-3

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**6290**		mg/L	10	10.0

Sample: 247521 - MW-4

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

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

continued ...

sample 247521 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0916	mg/L	1	0.100	92	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0803	mg/L	1	0.100	80	39 - 138

Sample: 247521 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7140**	mg/L	500	2.50

Sample: 247521 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**176**	mg/L	5	2.50

Sample: 247521 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**14500**	mg/L	100	10.0

Method Blank (1) QC Batch: 74557

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

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000400	mg/L	0.001
Toluene		<0.000800	mg/L	0.001
Ethylbenzene		<0.000400	mg/L	0.001
Xylene		<0.000400	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0893	mg/L	1	0.100	89	61.8 - 106
4-Bromofluorobenzene (4-BFB)		0.0784	mg/L	1	0.100	78	48.5 - 129

Method Blank (1) QC Batch: 74622

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

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		11.0	mg/L	10

Method Blank (1) QC Batch: 75072

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

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

Method Blank (1) QC Batch: 75136

QC Batch:	75136	Date Analyzed:	2010-11-04	Analyzed By:	PG
Prep Batch:	64442	QC Preparation:	2010-11-04	Prepared By:	PG

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.596	mg/L	2.5

Method Blank (1) QC Batch: 75231

QC Batch: 75231 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64531 | QC Preparation: 2010-11-09 | Prepared By: PG

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.596	mg/L	2.5

Duplicates (2) Duplicated Sample: 247533

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

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	46600	11700	mg/L	100	4	10
Total Dissolved Solids	46600	48400	mg/L	100	4	10

Laboratory Control Spike (LCS-1)

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

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

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

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

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

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

Laboratory Control Spike (LCS-2)

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 75072 | Date Analyzed: 2010-11-03 | Analyzed By: PG
Prep Batch: 64403 | QC Preparation: 2010-11-03 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	24.4	mg/L	1	25.0	<0.0350	98	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.8	mg/L	1	25.0	<0.0350	95	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 75136 | Date Analyzed: 2010-11-04 | Analyzed By: PG
Prep Batch: 64442 | QC Preparation: 2010-11-04 | Prepared By: PG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.6	mg/L	1	25.0	<0.596	98	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: 75231 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64531 | QC Preparation: 2010-11-09 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.0	mg/L	1	25.0	<0.596	96	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	23.9	mg/L	1	25.0	<0.596	96	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 247532

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

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

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[1]	0.0817	mg/L	1	0.100	0.0048	77	60.9 - 132	27	20
Toluene	[2]	0.0712	mg/L	1	0.100	<0.000800	71	65.7 - 129	26	20
Ethylbenzene	[3]	0.0645	mg/L	1	0.100	<0.000400	64	51.5 - 134	31	20
Xylene		0.283	mg/L	1	0.300	<0.000400	94	62.6 - 124	16	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[4] [5]	0.317	0.331	mg/L	1	0.1	317	331	75.1 - 117
4-Bromofluorobenzene (4-BFB)		0.0577	0.0585	mg/L	1	0.1	58	58	31.3 - 143

[1] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
[2] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
[3] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
[4] High surrogate recovery due to peak interference.
[5] High surrogate recovery due to peak interference.

Matrix Spike (MS-1) Spiked Sample: 248210

QC Batch: 75072 | Date Analyzed: 2010-11-03 | Analyzed By: PG
Prep Batch: 64403 | QC Preparation: 2010-11-03 | Prepared By: PG

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	1300	mg/L	50	1250	<1.75	104	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 248463

QC Batch: 75136 | Date Analyzed: 2010-11-04 | Analyzed By: PG
Prep Batch: 64442 | QC Preparation: 2010-11-04 | Prepared By: PG

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate [7]	1470	mg/L	50	1250	<29.8	118	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 249831

QC Batch: 75231 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64531 | QC Preparation: 2010-11-09 | Prepared By: PG

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

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

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

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

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

Standard (CCV-2)

QC Batch: 74557 Date Analyzed: 2010-10-14 Analyzed By: AG

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

Standard (CCV-3)

QC Batch: 74557 Date Analyzed: 2010-10-14 Analyzed By: AG

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

Standard (CCV-1)

