1R – 1614

2007 – 2011
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 13 Tank Battery, Located in Unit Letter G, Section 36, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1614).

Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tract 13 Tank Battery (Site) from June 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 21, 2007, Highlander (Tetra Tech) submitted an Investigation and Characterization work plan (ICP) for an open pit at the Site. The ICP was subsequently approved by the New Mexico Oil Conservation Division (NMOCD).

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

excavated to a point where the subsoil would support a soil boring rig.

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

Groundwater Investigation

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

During the investigation, groundwater was encountered at depths of approximately 147 to 154 feet bgs. Monitor Well MW-1 was drilled to a depth of 162 feet bgs and installed with 60 feet of 0.02 inch slotted screen. Monitoring wells MW-2, MW-3, MW-4, and MW-6 were drilled to depths of ranging from 160 to 165 and installed with 30 feet of 0.02 inch slotted screen. Monitor well MW-5 was installed into the underlying clay to a depth of 180 feet bgs and installed with 40 feet of 0.02 inch slotted screen. From the top of the screens to the surface of the boring, the wells were completed with blank schedule 40 PVC casing. 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, TDS, and SO4. No Phase Separated Hydrocarbons (PSH) or dissolved phase separated hydrocarbons have been measured or detected in any of the onsite monitor wells above NMWQCC standards. See Figure 3 detailing the monitor well locations.

Gauging and Monitor Well Sampling

On June 1, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for all but the June 1, 2007 sampling event. The hydraulic gradient indicates a southeasterly direction. 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. Water samples for monitor wells MW-1 (except June 1, 2007), MW-3, and MW-4 were below the NMWQCC standard of 250 mg/L chlorides. Chlorides for the sampling period ranged from 38.3 mg/L in monitor well MW-1 on July 12, 2010 to 17,700 mg/L in monitor well MW-5 on April 13, 2011. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 9 through 13. Copies of the laboratory analyses are enclosed in Appendix C.

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

CONCLUSIONS

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

2. The hydraulic gradient indicates a southeasterly direction.

3. No PSH or dissolved phase separated hydrocarbons have been measured or detected in any of the onsite monitor wells above NMWQCC standards.

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

TETRA TECH

RECOMMENDATIONS

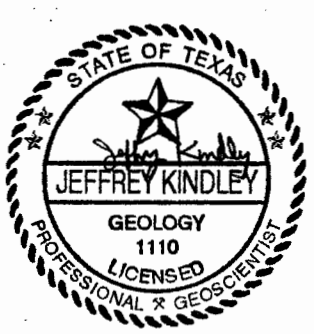
1. Quarterly groundwater monitoring and gauging will be continued throughout the year.

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

3. A recovery well (RW-1) will be installed in the vicinity of the chloride plume.

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

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

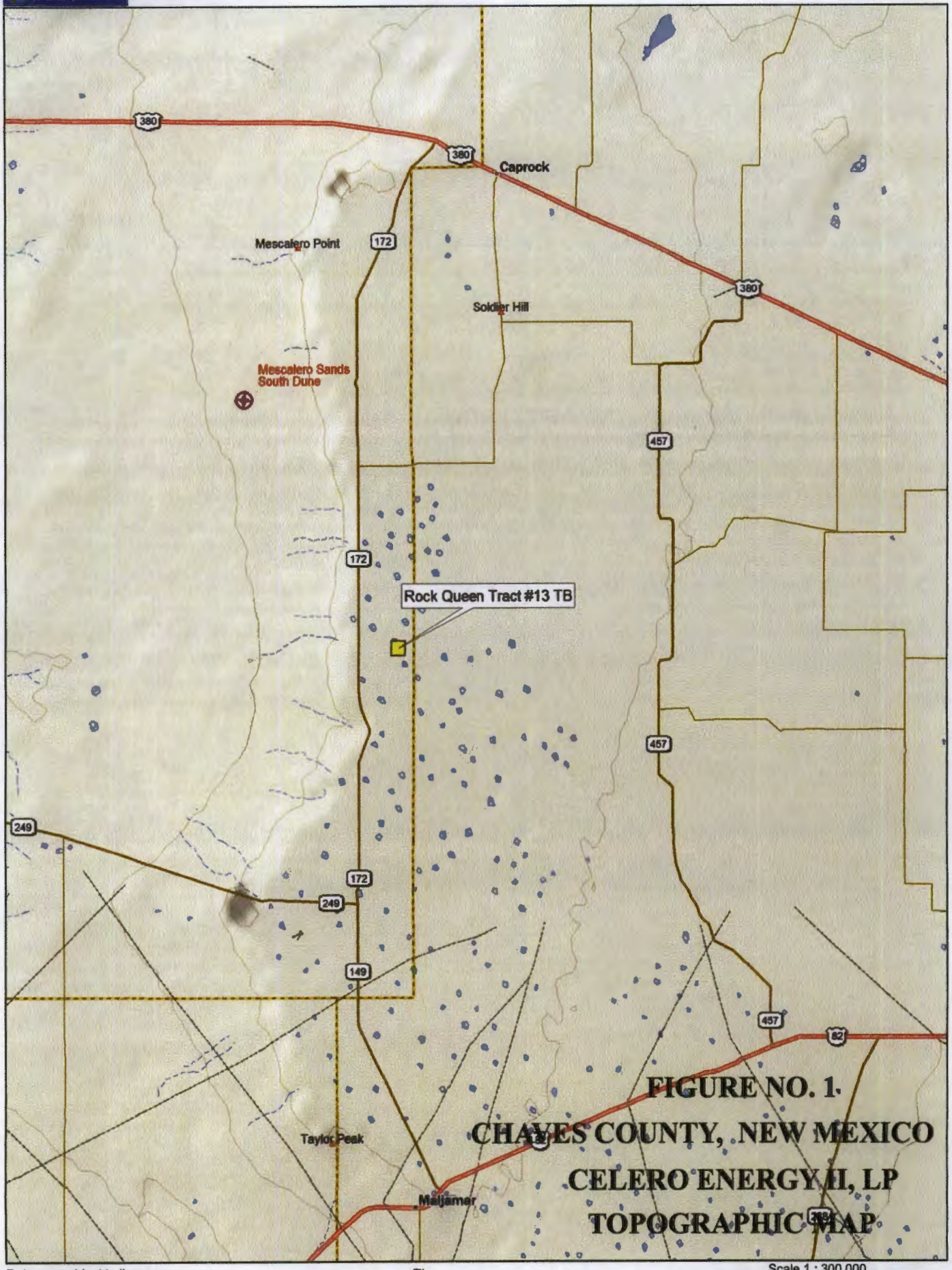


Respectfully submitted,
Tetra Tech, Inc.

Jeffrey Kindley, P.G.
Senior Environmental Geologist

cc: Bruce Woodard – Celero Energy II, LP

FIGURES



TN
MN (7.7°E)

Scale 1 : 300,000
1" = 4.73 mi
Data Zoom 9-3

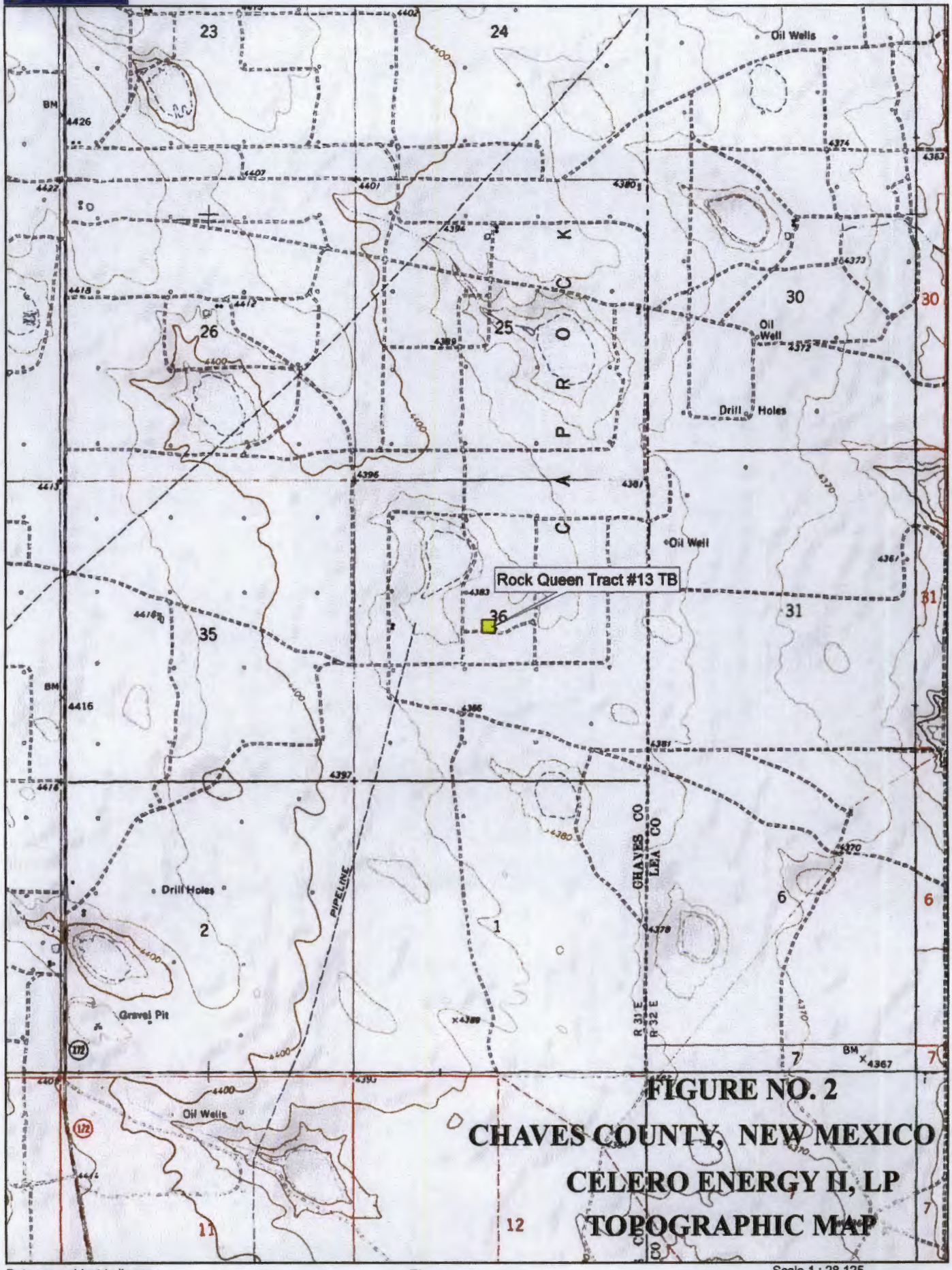


FIGURE NO. 2
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY II, LP
TOPOGRAPHIC MAP

Scale 1 : 28,125
1" = 2,343.8 ft
Data Zoom 12-7

MW-3

MW-4

ROCK QUEEN
TRACT 13
SATELLITE

MW-1

MW-2

MW-5

MW-6

SCALE: 100'
0 100'