QC Batch: 75072 Date Analyzed: 2010-11-03 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	25.0	100	90 - 110	2010-11-03

Standard (CCV-2)

QC Batch: 75072 Date Analyzed: 2010-11-03 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	24.7	99	90 - 110	2010-11-03

Standard (CCV-1)

QC Batch: 75136 Date Analyzed: 2010-11-04 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.8	99	90 - 110	2010-11-04

Standard (CCV-2)

QC Batch: 75136 Date Analyzed: 2010-11-04 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-11-04

Standard (CCV-1)

QC Batch: 75231 Date Analyzed: 2010-11-09 Analyzed By: PG

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

Standard (CCV-2)

QC Batch: 75231 Date Analyzed: 2010-11-09 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2010-11-09

WO#: 1010160

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: Celero

SITE MANAGER: Jeff Kindley

PROJECT NO.: 115 6403131

PROJECT NAME: Celero / Rock Queen #11
Chaves Co. NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B (circled)	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 (circled)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS (TDS circled)	[illegible]
249518	10/13	1050	W		X	MW-1	4	N	3		X	1	X												X				X	X
519	↓	1040	↓		↓	MW-2	↓	↓	↓		↓	↓	↓												↓				↓	↓
520	↓	1100	↓		↓	MW-3	↓	↓	↓		↓	↓	↓												↓				↓	↓
521	↓	1030	↓		↓	MW-11	↓	↓	↓		↓	↓	↓												↓				↓	↓

RELINQUISHED BY: (Signature)	Date / Time	RECEIVED BY: (Signature)	Date / Time
[signature]	Date: 10/13/10 Time: [illegible]	[signature]	Date: 10/13/10 Time: 16:45
[signature]	Date: Time:	Carol Fox	Date: 10-15-10 Time: 9:50 am
	Date: Time:		Date: Time:

SAMPLED BY: (Print & Initial) JF/JJS Date: 10/13/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS ~~HAND DELIVERED~~ (circled) UPS AIRBILL #: OTHER:

TETRA TECH CONTACT PERSON: Jeff Kindley

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 3.5°C intact / 3.1/3.0 IR

REMARKS: Midland - BTEX TDS Lubbock - Cl SO4

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

LS2K566164

TRACEANALYSIS, INC.

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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: February 7, 2011

Work Order: 11012132

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

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

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

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

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

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

Standard Flags

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

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

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

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

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

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

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

Analytical Report

Sample: 255912 - MW-1

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.111	mg/L	1	0.100	111	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	51.1 - 128

Sample: 255912 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**122000**		mg/L	10000	2.50

Sample: 255912 - MW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

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

Sample: 255912 - MW-1

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

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**210000**	mg/L	100	10.0

Sample: 255913 - MW-2

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

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

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

Sample: 255913 - MW-2

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

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**118000**	mg/L	10000	2.50

Sample: 255913 - MW-2

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

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

Sample: 255913 - MW-2

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

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

Sample: 255914 - MW-3

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.109	mg/L	1	0.100	109	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0986	mg/L	1	0.100	99	51.1 - 128

Sample: 255914 - MW-3

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

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**50100**	mg/L	10000	2.50

Sample: 255914 - MW-3

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Sulfate		**1170**	mg/L	100	2.50

Sample: 255914 - MW-3

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

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**103000**	mg/L	100	10.0

Sample: 255915 - MW-4

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

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

continued ...

sample 255915 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.114	mg/L	1	0.100	114	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.102	mg/L	1	0.100	102	51.1 - 128

Sample: 255915 - MW-4

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**109000**		mg/L	10000	2.50

Sample: 255915 - MW-4

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

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

Sample: 255915 - MW-4

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

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

Sample: 255916 - MW-5

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.107	mg/L	1	0.100	107	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0986	mg/L	1	0.100	99	51.1 - 128

Sample: 255916 - MW-5

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**56300**	mg/L	10000	2.50

Sample: 255916 - MW-5

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**939**	mg/L	100	2.50

Sample: 255916 - MW-5

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**109000**	mg/L	100	10.0

Sample: 255917 - MW-6

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

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

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

Sample: 255917 - MW-6

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**25800**	mg/L	10000	2.50

Sample: 255917 - MW-6

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

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

Sample: 255917 - MW-6

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

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

Sample: 255918 - MW-7

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

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

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

Sample: 255918 - MW-7

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**994**	mg/L	100	2.50

Sample: 255918 - MW-7

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77371	Date Analyzed:	2011-02-02	Analyzed By:	PG
Prep Batch:	66370	Sample Preparation:	2011-02-02	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**77.0**	mg/L	5	2.50

Sample: 255918 - MW-7

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**2110**	mg/L	5	10.0

Method Blank (1) QC Batch: 77124

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

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

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Xylene		<0.000767	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.115	mg/L	1	0.100	115	70.2 - 118
4-Bromofluorobenzene (4-BFB)		0.111	mg/L	1	0.100	111	47.3 - 116

Method Blank (1) QC Batch: 77255

QC Batch: 77255 | Date Analyzed: 2011-01-31 | Analyzed By: AR
Prep Batch: 66142 | QC Preparation: 2011-01-24 | Prepared By: AR

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

Method Blank (1) QC Batch: 77369

QC Batch: 77369 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66366 | QC Preparation: 2011-02-01 | Prepared By: PG

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

Method Blank (1) QC Batch: 77370

QC Batch: 77370 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66367 | QC Preparation: 2011-02-01 | Prepared By: PG

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

Method Blank (1) QC Batch: 77371

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

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

Method Blank (1) QC Batch: 77371

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

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

Method Blank (1) QC Batch: 77426

QC Batch: 77426 | Date Analyzed: 2011-02-06 | Analyzed By: PG
Prep Batch: 66413 | QC Preparation: 2011-02-06 | Prepared By: PG

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

Duplicates (1) Duplicated Sample: 255921

QC Batch: 77255 | Date Analyzed: 2011-01-31 | Analyzed By: AR
Prep Batch: 66142 | QC Preparation: 2011-01-24 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

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

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

continued ...

control spikes continued ...

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.0906	mg/L	1	0.100	<0.000600	91	82.9 - 118	2	20
Toluene	0.102	mg/L	1	0.100	<0.000600	102	82.7 - 117	3	20
Ethylbenzene	0.106	mg/L	1	0.100	<0.000800	106	78.8 - 116	4	20
Xylene	0.320	mg/L	1	0.300	<0.000767	107	79.3 - 116	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.110	0.111	mg/L	1	0.100	110	111	67.3 - 113
4-Bromofluorobenzene (4-BFB)	0.110	0.113	mg/L	1	0.100	110	113	68.2 - 134

Laboratory Control Spike (LCS-1)

QC Batch: 77255 | Date Analyzed: 2011-01-31 | Analyzed By: AR
Prep Batch: 66142 | QC Preparation: 2011-01-24 | Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	1020	mg/L	1	1000	<9.75	102	90 - 110	0	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 77369 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66366 | QC Preparation: 2011-02-01 | Prepared By: PG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	24.1	mg/L	1	25.0	<0.0142	96	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77370 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66367 | QC Preparation: 2011-02-01 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.5	mg/L	1	25.0	<0.0142	94	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.6	mg/L	1	25.0	<0.0142	94	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	24.1	mg/L	1	25.0	<0.0142	96	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	24.1	mg/L	1	25.0	<0.0142	96	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

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

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.5	mg/L	1	25.0	<0.126	98	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.7	mg/L	1	25.0	<0.126	99	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77426 | Date Analyzed: 2011-02-06 | Analyzed By: PG
Prep Batch: 66413 | QC Preparation: 2011-02-06 | Prepared By: PG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.7	mg/L	1	25.0	<0.126	99	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 255921

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

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

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

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[5]	0.0811	mg/L	1	0.100	0.0121	69	77.9 - 114	19	20
Toluene	[6]	0.0774	mg/L	1	0.100	0.0066	71	78.3 - 111	20	20
Ethylbenzene	[7]	0.0693	mg/L	1	0.100	<0.000800	69	75.3 - 110	19	20
Xylene	[8]	0.180	mg/L	1	0.300	<0.000767	60	75.7 - 109	22	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[9]	0.0705	0.0437	mg/L	1	0.1	70	44	68.3 - 107
4-Bromofluorobenzene (4-BFB)	[10]	0.0736	0.0449	mg/L	1	0.1	74	45	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 255915