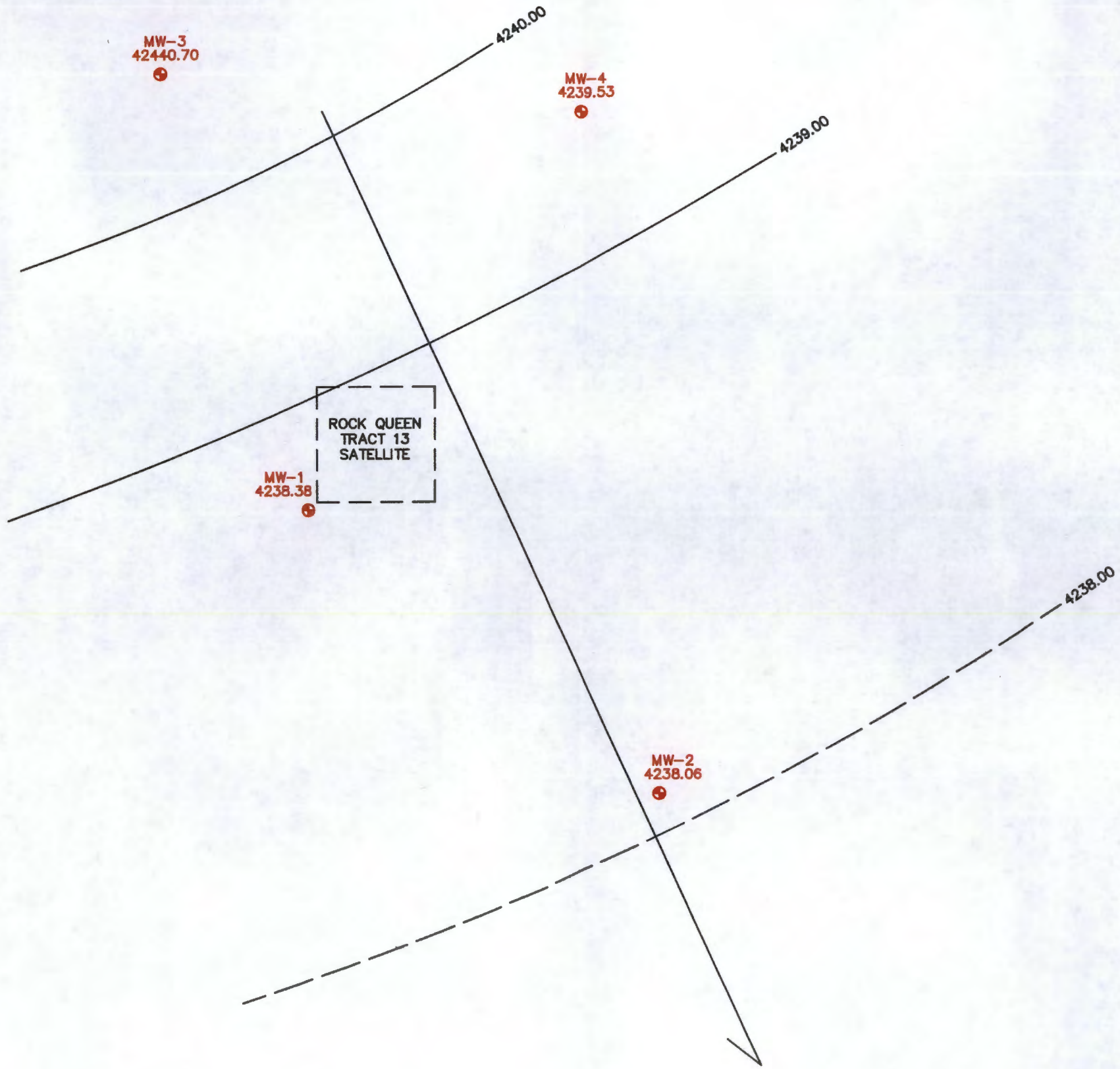
DATE: 4/12/2011
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 3

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
SITE MAP

TETRA TECH, INC.
MIDLAND, TEXAS



C.I. = 1.0'

SCALE: 100'
0 100'

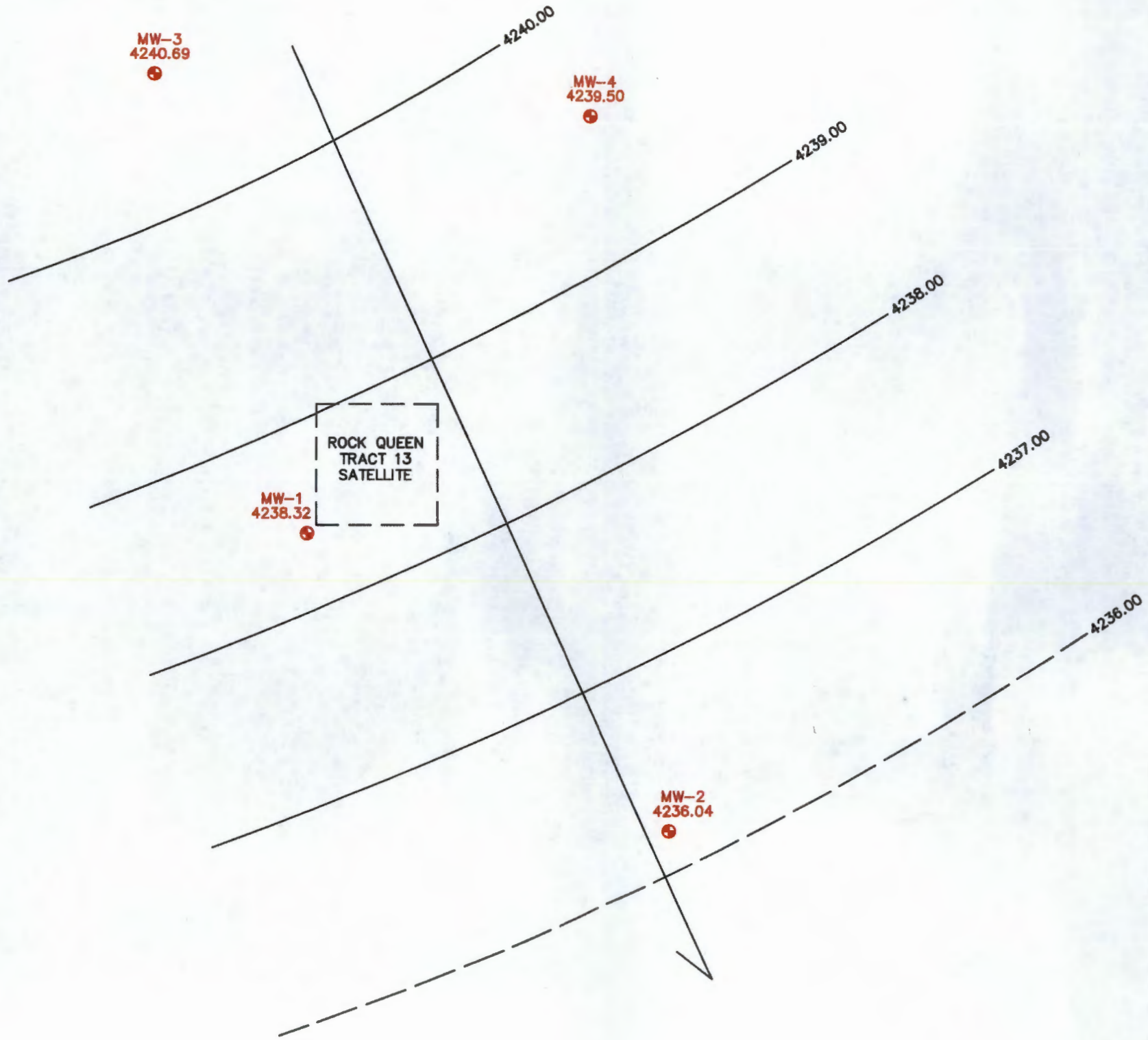
FIGURE NO. 4

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 04/06/2010

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 4/06/2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13



C.I. = 1.0'

SCALE: 100'
0 100'

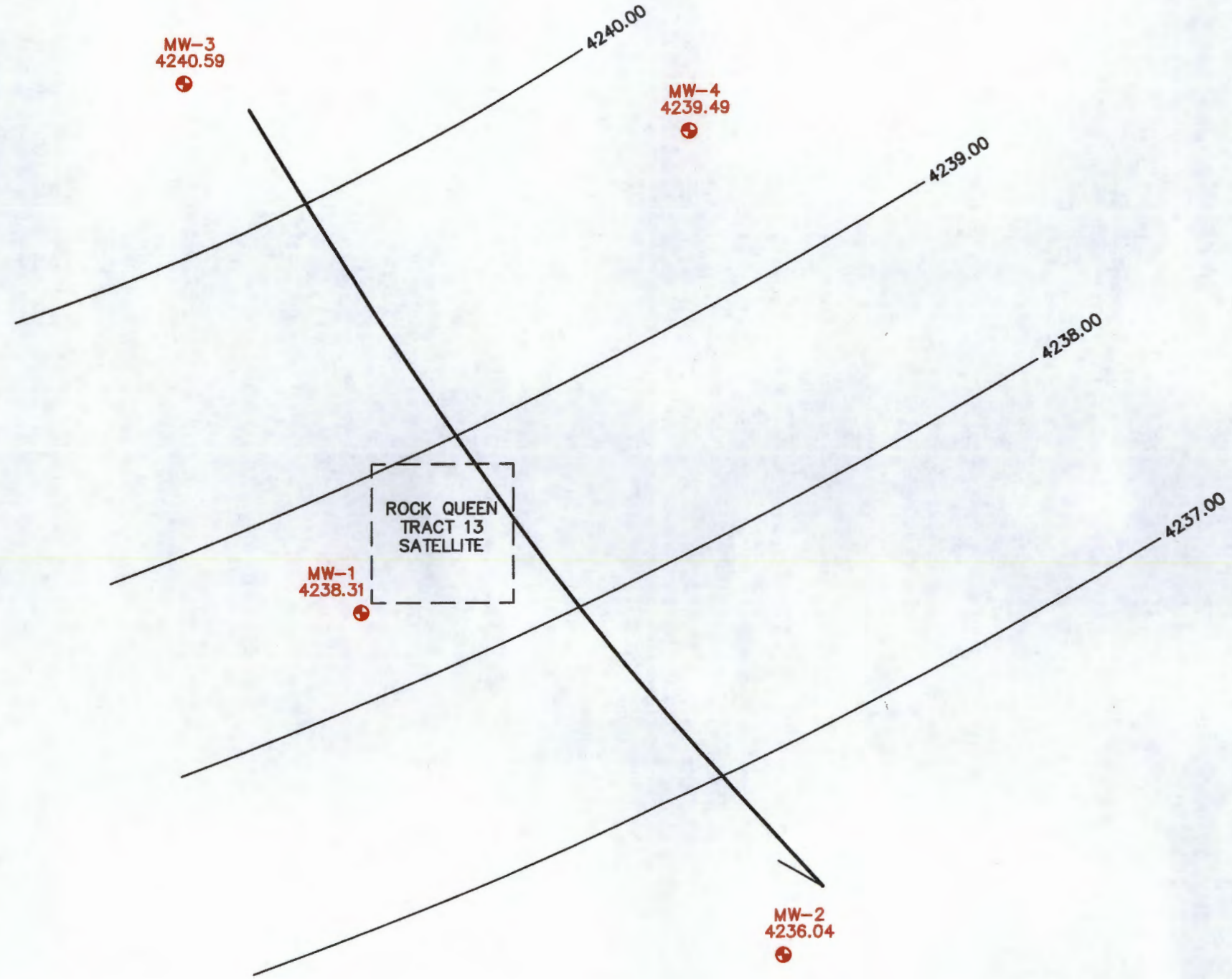
DATE: 7/12/2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 07/12/2010

TETRA TECH, INC.
MIDLAND, TEXAS



C.I. = 1.0'

SCALE: 100'
0 100'

DATE: 10-11-2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 10/11/2010

TETRA TECH, INC.
MIDLAND, TEXAS

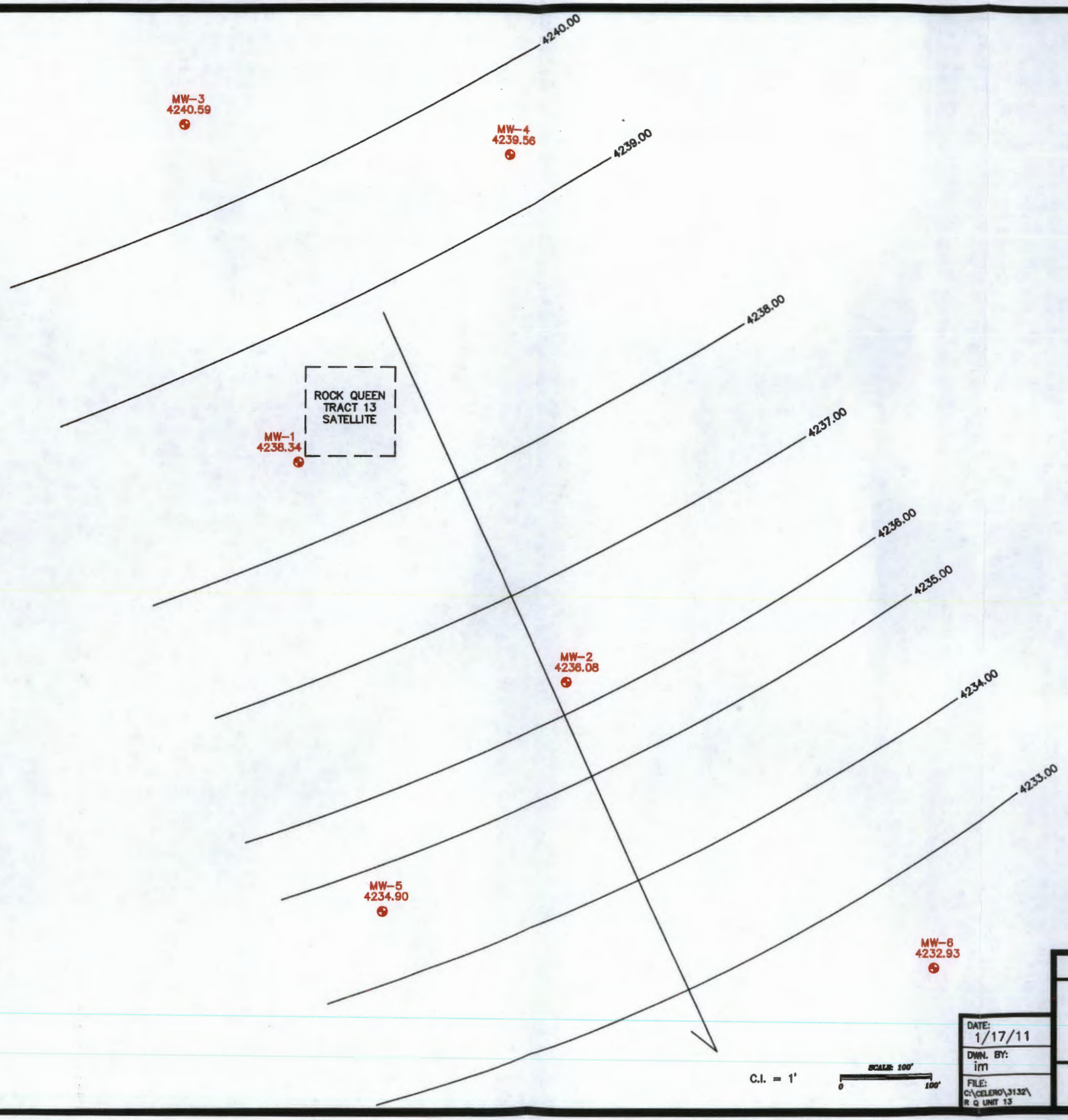


FIGURE NO. 7

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 1/17/11

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 1/17/11
DWN. BY: jm
FILE: C:\CELERO\3132\R Q UNIT 13

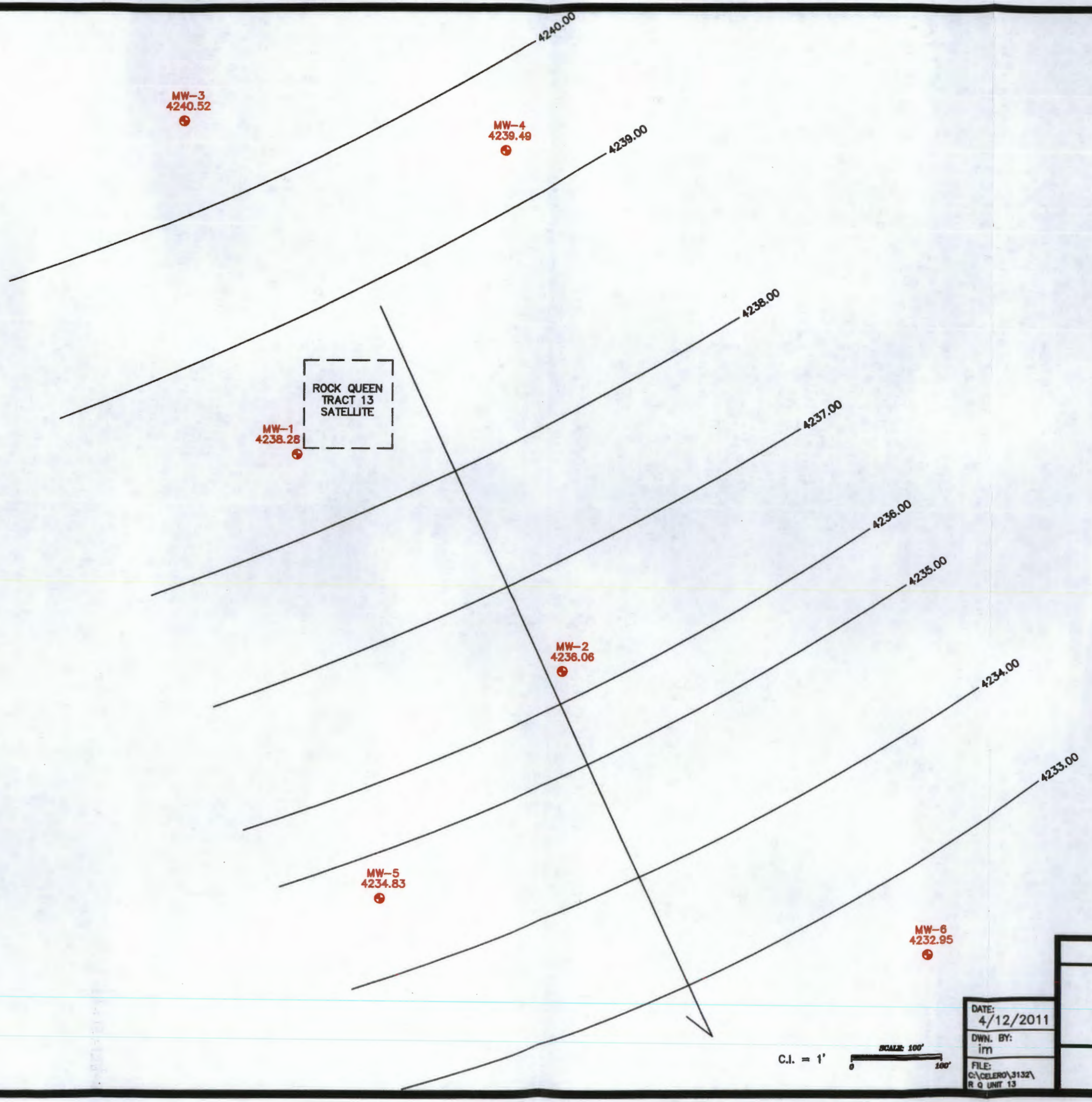


FIGURE NO. 8

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 04/12/2011

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 4/12/2011
DWN. BY: im
FILE: C:\CELERO\3132\R Q UNIT 13

MW-3
58.4

MW-4
58.2

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
43.6

MW-2
2,250

RESULTS IN mg/L

SCALE: 100'
0 100'

DATE: 4/06/2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 4/06/2010

TETRA TECH, INC.
MIDLAND, TEXAS

MW-3
83.6

MW-4
147.0

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
38.8

MW-2
9,870

RESILTS IN mg/L

SCALE: 150'

0 150'

FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 7/12/2010

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 7/12/2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

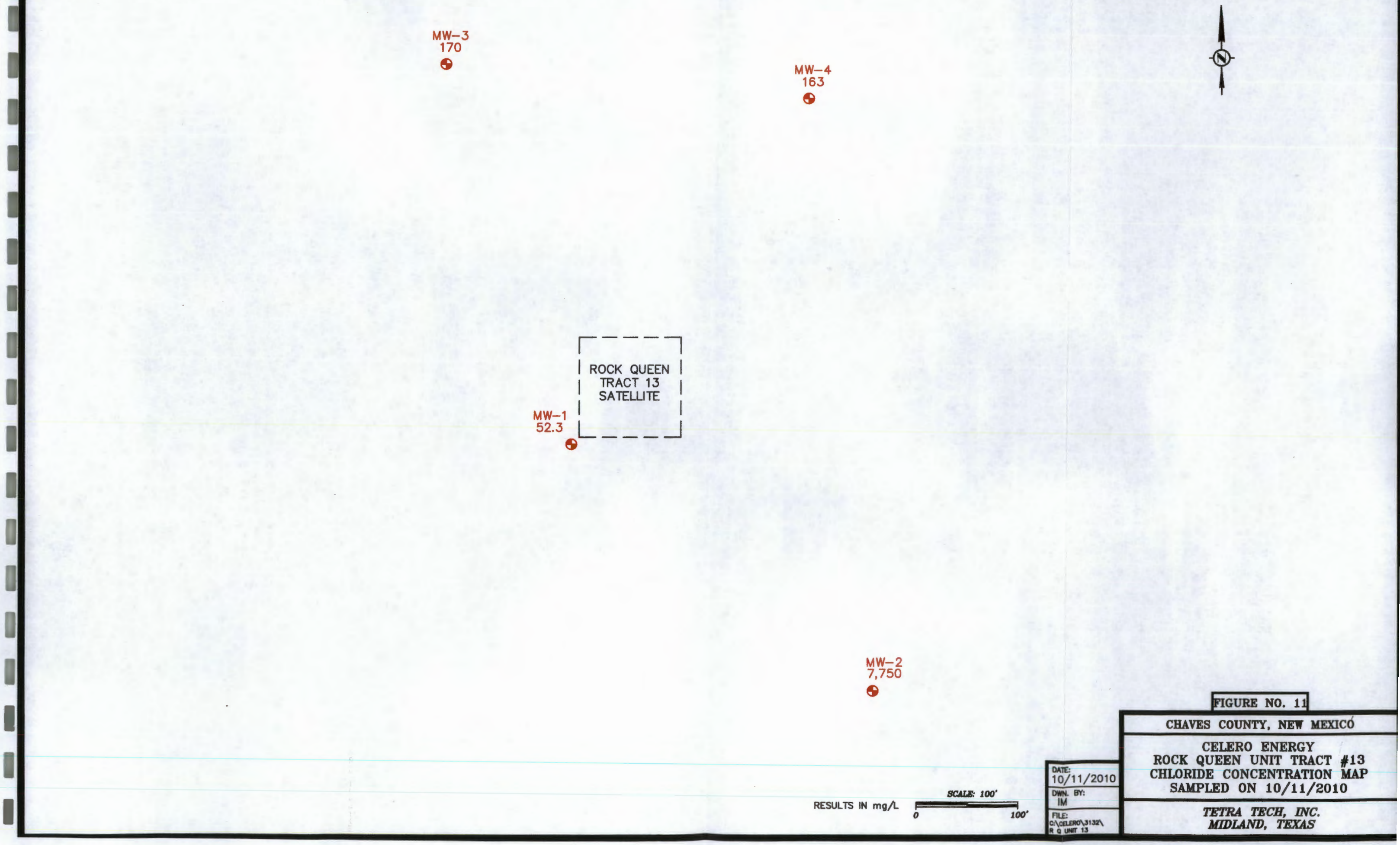


FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 10/11/2010

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 10/11/2010
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

MW-3
133

MW-4
210

ROCK QUEEN
TRACT 13
SATELLITE

MW-1
44.5

MW-2
9,070

MW-5
5,690

MW-6
2,880

RESULTS IN mg/L

SCALE: 100'
0 100'