QC Batch: 77369 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66366 | QC Preparation: 2011-02-01 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	369000	mg/L	10000	250000	109000	104	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	370000	mg/L	10000	250000	109000	104	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 255918

QC Batch: 77370 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66367 | QC Preparation: 2011-02-01 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	3610	mg/L	100	2500	994	105	90 - 110

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	3620	mg/L	100	2500	994	105	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 255921

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	341000	mg/L	10000	250000	81200	104	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 255921

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	244000	mg/L	10000	250000	<1260	98	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 255931

QC Batch: 77426 | Date Analyzed: 2011-02-06 | Analyzed By: PG
Prep Batch: 66413 | QC Preparation: 2011-02-06 | Prepared By: PG

continued ...

matrix spikes continued ...

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

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

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

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

Standard (CCV-2)

QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0858	86	80 - 120	2011-01-24
Toluene		mg/L	0.100	0.0989	99	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.103	103	80 - 120	2011-01-24
Xylene		mg/L	0.300	0.308	103	80 - 120	2011-01-24

Standard (CCV-3)

QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0820	82	80 - 120	2011-01-24
Toluene		mg/L	0.100	0.0952	95	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.0976	98	80 - 120	2011-01-24
Xylene		mg/L	0.300	0.294	98	80 - 120	2011-01-24

Standard (CCV-1)

QC Batch: 77369 Date Analyzed: 2011-02-01 Analyzed By: PG

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

Standard (CCV-2)

QC Batch: 77369 Date Analyzed: 2011-02-01 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.5	94	90 - 110	2011-02-01

Standard (CCV-1)

QC Batch: 77370 Date Analyzed: 2011-02-01 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.5	94	90 - 110	2011-02-01

Standard (CCV-2)

QC Batch: 77370 Date Analyzed: 2011-02-01 Analyzed By: PG

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

Standard (CCV-1)

QC Batch: 77371 Date Analyzed: 2011-02-02 Analyzed By: PG

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

Standard (CCV-1)

QC Batch: 77371 Date Analyzed: 2011-02-02 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	25.0	100	90 - 110	2011-02-02

Standard (CCV-2)

QC Batch: 77371 Date Analyzed: 2011-02-02 Analyzed By: PG

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

Standard (CCV-2)

QC Batch: 77371 Date Analyzed: 2011-02-02 Analyzed By: PG

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

Standard (CCV-1)

QC Batch: 77426 Date Analyzed: 2011-02-06 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	25.2	101	90 - 110	2011-02-06

Standard (CCV-2)

QC Batch: 77426 Date Analyzed: 2011-02-06 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.7	99	90 - 110	2011-02-06

&WO #: 11012132

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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 NO.: 115-6403131
PROJECT NAME: Celero / Rock Queen Tract #11 Chaves Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 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 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 (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	SO4
255912	1/20	1735	W		X	MW-1	4	N	X		X	X	X												X				X	X
913	↓	1740	↓		↓	MW-2	↓	↓	↓		↓	↓	↓												↓				↓	↓
914	↓	1720	↓		↓	MW-3	↓	↓	↓		↓	↓	↓												↓				↓	↓
915	↓	1700	↓		↓	MW-4	↓	↓	↓		↓	↓	↓												↓				↓	↓
916	↓	1750	↓		↓	MW-5	↓	↓	↓		↓	↓	↓												↓				↓	↓
917	↓	1728	↓		↓	MW-6	↓	↓	↓		↓	↓	↓												↓				↓	↓
918	↓	1710	↓		↓	MW-7	↓	↓	↓		↓	↓	↓												↓				↓	↓

RELINQUISHED BY: (Signature) [signature] Date: 1/21/11 Time: 1515
RECEIVED BY: (Signature) [signature] Date: 1/21/11 Time: 15:15
SAMPLED BY: (Print & Initial) JJ/TF Date: 1/20/11 Time:

RELINQUISHED BY: (Signature) [signature] Date: 1/24/11 Time: 16:30
RECEIVED BY: (Signature) [signature] Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Jeff Kindley
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Brenda Ward LSIK 951497
DATE: 1/25/11 TIME: 10:10 Temp: IR 3.9/3.8°c

SAMPLE CONDITION WHEN RECEIVED: 12.3°c intact
REMARKS: &Midland - BTEX & TDS &Lubbock - Chlorides, SO4

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

TRACEANALYSIS, INC.