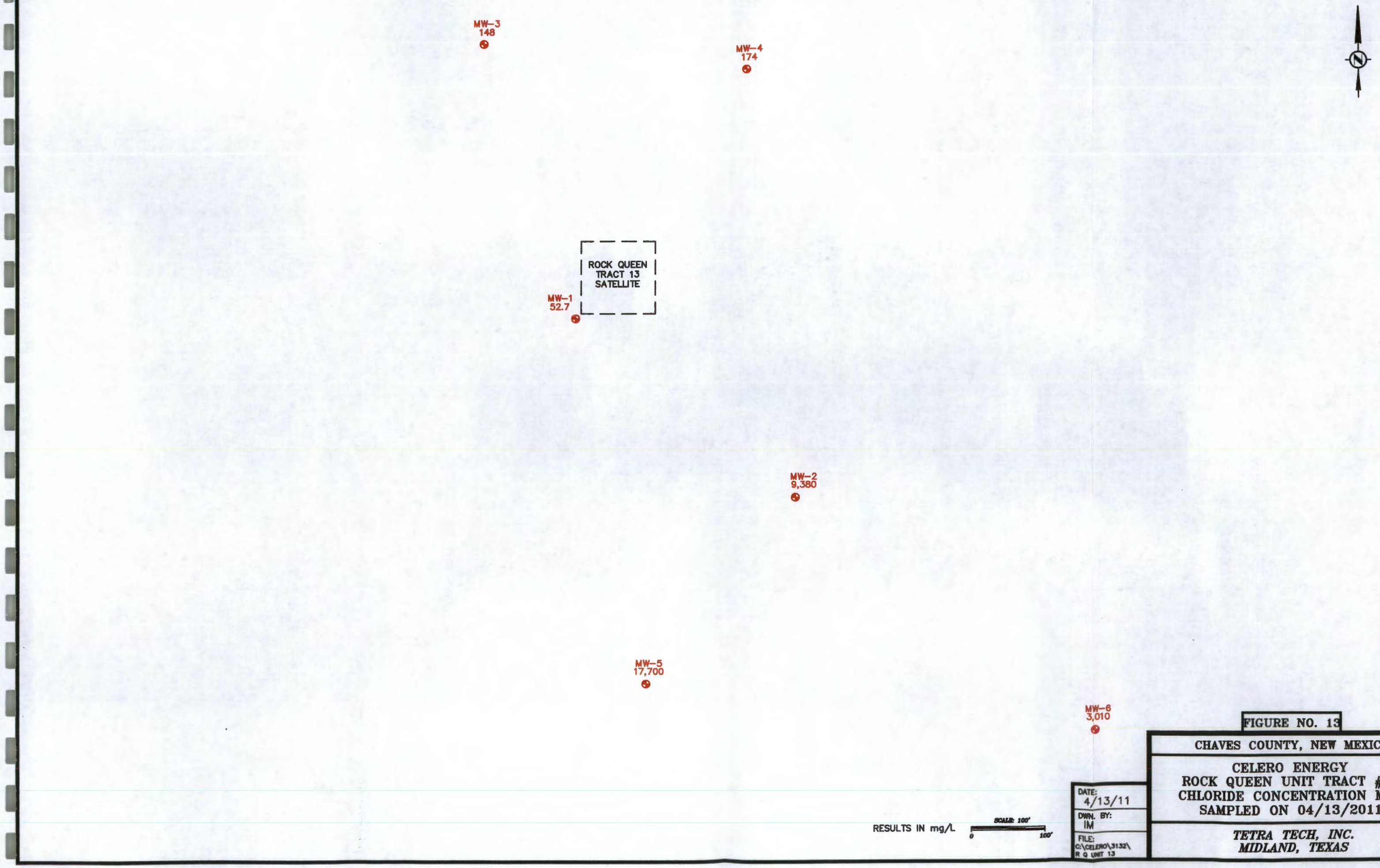
DATE: 1/20/11
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 12

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 1/20/2011

TETRA TECH, INC.
MIDLAND, TEXAS



DATE: 4/13/11
DWN. BY: IM
FILE: C:\CELERO\3132\R Q UNIT 13

FIGURE NO. 13

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 04/13/2011

TETRA TECH, INC.
MIDLAND, TEXAS

TABLES

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

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
MW-1	05/30/07	05/25/07	4,388.74	161.50	117.52	4,271.22
	05/31/07				127.74	4,261.00
	02/05/08				150.41	4,238.33
	04/06/10				150.36	4,238.38
	07/12/10				150.42	4,238.32
	10/11/10				150.43	4,238.31
	01/17/11				150.40	4,238.34
	04/12/11				150.46	4,238.28
MW-2	04/06/10	03/30/10	4,386.04	161.60	147.98	4,238.06
	07/12/10				150.00	4,236.04
	10/11/10				149.80	4,236.24
	01/17/11				149.96	4,236.08
	04/12/11				149.98	4,236.06
MW-3	04/06/10	03/31/10	4,388.48	161.90	147.78	4,240.70
	07/12/10				147.79	4,240.69
	10/11/10				147.89	4,240.59
	01/17/11				147.89	4,240.59
	04/12/11				147.96	4,240.52
MW-4	04/06/10	03/31/10	4,388.12	161.85	148.59	4,239.53
	07/12/10				148.62	4,239.50
	10/11/10				148.63	4,239.49
	01/17/11				148.56	4,239.56
	04/12/11				148.63	4,239.49
MW-5	01/17/11	12/02/10	4,383.81	177.60	148.91	4,234.90
	04/12/11				148.98	4,234.83
MW-6	01/17/11	12/03/10	4,387.81	169.65	154.88	4,232.93
	04/12/11				154.86	4,232.95

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

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-1	06/01/07	282	24.4	2,020	20.1	<1.00	8.00	652	660	91.1	3,270	7,245	804	7.02
	04/06/10	130	7.61	11.40	5.96	<1.00	<1.00	226	226	42.7	43.6	699	356	8.28
	07/12/10	-	-	-	-	-	-	-	-	37.2	38.8	1,130	-	-
	10/12/10	-	-	-	-	-	-		-	49.6	52.3	445	-	-
	01/21/11	-	-	-	-	-	-	-	-	48.8	44.5	447	-	-
	04/13/11	-	-	-	-	-	-	-	-	52.4	52.7	481	-	-
MW-2	*04/06/10*	*520*	*73.0*	*925*	*15.5*	*<1.00*	*<1.00*	*125*	*125*	*133.0*	*2,250*	*5,890*	*1,600*	*7.70*
	07/12/10	-	-	-	-	-	-	-	-	189.0	9,870	27,200	-	-
	10/12/10	-	-	-	-	-	-	-	-	203.0	7,750	15,300	-	-
	01/21/11	-	-	-	-	-	-	-	-	202.0	9,070	15,200	-	-
	04/13/11	-	-	-	-	-	-	-	-	193.0	9,380	16,900	-	-
MW-3	04/06/10	76.1	10.3	78.7	4.33	<1.00	<1.00	183	183	116.0	58.4	696	232	8.26
	07/12/10	-	-	-	-	-	-	-	-	64.0	83.6	562	-	-
	10/12/10	-	-	-	-	-	-	-	-	84.5	170.0	608	-	-
	01/21/11	-	-	-	-	-	-	-	-	62.0	133.0	535	-	-
	04/13/11	-	-	-	-	-	-	-	-	84.1	148.0	630	-	-
MW-4	04/06/10	89.5	11.5	40.5	3.34	<1.00	<1.00	145	145	116.0	58.2	506	270	8.35
	07/12/10	-	-	-	-	-	-	-	-	48.5	147.0	630	-	-
	10/12/10	-	-	-	-	-	-	-	-	56.4	163.0	616	-	-
	01/21/11	-	-	-	-	-	-	-	-	50.8	210.0	534	-	-
	04/13/11	-	-	-	-	-	-	-	-	49.4	174.0	604	-	-
MW-5	01/20/11	-	-	-	-	-	-	-	-	128.0	5,690	7,890	-	-
	04/13/11	-	-	-	-	-	-	-	-	336.0	17,700	27,000	-	-
MW-6	01/20/11	-	-	-	-	-	-	-	-	<250	2,880	4,690	-	-
	04/13/11	-	-	-	-	-	-	-	-	85.2	3,010	4,890	-	-

NS - Not sampled

(-) Not Analyzed

Table 3

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 13 Tank Battery

Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl-Benzene (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
MW-1	04/06/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	04/06/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	04/06/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	04/06/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-6	01/21/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/13/11	<0.001	<0.001	<0.001	<0.001	<0.001

NS - Not sampled

APPENDIX A
BORING LOGS

SAMPLE LOG

Boring/Well MW-1
GPS N33.146819° W103.775642°
Project Number 115-6403132A
Client: Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter K, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed: 05/25/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	--	Buff to tan sandy limestone
5-10	--	Buff to tan sandy limestone
10-15	--	Buff to tan sandy limestone with chert
15-20	--	Buff sandy limestone with chert
20-25	--	Buff to tan calcareous sand
25-30	--	Buff to tan calcareous sand
30-35	--	Buff to tan calcareous sand
35-40	--	Buff to tan calcareous sand
40-45	--	Buff to tan calcareous sand
45-50	--	Tan fine sand - v.f. sand
50-55	--	Tan fine sand - v.f. sand
55-60	--	Tan fine sand - v.f. sand
63-65	--	Tan fine sand - v.f. sand
68-70	--	Tan fine sand - v.f. sand
73-75	--	Tan fine sand - v.f. sand
78-80	--	Tan fine sand - v.f. sand
83-85	--	Tan fine sand - v.f. sand
88-90	--	Tan fine sand - v.f. sand
93-95	--	Tan fine sand - v.f. sand
98-100	--	Tan fine sand - v.f. sand
103-105	--	Tan fine sand - v.f. sand
108-110	--	Tan fine sand - v.f. sand
113-115	--	Tan fine sand - v.f. sand

SAMPLE LOG

Boring/Well MW-1
GPS N33.146819° W103.775642°
Project Number 115-6403132A
Client: Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter K, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed: 05/25/07

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
118-120	--	Tan fine sand - v.f. sand
123-125	--	Tan fine sand - v.f. sand
128-130	--	Tan fine sand - v.f. sand
133-135	--	Tan fine sand - v.f. sand
138-140	--	Tan fine sand - v.f. sand
143-145	--	Tan fine sand - v.f. sand
148-150	--	Chert layer intermixed with red sand
153-155	--	Chert layer intermixed with red sand
158-160	--	Red sand

Total Depth: 160' Groundwater encountered at 117 feet

SAMPLE LOG

Boring/Well MW-2
GPS N33.146136° W103.774672°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter J, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/30/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	--	Hard limestone with some chert
5-10	--	Hard limestone with some chert
10-15	--	Hard limestone with some chert
15-20	--	Hard limestone with some chert
20-25	--	Buff to tan calcareous sand
25-30	--	Buff to tan calcareous sand
30-35	--	Buff to tan calcareous sand
35-40	--	Buff to tan calcareous sand
40-45	--	Buff to tan calcareous sand
45-50	--	Buff to tan calcareous sand
50-55	--	Buff to tan calcareous sand
55-60	--	Tan fine sand - v.f. sand
60-65	--	Tan fine sand - v.f. sand
65-70	--	Tan fine sand - v.f. sand
70-75	--	Tan fine sand - v.f. sand
80-85	--	Tan fine sand - v.f. sand
85-90	--	Tan fine sand - v.f. sand
90-95	--	Tan fine sand - v.f. sand
95-100	--	Tan fine sand - v.f. sand
100-105	--	Tan fine sand - v.f. sand
105-110	--	Tan fine sand - v.f. sand
110-115	--	Tan fine sand - v.f. sand
115-120	--	Tan fine sand - v.f. sand

SAMPLE LOG

Boring/Well MW-2
GPS N33.146136° W103.774672°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter J, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/30/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
120-125	--	Tan fine sand - v.f. sand
125-130	--	Tan fine sand - v.f. sand
130-135	--	Tan fine sand - v.f. sand
133-135	--	Tan fine sand - v.f. sand
135-140	--	Tan fine sand - v.f. sand
140-145	--	Tan fine sand - v.f. sand
145-150	--	Tan fine sand - v.f. sand
150-155	--	Tan fine sand - v.f. sand with some chert and limestone pieces
155-160	--	Tan fine sand - v.f. sand with some chert and limestone pieces

Total Depth: 160'

SAMPLE LOG

Boring/Well MW-3
GPS N33.147867° W103.776047°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter F, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/31/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	--	Hard limestone with some chert
5-10	--	Hard limestone with some chert
10-15	--	Hard limestone with some chert
15-20	--	Hard limestone with some chert
20-25	--	Buff to tan calcareous sand
25-30	--	Buff to tan calcareous sand
30-35	--	Buff to tan calcareous sand
35-40	--	Buff to tan calcareous sand
40-45	--	Buff to tan calcareous sand
45-50	--	Buff to tan calcareous sand
50-55	--	Buff to tan calcareous sand
55-60	--	Tan fine sand - v.f. sand
60-65	--	Tan fine sand - v.f. sand
65-70	--	Tan fine sand - v.f. sand
70-75	--	Tan fine sand - v.f. sand
80-85	--	Tan fine sand - v.f. sand
85-90	--	Tan fine sand - v.f. sand
90-95	--	Tan fine sand - v.f. sand
95-100	--	Tan fine sand - v.f. sand
100-105	--	Tan fine sand - v.f. sand
105-110	--	Tan fine sand - v.f. sand
110-115	--	Tan fine sand - v.f. sand
115-120	--	Tan fine sand - v.f. sand

SAMPLE LOG

Boring/Well MW-3
GPS N33.147867° W103.776047°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter F, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/31/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
120-125	--	Tan fine sand - v.f. sand
125-130	--	Tan fine sand - v.f. sand
130-135	--	Tan fine sand - v.f. sand
133-135	--	Tan fine sand - v.f. sand
135-140	--	Tan fine sand - v.f. sand
140-145	--	Tan fine sand - v.f. sand
145-150	--	Tan fine sand - v.f. sand
150-155	--	Tan fine sand - v.f. sand with some chert and limestone pieces
155-160	--	Tan fine sand - v.f. sand with some chert and limestone pieces

Total Depth: 160'

SAMPLE LOG

Boring/Well MW-4
GPS N33.147867° W103.776047°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter G, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/31/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5	--	Hard limestone with some chert
5-10	--	Hard limestone with some chert
10-15	--	Hard limestone with some chert
15-20	--	Hard limestone with some chert
20-25	--	Buff to tan calcareous sand
25-30	--	Buff to tan calcareous sand
30-35	--	Buff to tan calcareous sand
35-40	--	Buff to tan calcareous sand
40-45	--	Buff to tan calcareous sand
45-50	--	Buff to tan calcareous sand
50-55	--	Buff to tan calcareous sand
55-60	--	Tan fine sand - v.f. sand
60-65	--	Tan fine sand - v.f. sand
65-70	--	Tan fine sand - v.f. sand
70-75	--	Tan fine sand - v.f. sand
80-85	--	Tan fine sand - v.f. sand
85-90	--	Tan fine sand - v.f. sand
90-95	--	Tan fine sand - v.f. sand
95-100	--	Tan fine sand - v.f. sand
100-105	--	Tan fine sand - v.f. sand
105-110	--	Tan fine sand - v.f. sand
110-115	--	Tan fine sand - v.f. sand
115-120	--	Tan fine sand - v.f. sand

SAMPLE LOG

Boring/Well MW-4
GPS N33.147867° W103.776047°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Tract 13 Tank Battery
Site Location Chaves County, New Mexico
Letter G, Section 36, Township 13 South, Range 31 East
Total Depth 160
Date Installed 03/31/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
120-125	--	Tan fine sand - v.f. sand
125-130	--	Tan fine sand - v.f. sand
130-135	--	Tan fine sand - v.f. sand
133-135	--	Tan fine sand - v.f. sand
135-140	--	Tan fine sand - v.f. sand
140-145	--	Tan fine sand - v.f. sand
145-150	--	Tan fine sand - v.f. sand (inter bedded with limestone)
150-155	--	Tan fine sand - v.f. sand (inter bedded with limestone)
155-160	--	Tan fine sand - v.f. sand (inter bedded with limestone)

Total Depth: 160'

SAMPLE LOG

Boring/ Well MW-5
GPS N33.14564° W103.77608°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #13 Tank Battery
Site Location Chaves, New Mexico
Letter K, Section 36, Township 13 South, Range 31 East
Total Depth 180'
Date Installed 12/02/10

Depth (Ft)	OVM	Sample Description
5-6'	--	Caliche and 15% Chert
10-11'	--	Caliche and 30% Chert
15-16'	--	Caliche and 50% Chert
20-21'	--	Caliche and 30% 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'	--	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 with 40% White Clay
100-101'	--	Light Brown Fine Grain Well Sorted Sand with 40% White Clay
105-106'	--	Light Brown Fine Grain Well Sorted Sand with 30% White Clay
110-111'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
115-116'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
120-121'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
125-126'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
130-131'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
135-136'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone

SAMPLE LOG

Boring/ Well MW-5
GPS N33.14564° W103.77608°
Project Number 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #13 Tank Battery
Site Location Chaves, New Mexico
Letter K, Section 36, Township 13 South, Range 31 East
Total Depth 180'
Date Installed 12/02/10

140-141'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
145-146'	--	Light Brown Fine Grain Well Sorted Sand with Buff Sandstone
150-151'	--	Buff Tan Fine Grained Sandstone
155-156'	--	Buff Tan Fine Grained Sandstone
160-161'	--	Buff Tan Fine Grained Sandstone
165-166'	--	Buff Tan Fine Grained Sandstone
170-171'	--	Buff Tan Sandstone with 35% Brown Clay
175-176'	--	Brown Clay with 20% Red Bed
180'	--	Brown Clay with 40% Red Bed
Total Depth:	180'	Ground water depth not encountered while drilling.

SAMPLE LOG

Boring/ Well MW-6
GPS N33.14564° W103.77608°
Project Number: 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #13 Tank Battery
Site Location Chaves, New Mexico
Letter J, Section 36, Township 13 South, Range 31 East
Total Depth 165'
Date Installed 12/03/10

Depth (Ft)	OVM	Sample Description
5-6'	--	Caliche and 15% Chert
10-11'	--	Caliche and 20% Chert
15-16'	--	Caliche and 10% Chert
20-21'	--	Caliche and 5% 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'	--	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 with 40% Buff Sandstone
125-126'	--	Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone
130-131'	--	Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone
135-136'	--	Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone

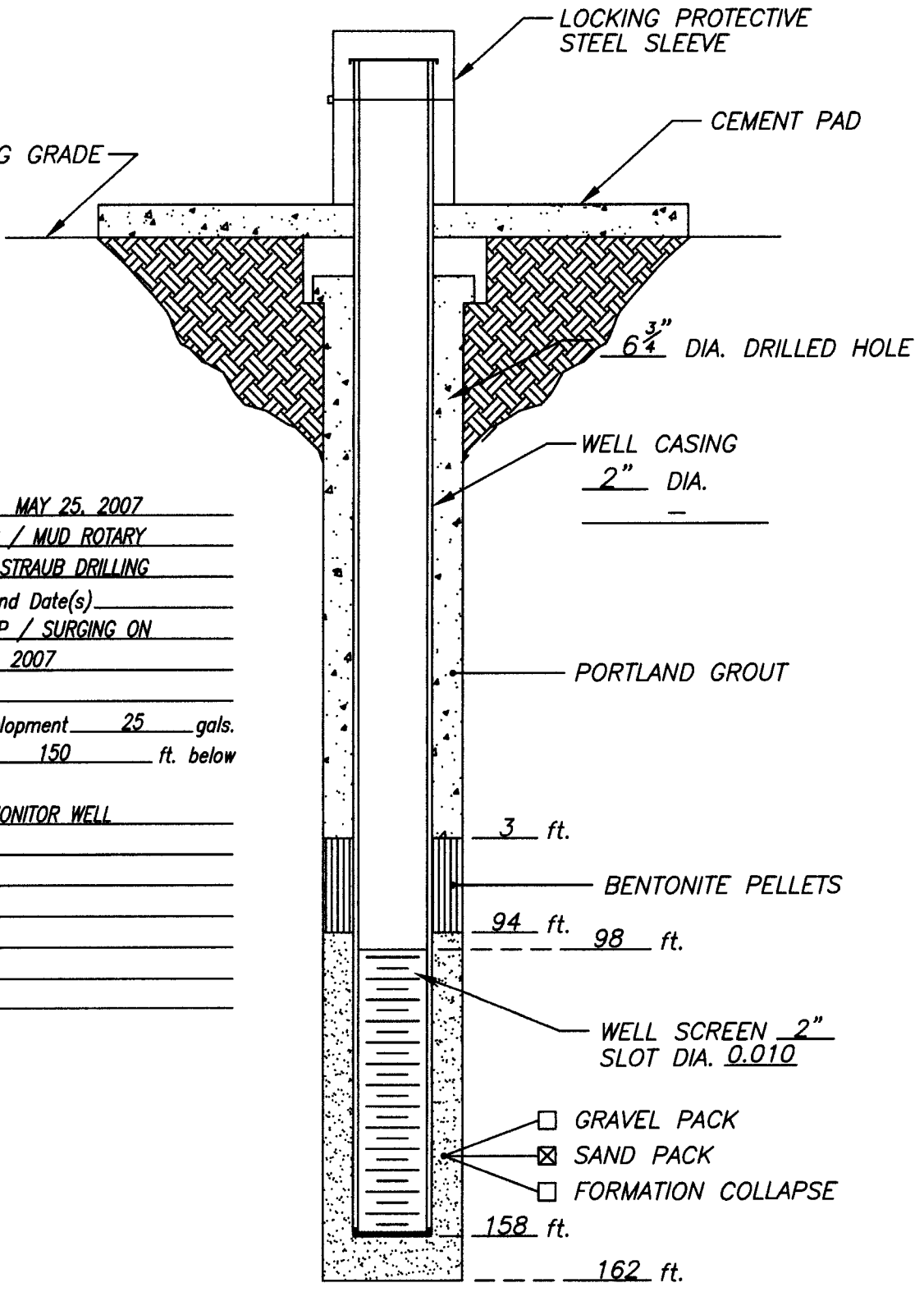
SAMPLE LOG

Boring/ Well MW-6
GPS N33.14564° W103.77608°
Project Number: 115-6403132A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #13 Tank Battery
Site Location Chaves, New Mexico
Letter J, Section 36, Township 13 South, Range 31 East
Total Depth 165'
Date Installed 12/03/10

140-141'	--	Light Brown Fine Grain Well Sorted Sand with 15% Buff Sandstone
145-146'	--	Light Brown Fine Grain Well Sorted Sand with 15% Buff Sandstone
150-151'	--	Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone
155-156'	--	Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone
160-161'	--	Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone
165'	--	Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone
Total Depth:	165'	Ground water depth not encountered while drilling.