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 888•588•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

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 15, 2011

Work Order: 11022538

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

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

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

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

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

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

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

Standard Flags

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

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 258863 - MW-1

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**109000**		mg/L	10000	2.50

Sample: 258863 - MW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**2150**		mg/L	100	2.50

Sample: 258863 - MW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**193000**		mg/L	50	10.0

Sample: 258864 - MW-2

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

continued ...

sample 258864 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**67600**	mg/L	10000	2.50

Sample: 258864 - MW-2

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**1500**	mg/L	100	2.50

Sample: 258864 - MW-2

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**146000**	mg/L	100	10.0

Sample: 258865 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5190**	mg/L	500	2.50

Sample: 258865 - MW-3

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**115**		mg/L	5	2.50

Sample: 258865 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**10100**		mg/L	20	10.0

Sample: 258866 - MW-4

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**7210**		mg/L	1000	2.50

Sample: 258866 - MW-4

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**182**		mg/L	10	2.50

Sample: 258866 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**14100**	mg/L	20	10.0

Sample: 258867 - MW-5

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

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**49900**	mg/L	10000	2.50

Sample: 258867 - MW-5

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Sulfate		**764**	mg/L	100	2.50

Sample: 258867 - MW-5

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**93000**	mg/L	100	10.0

Sample: 258868 - MW-6

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995	Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903	Sample Preparation:	2011-02-28	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**26600**	mg/L	5000	2.50

Sample: 258868 - MW-6

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**422**	mg/L	50	2.50

Sample: 258868 - MW-6

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

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

Sample: 258869 - MW-7

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995	Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903	Sample Preparation:	2011-02-28	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1230**	mg/L	100	2.50

Sample: 258869 - MW-7

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79353	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67326	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**79.4**		mg/L	5	2.50

Sample: 258869 - MW-7

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**2580**		mg/L	5	10.0

Sample: 258870 - RW-1

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77995	Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903	Sample Preparation:	2011-02-28	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**94000**		mg/L	10000	2.50

Sample: 258870 - RW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	79356	Date Analyzed:	2011-03-07	Analyzed By:	PG
Prep Batch:	67327	Sample Preparation:	2011-03-07	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**1690**		mg/L	100	2.50

Sample: 258870 - RW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	Sample Preparation:	2011-02-28	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**174000**	mg/L	100	10.0

Method Blank (1) QC Batch: 77994

QC Batch:	77994	Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66902	QC Preparation:	2011-02-28	Prepared By:	PG

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

Method Blank (1) QC Batch: 77995

QC Batch:	77995	Date Analyzed:	2011-02-28	Analyzed By:	PG
Prep Batch:	66903	QC Preparation:	2011-02-28	Prepared By:	PG

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

Method Blank (1) QC Batch: 79232

QC Batch:	79232	Date Analyzed:	2011-03-11	Analyzed By:	AR
Prep Batch:	67216	QC Preparation:	2011-02-28	Prepared By:	AR

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

Method Blank (1) QC Batch: 79353

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

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

Method Blank (1) QC Batch: 79356

QC Batch: 79356 | Date Analyzed: 2011-03-07 | Analyzed By: PG
Prep Batch: 67327 | QC Preparation: 2011-03-07 | Prepared By: PG

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

Duplicates (1) Duplicated Sample: 258870

QC Batch: 79232 | Date Analyzed: 2011-03-11 | Analyzed By: AR
Prep Batch: 67216 | QC Preparation: 2011-02-28 | Prepared By: AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	182000	174000	mg/L	100	5	10

Laboratory Control Spike (LCS-1)