APPENDIX B
MONITOR WELL INSTALLATION DIAGRAMS

WELL CONSTRUCTION LOG



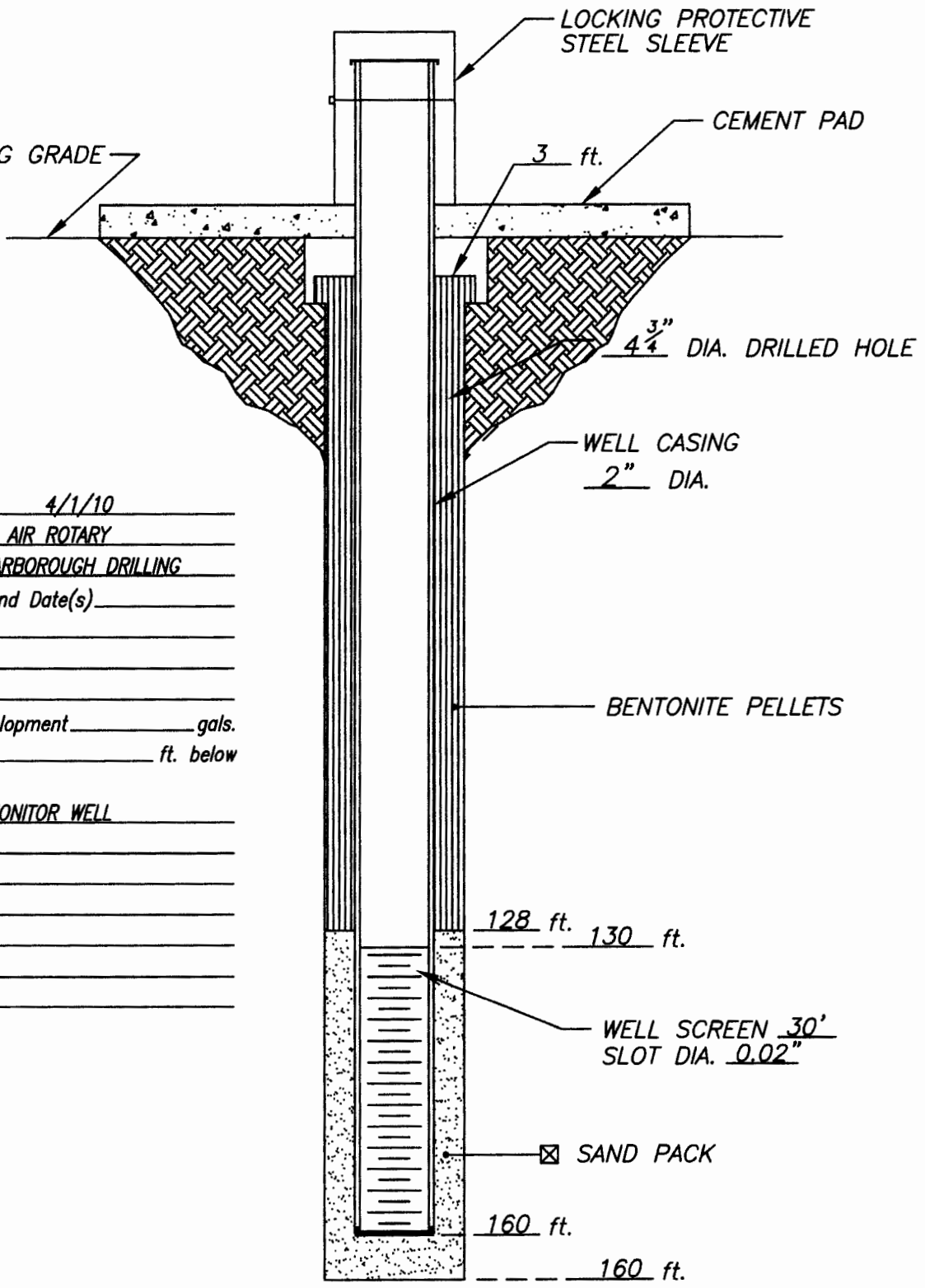
Installation Date(s) MAY 25, 2007
Drilling Method AIR / MUD ROTARY
Drilling Contractor STRAUB DRILLING
Development Technique(s) and Date(s) SUBMERSIBLE PUMP / SURGING ON MAY 31, 2007

Water Removed During Development 25 gals.
Static Depth to Water 150 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 5/25/07	CLIENT: CELERO ENERGY II, LP PROJECT: ROCK QUEEN UNIT TRACT 13 TB LOCATION: CHAVES COUNTY, NM	WELL NO. MW-1
TETRA TECH, INC. MIDLAND, TEXAS		

WELL CONSTRUCTION LOG



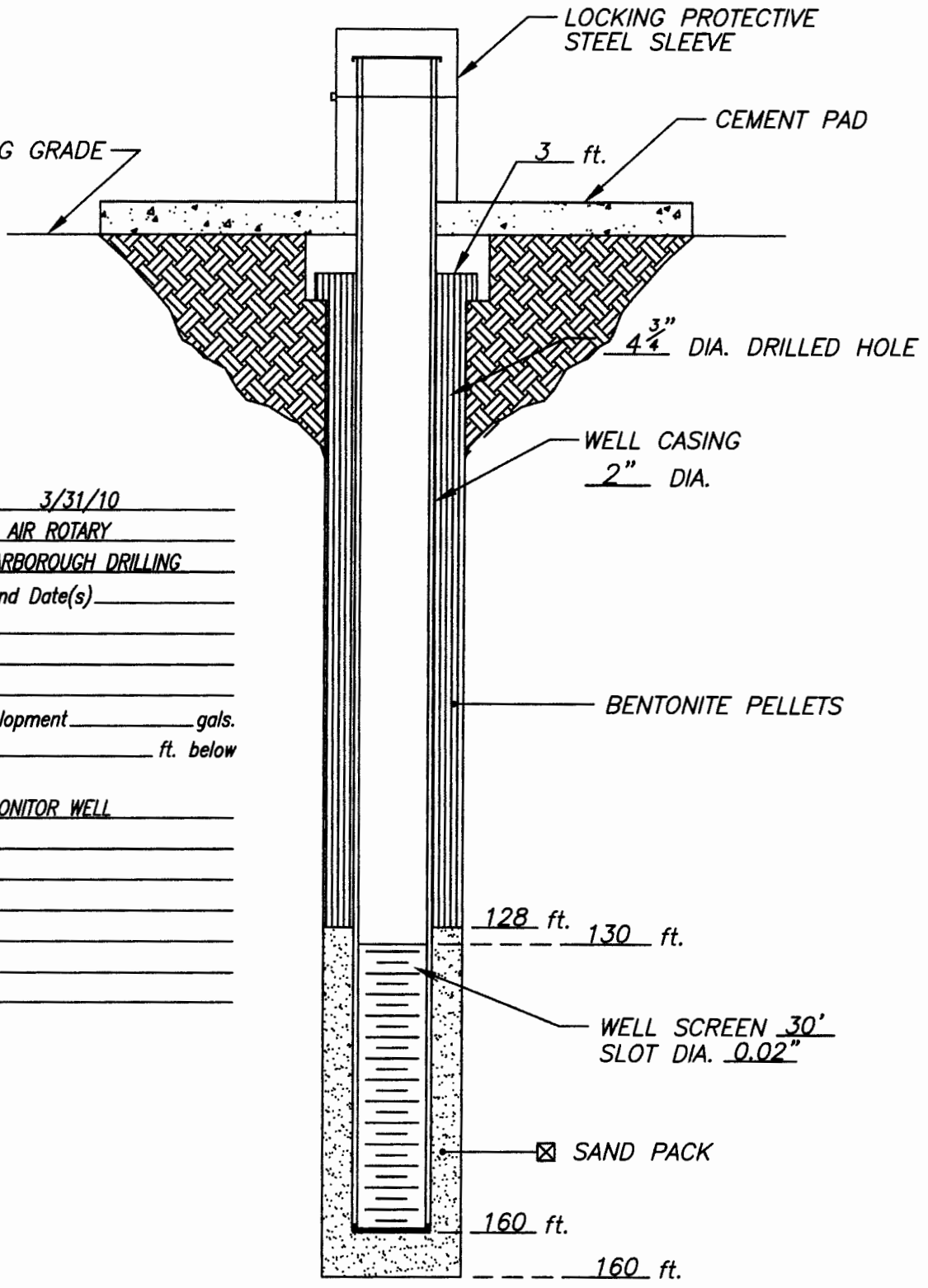
Installation Date(s) 4/1/10
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) _____

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

Remarks _____

DATE: 4/1/10	CLIENT: *CELERO ENERGY II LLC*	WELL NO.
TETRA TECH INC. MIDLAND, TEXAS	PROJECT: *ROCK QUEEN TRACT 13 TB*	MW-2
	LOCATION: *CHAVES COUNTY, NM*	

WELL CONSTRUCTION LOG



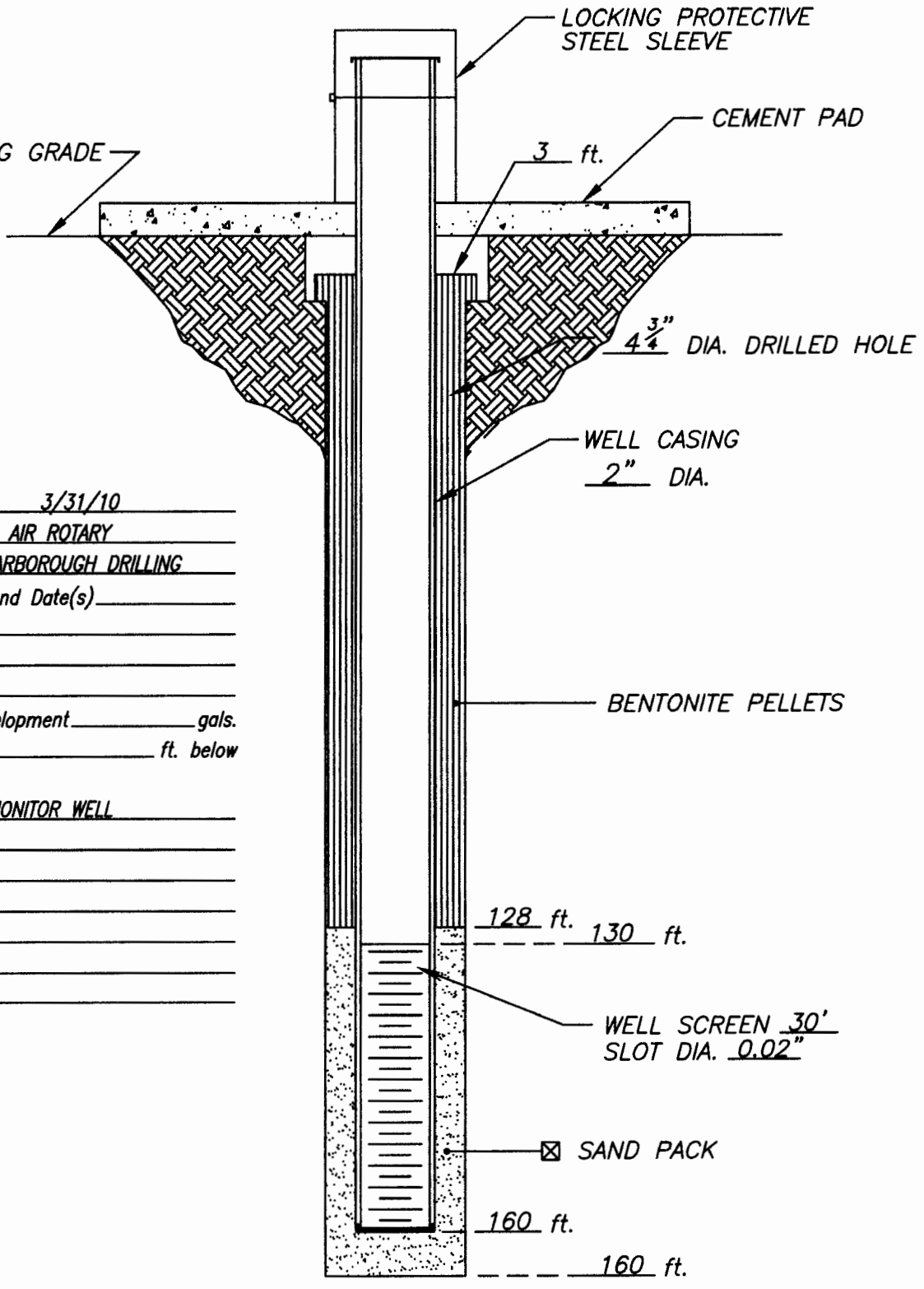
Installation Date(s) 3/31/10
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) _____

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

Remarks _____

DATE: 4/1/10	**CLIENT:** *CELERO ENERGY II LLC*	WELL NO.
TETRA TECH INC.	**PROJECT:** *ROCK QUEEN TRACT 13 TB*	MW-3
MIDLAND, TEXAS	**LOCATION:** *CHAVES COUNTY, NM*	

WELL CONSTRUCTION LOG



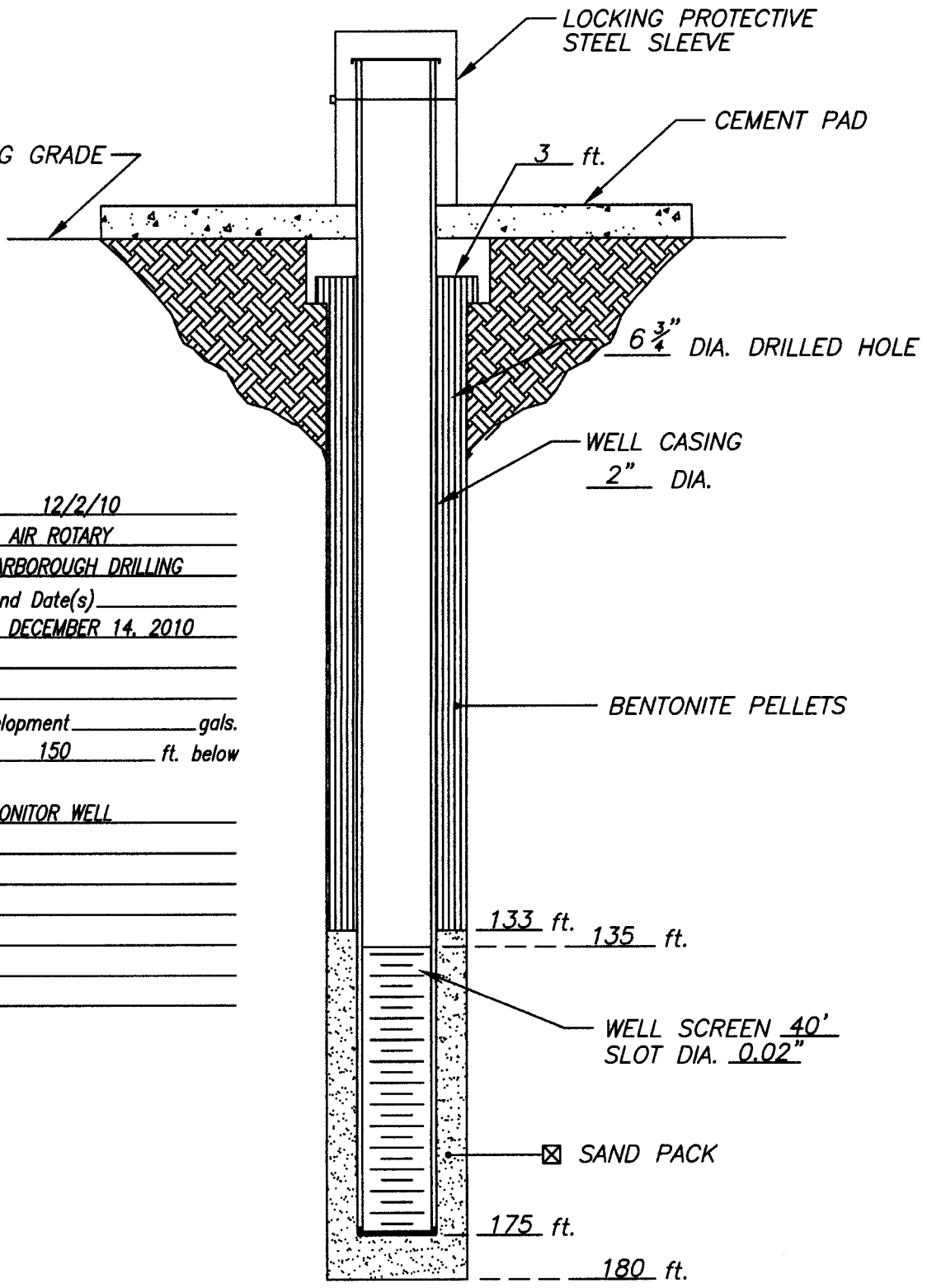
Installation Date(s) 3/31/10
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s) _____

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

Remarks _____

DATE: 4/1/10	**CLIENT:** *CELERO ENERGY II LLC*	WELL NO.
TETRA TECH INC.	**PROJECT:** *ROCK QUEEN TRACT 13 TB*	MW-4
MIDLAND, TEXAS	**LOCATION:** *CHAVES COUNTY, NM*	

WELL CONSTRUCTION LOG



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

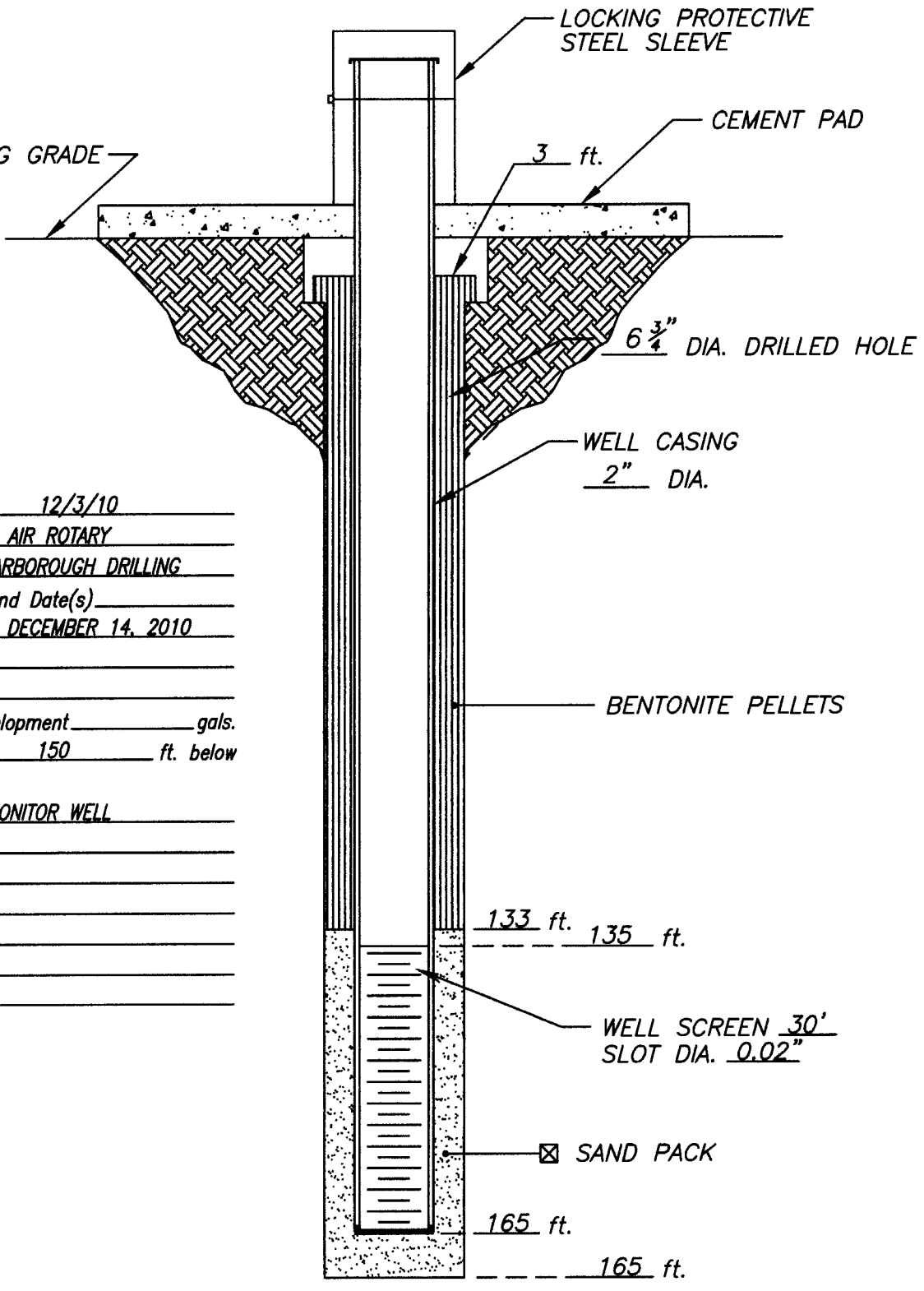
Water Removed During Development ____ gals.
Static Depth to Water 150 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 12/2/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 13 TB	MW-5
	LOCATION: CHAVES COUNTY, NM	

115-6403132A

WELL CONSTRUCTION LOG



Installation Date(s) 12/3/10
Drilling Method AIR ROTARY
Drilling Contractor SCARBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development ____ gals.
Static Depth to Water 150 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 12/3/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT 13 TB	MW-6
	LOCATION: CHAVES COUNTY, NM	

115-6403132A

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.

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	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		**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	Result	RL	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	Result	RL	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	Result	RL	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	RL Result	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	RL Result	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	RL Result	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	RL Result	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	RL Result	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 # ~~7060486~~ 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

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	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 8080/606	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anns
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	

ANALYSIS REQUEST (Circle or Specify Method No.)

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

RELINQUISHED BY: (Signature) Date: 6-4-07 Time: 17:30
RECEIVED BY: (Signature) Date: 060507 Time: 9:30

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

SAMPLED BY: (Print & Sign) JEREMY JONES 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 A—Air SD—Solid S—Soil SL—Sludge O—Other

REMARKS: all tests - Lubbock
see attached sheet for analysis

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

MA 1 ≤ 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: April 26, 2010

Work Order: 10040809

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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
227830	MW-1	water	2010-04-06	14:50	2010-04-07
227831	MW-2	water	2010-04-06	14:25	2010-04-07
227832	MW-3	water	2010-04-06	15:00	2010-04-07
227833	MW-4	water	2010-04-06	14:35	2010-04-07

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 Tract #13 TB were received by TraceAnalysis, Inc. on 2010-04-07 and assigned to work order 10040809. Samples for work order 10040809 were received intact without headspace and at a temperature of 3.3 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	59015	2010-04-09 at 09:08	68950	2010-04-09 at 11:08
BTEX	S 8021B	59064	2010-04-11 at 15:00	69005	2010-04-09 at 17:06
Ca, Dissolved	S 6010B	59090	2010-04-13 at 07:57	69039	2010-04-13 at 11:01
Chloride (IC)	E 300.0	58994	2010-04-08 at 11:46	68948	2010-04-09 at 10:23
Hardness	S 6010B	59090	2010-04-13 at 07:57	69039	2010-04-13 at 11:01
K, Dissolved	S 6010B	59090	2010-04-13 at 07:57	69039	2010-04-13 at 11:01
Mg, Dissolved	S 6010B	59090	2010-04-13 at 07:57	69039	2010-04-13 at 11:01
Na, Dissolved	S 6010B	59090	2010-04-13 at 07:57	69039	2010-04-13 at 11:01
pH	SM 4500-H+	58993	2010-04-08 at 10:34	68931	2010-04-08 at 12:36
SO4 (IC)	E 300.0	58994	2010-04-08 at 11:46	68948	2010-04-09 at 10:23
TDS	SM 2540C	59010	2010-04-09 at 09:18	69374	2010-04-23 at 13:21

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 10040809 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: 227830 - MW-1

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	Sample Preparation:	2010-04-09	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		**226**	mg/L as CaCo3	1	4.00
Total Alkalinity		**226**	mg/L as CaCo3	1	4.00

Sample: 227830 - MW-1

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	69005	Date Analyzed:	2010-04-09	Analyzed By:	AG
Prep Batch:	59064	Sample Preparation:	2010-04-11	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)		0.0909	mg/L	1	0.100	91	65.2 - 130.3
4-Bromofluorobenzene (4-BFB)		0.0742	mg/L	1	0.100	74	51.1 - 121.7

Sample: 227830 - MW-1

Laboratory:	Lubbock				
Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**130**	mg/L	1	1.00

continued ...

sample 227830 continued ...