QC Batch: 77994 | Date Analyzed: 2011-02-28 | Analyzed By: PG
Prep Batch: 66902 | QC Preparation: 2011-02-28 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.3	mg/L	1	25.0	<0.0142	93	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.4	mg/L	1	25.0	<0.0142	94	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77995 | Date Analyzed: 2011-02-28 | Analyzed By: PG
Prep Batch: 66903 | QC Preparation: 2011-02-28 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23.4	mg/L	1	25.0	<0.0142	94	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.2	mg/L	1	25.0	<0.0142	93	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 79232 | Date Analyzed: 2011-03-11 | Analyzed By: AR
Prep Batch: 67216 | QC Preparation: 2011-02-28 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids	961	mg/L	1	1000	<9.75	96	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	977	mg/L	1	1000	<9.75	98	90 - 110	2	10

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.3	mg/L	1	25.0	<0.126	97	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.6	mg/L	1	25.0	<0.126	98	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 79356 | Date Analyzed: 2011-03-07 | Analyzed By: PG
Prep Batch: 67327 | QC Preparation: 2011-03-07 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.2	mg/L	1	25.0	<0.126	97	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	24.3	mg/L	1	25.0	<0.126	97	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 258867

QC Batch: 77994 | Date Analyzed: 2011-02-28 | Analyzed By: PG
Prep Batch: 66902 | QC Preparation: 2011-02-28 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	292000	mg/L	10000	250000	49900	97	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	293000	mg/L	10000	250000	49900	97	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 258874

QC Batch: 77995 | Date Analyzed: 2011-02-28 | Analyzed By: PG
Prep Batch: 66903 | QC Preparation: 2011-02-28 | Prepared By: PG

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 258869

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

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	210	mg/L	5	125	79.4	104	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	209	mg/L	5	125	79.4	104	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 259706

QC Batch: 79356 | Date Analyzed: 2011-03-07 | Analyzed By: PG
Prep Batch: 67327 | QC Preparation: 2011-03-07 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	217	mg/L	5	125	88.3	103	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	218	mg/L	5	125	88.3	104	90 - 110	0	20

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

Standard (CCV-1)

QC Batch: 77994 | Date Analyzed: 2011-02-28 | Analyzed By: PG

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

Standard (CCV-2)

QC Batch: 77994 | Date Analyzed: 2011-02-28 | Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.4	94	90 - 110	2011-02-28

Standard (CCV-1)

QC Batch: 77995 Date Analyzed: 2011-02-28 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.4	94	90 - 110	2011-02-28

Standard (CCV-2)

QC Batch: 77995 Date Analyzed: 2011-02-28 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	25.0	23.3	93	90 - 110	2011-02-28

Standard (CCV-1)

QC Batch: 79353 Date Analyzed: 2011-03-07 Analyzed By: PG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.6	98	90 - 110	2011-03-07

Standard (CCV-2)

QC Batch: 79353 Date Analyzed: 2011-03-07 Analyzed By: PG

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

Standard (CCV-1)

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

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

Standard (CCV-2)

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

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.3	97	90 - 110	2011-03-07

*WO #: 11022538

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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 NO.: 115-6403131
PROJECT NAME: Rock Queen Unit Tract #11 Chavez Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE
258863	2/25	1047	W		X	MW-1	1				X	
864		1036				MW-2	↓				↓	
865		1012				MW-3	↓				↓	
866		1042				MW-4	↓				↓	
867		1030				MW-5	↓				↓	
868		1021				MW-6	↓				↓	
869		1000				MW-7	↓				↓	
870		1059				RW-1	↓				↓	

LAB I.D. NUMBER	BTEX 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 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 (circled)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS (circled)	Sulfates
258863													X				X	X
864													↓				↓	↓
865													↓				↓	↓
866													↓				↓	↓
867													↓				↓	↓
868													↓				↓	↓
869													↓				↓	↓
870													↓				↓	↓

RELINQUISHED BY: (Signature) [signature] Date: 2-25-11 Time: 14:50
RECEIVED BY: (Signature) [signature] Date: 2/25/11 Time: 14:50
RELINQUISHED BY: (Signature) [signature] Date: 2/25/11 Time: 16:30
RECEIVED BY: (Signature) Date: Time:
RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) TF Date: 2-25-11 Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED (circled) UPS AIRBILL #: OTHER:
TETRA TECH CONTACT PERSON: Jeff Kindley
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature] 2.4°C
DATE: 2-26-11 TIME: 11:30

SAMPLE CONDITION WHEN RECEIVED: 3.9°C intact
REMARKS: *Midland - TDS *Lubbock - Chlorides, Sulfates

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

Lancaster 27182661

TRACEANALYSIS, INC.

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 888•588•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: April 27, 2011

Work Order: 11041524

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

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

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

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

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

Report Contents

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 263884 - MW-1

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

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

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

Sample: 263884 - MW-1

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride		1	**57400**	mg/L	5000	2.50

Sample: 263884 - MW-1

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**1620**	mg/L	50	2.50

Sample: 263884 - MW-1

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**96800**	mg/L	100	10.0

Sample: 263885 - MW-2

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

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

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

Sample: 263885 - MW-2

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

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

Sample: 263885 - MW-2

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**1170**	mg/L	50	2.50

Sample: 263885 - MW-2

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**84500**	mg/L	100	10.0

Sample: 263886 - MW-3

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

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

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

Sample: 263886 - MW-3

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride		1	**2880**	mg/L	100	2.50

Sample: 263886 - MW-3

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**73.2**	mg/L	5	2.50

Sample: 263886 - MW-3

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**4440**	mg/L	5	10.0

Sample: 263887 - MW-4

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

continued ...

sample 263887 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1	0.0868	mg/L	1	0.100	87	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0990	mg/L	1	0.100	99	51.1 - 128

Sample: 263887 - MW-4

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**12200**	mg/L	1000	2.50

Sample: 263887 - MW-4

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**347**	mg/L	100	2.50

Sample: 263887 - MW-4

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**26400**	mg/L	100	10.0

Sample: 263888 - MW-5

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.00650**	mg/L	1	0.00100
Toluene		1	**0.00680**	mg/L	1	0.00100
Ethylbenzene		1	<0.00100	mg/L	1	0.00100
Xylene		1	<0.00100	mg/L	1	0.00100

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

Sample: 263888 - MW-5

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**67500**	mg/L	5000	2.50

Sample: 263888 - MW-5

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**1100**	mg/L	50	2.50

Sample: 263888 - MW-5

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**109000**	mg/L	100	10.0

Sample: 263889 - MW-6

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

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

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

Sample: 263889 - MW-6

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**1800**	mg/L	100	2.50

Sample: 263889 - MW-6

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**77.6**	mg/L	5	2.50

Sample: 263889 - MW-6

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**3320**	mg/L	5	10.0

Sample: 263890 - MW-7

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

continued ...

sample 263890 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1	0.0971	mg/L	1	0.100	97	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0974	mg/L	1	0.100	97	51.1 - 128

Sample: 263890 - MW-7

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**1350**	mg/L	100	2.50

Sample: 263890 - MW-7

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**92.2**	mg/L	5	2.50

Sample: 263890 - MW-7

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**2700**	mg/L	5	10.0

Method Blanks

Method Blank (1) QC Batch: 80419

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

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)		1	0.0911	mg/L	1	0.100	91	70.2 - 118
4-Bromofluorobenzene (4-BFB)		1	0.104	mg/L	1	0.100	104	47.3 - 116

Method Blank (1) QC Batch: 80546

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

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.593	mg/L	2.5

Method Blank (1) QC Batch: 80546

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

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

Method Blank (1) QC Batch: 80572

QC Batch:	80572	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68378	QC Preparation:	2011-04-21	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.555	mg/L	2.5

Method Blank (1) QC Batch: 80572

QC Batch:	80572	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68378	QC Preparation:	2011-04-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 80661

QC Batch:	80661	Date Analyzed:	2011-04-25	Analyzed By:	AR
Prep Batch:	68386	QC Preparation:	2011-04-19	Prepared By:	AR

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

Method Blank (1) QC Batch: 80715

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

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

Duplicates (1) Duplicated Sample: 263885

QC Batch: 80661 | Date Analyzed: 2011-04-25 | Analyzed By: AR
Prep Batch: 68386 | QC Preparation: 2011-04-19 | Prepared By: AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	90500	84500	mg/L	100	7	10

Duplicates (1) Duplicated Sample: 263895

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

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME
Prep Batch: 68257 | QC Preparation: 2011-04-18 | Prepared By: ME

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

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

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

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

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

Laboratory Control Spike (LCS-1)

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

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

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

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.7	mg/L	1	25.0	<0.265	103	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	24.3	mg/L	1	25.0	<0.177	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	24.4	mg/L	1	25.0	<0.177	98	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80572 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68378 | QC Preparation: 2011-04-21 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	26.4	mg/L	1	25.0	<0.265	106	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	26.4	mg/L	1	25.0	<0.265	106	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80572 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68378 | QC Preparation: 2011-04-21 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	24.0	mg/L	1	25.0	<0.177	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
Sulfate		1	23.9	mg/L	1	25.0	<0.177	96	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80661 | Date Analyzed: 2011-04-25 | Analyzed By: AR
Prep Batch: 68386 | QC Preparation: 2011-04-19 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	997	mg/L	1	1000	<9.75	100	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	988	mg/L	1	1000	<9.75	99	90 - 110	1	10

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

Laboratory Control Spike (LCS-1)

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	966	mg/L	1	1000	<9.75	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	992	mg/L	1	1000	<9.75	99	90 - 110	3	10

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

Matrix Spike (MS-1) Spiked Sample: 263885

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

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	55300	mg/L	50	1380	53000	167	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 263885

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

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2360	mg/L	50	1380	1170	86	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	2370	mg/L	50	1380	1170	87	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 263890

QC Batch: 80572 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68378 | QC Preparation: 2011-04-21 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	3810	mg/L	100	2750	1350	89	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3800	mg/L	100	2750	1350	89	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 263890

QC Batch: 80572 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68378 | QC Preparation: 2011-04-21 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2510	mg/L	100	2750	125	87	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	2510	mg/L	100	2750	125	87	90 - 110	0	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0932	93	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0973	97	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0962	96	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.292	97	80 - 120	2011-04-18

Standard (CCV-2)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME

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

Standard (CCV-3)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0957	96	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0987	99	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.294	98	80 - 120	2011-04-18

Standard (ICV-1)

QC Batch: 80546 Date Analyzed: 2011-04-21 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	24.2	97	90 - 110	2011-04-21

Standard (ICV-1)

QC Batch: 80546 Date Analyzed: 2011-04-21 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	25.1	100	90 - 110	2011-04-21

Standard (CCV-1)

QC Batch: 80546 Date Analyzed: 2011-04-21 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	25.0	100	90 - 110	2011-04-21

Standard (CCV-1)

QC Batch: 80546 Date Analyzed: 2011-04-21 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	24.2	97	90 - 110	2011-04-21

Standard (ICV-1)

QC Batch: 80572 Date Analyzed: 2011-04-22 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	24.0	96	90 - 110	2011-04-22

Standard (ICV-1)

QC Batch: 80572 Date Analyzed: 2011-04-22 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	24.9	100	90 - 110	2011-04-22

Standard (CCV-1)

QC Batch: 80572 Date Analyzed: 2011-04-22 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	2011-04-22

Standard (CCV-1)

QC Batch: 80572 Date Analyzed: 2011-04-22 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	24.1	96	90 - 110	2011-04-22

Appendix

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	T104704392-10-TX	Midland

Standard Flags

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

Attachments

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

ESW0 #: 1104524

Analysis Request of Chain of Custody Record

PAGE: | OF:

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 NO.: 115-6403131
PROJECT NAME: Rock Queen Tract #11

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 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 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 (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	Sulfates
263884	4/14	1340	W		X	mw-1	4	N	X		X	X	X											X				X	X
885		1325				mw-2																							
886		1230				mw-3																							
887		1355				mw-4																							
888		1310				mw-5																							
889		1250				mw-6																							
890	4/14	1215	W		X	mw-7	4	N	X		X	X	X											X				X	X

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) — Date: 4-15-11 — Time:
RECEIVED BY: (Signature) — Date: 4/15/11 — Time: 13:50
SAMPLED BY: (Print & Initial) James Kennedy JPK — Date: 4-14-11 — Time:

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:

RECEIVING LABORATORY: Trail
ADDRESS:
CITY: Midland STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Jeff Kindley
Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 0.6 c intact
REMARKS: All tests-Midland

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