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Potassium		**5.96**		mg/L	1	1.00
Dissolved Magnesium		**7.61**		mg/L	1	1.00
Dissolved Sodium		**11.4**		mg/L	1	1.00

Sample: 227830 - MW-1

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**43.6**		mg/L	5	0.500

Sample: 227830 - MW-1

Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Hardness (by ICP)		**356**		mg eq CaCO3/L	1	0.00

Sample: 227830 - MW-1

Laboratory:	Midland				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	68931	Date Analyzed:	2010-04-08	Analyzed By:	AR
Prep Batch:	58993	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
pH		**8.28**		s.u.	1	0.00

Sample: 227830 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**42.7**	mg/L	5	0.500

Sample: 227830 - MW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	Sample Preparation:	2010-04-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**699**	mg/L	1	10.0

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	Sample Preparation:	2010-04-09	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		**125**	mg/L as CaCo3	1	4.00
Total Alkalinity		**125**	mg/L as CaCo3	1	4.00

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	69005	Date Analyzed:	2010-04-09	Analyzed By:	AG
Prep Batch:	59064	Sample Preparation:	2010-04-11	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)		0.0872	mg/L	1	0.100	87	65.2 - 130.3
4-Bromofluorobenzene (4-BFB)		0.0672	mg/L	1	0.100	67	51.1 - 121.7

Sample: 227831 - MW-2

Laboratory:	Lubbock				
Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**520**	mg/L	10	1.00
Dissolved Potassium		**15.5**	mg/L	1	1.00
Dissolved Magnesium		**73.0**	mg/L	1	1.00
Dissolved Sodium		**925**	mg/L	10	1.00

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2250**	mg/L	500	0.500

Sample: 227831 - MW-2

Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Hardness (by ICP)		**1600**	mg eq CaCO3/L	1	0.00

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	68931	Date Analyzed:	2010-04-08	Analyzed By:	AR
Prep Batch:	58993	Sample Preparation:	2010-04-08	Prepared By:	AR

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

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**133**	mg/L	5	0.500

Sample: 227831 - MW-2

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	Sample Preparation:	2010-04-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**5890**	mg/L	5	10.0

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	Sample Preparation:	2010-04-09	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		**183**	mg/L as CaCo3	1	4.00
Total Alkalinity		**183**	mg/L as CaCo3	1	4.00

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	69005	Date Analyzed:	2010-04-09	Analyzed By:	AG
Prep Batch:	59064	Sample Preparation:	2010-04-11	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)		0.0929	mg/L	1	0.100	93	65.2 - 130.3
4-Bromofluorobenzene (4-BFB)		0.0729	mg/L	1	0.100	73	51.1 - 121.7

Sample: 227832 - MW-3

Laboratory:	Lubbock				
Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**76.1**	mg/L	1	1.00
Dissolved Potassium		**4.33**	mg/L	1	1.00
Dissolved Magnesium		**10.3**	mg/L	1	1.00
Dissolved Sodium		**78.7**	mg/L	1	1.00

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**58.4**		mg/L	5	0.500

Sample: 227832 - MW-3

Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Hardness (by ICP)		**232**		mg eq CaCO3/L	1	0.00

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	68931	Date Analyzed:	2010-04-08	Analyzed By:	AR
Prep Batch:	58993	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
pH		**8.26**		s.u.	1	0.00

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**116**		mg/L	5	0.500

Sample: 227832 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	Sample Preparation:	2010-04-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**696**	mg/L	1	10.0

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	Sample Preparation:	2010-04-09	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		**145**	mg/L as CaCo3	1	4.00
Total Alkalinity		**145**	mg/L as CaCo3	1	4.00

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	69005	Date Analyzed:	2010-04-09	Analyzed By:	AG
Prep Batch:	59064	Sample Preparation:	2010-04-11	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)		0.0909	mg/L	1	0.100	91	65.2 - 130.3
4-Bromofluorobenzene (4-BFB)		0.0696	mg/L	1	0.100	70	51.1 - 121.7

Sample: 227833 - MW-4

Laboratory:	Lubbock				
Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		**89.5**		mg/L	1	1.00
Dissolved Potassium		**3.34**		mg/L	1	1.00
Dissolved Magnesium		**11.5**		mg/L	1	1.00
Dissolved Sodium		**40.5**		mg/L	1	1.00

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**58.2**		mg/L	5	0.500

Sample: 227833 - MW-4

Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	Sample Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Hardness (by ICP)		**270**		mg eq CaCO3/L	1	0.00

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	68931	Date Analyzed:	2010-04-08	Analyzed By:	AR
Prep Batch:	58993	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
pH		**8.35**	s.u.	1	0.00

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	Sample Preparation:	2010-04-08	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**116**	mg/L	5	0.500

Sample: 227833 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	Sample Preparation:	2010-04-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**506**	mg/L	1	10.0

Method Blank (1) QC Batch: 68948

QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	QC Preparation:	2010-04-08	Prepared By:	AR

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

Method Blank (1) QC Batch: 68948

QC Batch:	68948	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	58994	QC Preparation:	2010-04-08	Prepared By:	AR

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

Method Blank (1) QC Batch: 68950

QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	QC Preparation:	2010-04-09	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: 69005

QC Batch:	69005	Date Analyzed:	2010-04-09	Analyzed By:	AG
Prep Batch:	59064	QC Preparation:	2010-04-11	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)		0.0924	mg/L	1	0.100	92	73.6 - 126.6
4-Bromofluorobenzene (4-BFB)		0.0803	mg/L	1	0.100	80	62.6 - 117.5

Method Blank (1) QC Batch: 69039

QC Batch:	69039	Date Analyzed:	2010-04-13	Analyzed By:	RR
Prep Batch:	59090	QC Preparation:	2010-04-13	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.117	mg/L	1

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Dissolved Potassium		<0.172	mg/L	1
Dissolved Magnesium		<0.160	mg/L	1
Dissolved Sodium		<0.0500	mg/L	1

Method Blank (1) QC Batch: 69374

QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	QC Preparation:	2010-04-09	Prepared By:	AR

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

Duplicates (1) Duplicated Sample: 227833

QC Batch:	68931	Date Analyzed:	2010-04-08	Analyzed By:	AR
Prep Batch:	58993	QC Preparation:	2010-04-08	Prepared By:	AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	8.33	8.35	s.u.	1	0	1.5

Duplicates (1) Duplicated Sample: 227833

QC Batch:	68950	Date Analyzed:	2010-04-09	Analyzed By:	AR
Prep Batch:	59015	QC Preparation:	2010-04-09	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	144	145	mg/L as CaCo3	1	1	20
Total Alkalinity	144	145	mg/L as CaCo3	1	1	20

Duplicates (1) Duplicated Sample: 227831

QC Batch:	69374	Date Analyzed:	2010-04-23	Analyzed By:	AR
Prep Batch:	59010	QC Preparation:	2010-04-09	Prepared By:	AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	6200	5890	mg/L	5	5	10

Laboratory Control Spike (LCS-1)

QC Batch: 68948 | Date Analyzed: 2010-04-09 | Analyzed By: AR
Prep Batch: 58994 | QC Preparation: 2010-04-08 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	25.8	mg/L	1	25.0	<0.475	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	25.9	mg/L	1	25.0	<0.475	104	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: 68948 | Date Analyzed: 2010-04-09 | Analyzed By: AR
Prep Batch: 58994 | QC Preparation: 2010-04-08 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.4	mg/L	1	25.0	<0.217	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	24.4	mg/L	1	25.0	<0.217	98	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: 69005 | Date Analyzed: 2010-04-09 | Analyzed By: AG
Prep Batch: 59064 | QC Preparation: 2010-04-11 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0958	mg/L	1	0.100	<0.000300	96	79.4 - 112.4
Toluene	0.0938	mg/L	1	0.100	<0.000200	94	79.3 - 110

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Ethylbenzene	0.0926	mg/L	1	0.100	<0.000200	93	73.8 - 113.1
Xylene	0.279	mg/L	1	0.300	<0.000900	93	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	0.0955	mg/L	1	0.100	<0.000300	96	79.4 - 112.4	0	20
Toluene	0.0942	mg/L	1	0.100	<0.000200	94	79.3 - 110	0	20
Ethylbenzene	0.0925	mg/L	1	0.100	<0.000200	92	73.8 - 113.1	0	20
Xylene	0.281	mg/L	1	0.300	<0.000900	94	73.9 - 113.6	1	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)	0.0920	0.0870	mg/L	1	0.100	92	87	73.2 - 129.6
4-Bromofluorobenzene (4-BFB)	0.0977	0.0933	mg/L	1	0.100	98	93	77.9 - 119.8

Laboratory Control Spike (LCS-1)

QC Batch: 69039 | Date Analyzed: 2010-04-13 | Analyzed By: RR
Prep Batch: 59090 | QC Preparation: 2010-04-13 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	50.3	mg/L	1	50.0	<0.117	101	85 - 115
Dissolved Potassium	49.0	mg/L	1	50.0	<0.172	98	85 - 115
Dissolved Magnesium	50.2	mg/L	1	50.0	<0.160	100	85 - 115
Dissolved Sodium	47.6	mg/L	1	50.0	<0.0500	95	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	51.3	mg/L	1	50.0	<0.117	103	85 - 115	2	20
Dissolved Potassium	49.7	mg/L	1	50.0	<0.172	99	85 - 115	1	20
Dissolved Magnesium	51.4	mg/L	1	50.0	<0.160	103	85 - 115	2	20
Dissolved Sodium	48.9	mg/L	1	50.0	<0.0500	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: 69374 | Date Analyzed: 2010-04-23 | Analyzed By: AR
Prep Batch: 59010 | QC Preparation: 2010-04-09 | 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	1020	mg/L	1	1000	<9.75	102	90 - 110	1	10

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

Matrix Spike (MS-1) Spiked Sample: 227831

QC Batch: 68948 | Date Analyzed: 2010-04-09 | Analyzed By: AR
Prep Batch: 58994 | QC Preparation: 2010-04-08 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	3890	mg/L	50	1380	2470	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
Chloride	3890	mg/L	50	1380	2470	103	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: 227831

QC Batch: 68948 | Date Analyzed: 2010-04-09 | Analyzed By: AR
Prep Batch: 58994 | QC Preparation: 2010-04-08 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	1490	mg/L	50	1380	197	94	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	1500	mg/L	50	1380	197	95	90 - 110	1	

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

Matrix Spike (MS-1) Spiked Sample: 227833

QC Batch: 69005 | Date Analyzed: 2010-04-09 | Analyzed By: AG
Prep Batch: 59064 | QC Preparation: 2010-04-11 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0952	mg/L	1	0.100	<0.000300	95	77.3 - 117.4
Toluene	0.0933	mg/L	1	0.100	<0.000200	93	75 - 111.8
Ethylbenzene	0.0923	mg/L	1	0.100	<0.000200	92	78.8 - 106.6
Xylene	0.278	mg/L	1	0.300	<0.000900	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	0.0966	mg/L	1	0.100	<0.000300	97	77.3 - 117.4	1	20
Toluene	0.0954	mg/L	1	0.100	<0.000200	95	75 - 111.8	2	20
Ethylbenzene	0.0930	mg/L	1	0.100	<0.000200	93	78.8 - 106.6	1	20
Xylene	0.282	mg/L	1	0.300	<0.000900	94	68.9 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0845	0.0786	mg/L	1	0.1	84	79	76.3 - 129.8
4-Bromofluorobenzene (4-BFB)	0.0905	0.0841	mg/L	1	0.1	90	84	75.2 - 112.8

Matrix Spike (MS-1) Spiked Sample: 227830

QC Batch: 69039 | Date Analyzed: 2010-04-13 | Analyzed By: RR
Prep Batch: 59090 | QC Preparation: 2010-04-13 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	178	mg/L	1	50.0	130	96	75 - 125
Dissolved Potassium	48.0	mg/L	1	50.0	5.96	84	75 - 125
Dissolved Magnesium	58.0	mg/L	1	50.0	7.61	101	75 - 125
Dissolved Sodium	52.7	mg/L	1	50.0	11.4	83	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	177	mg/L	1	50.0	130	94	75 - 125	1	20
Dissolved Potassium	47.0	mg/L	1	50.0	5.96	82	75 - 125	2	20
Dissolved Magnesium	58.4	mg/L	1	50.0	7.61	102	75 - 125	1	20
Dissolved Sodium	55.0	mg/L	1	50.0	11.4	87	75 - 125	4	20

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

Standard (ICV-1)

QC Batch: 68931 | Date Analyzed: 2010-04-08 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	6.92	99	98 - 102	2010-04-08

Standard (CCV-1)

QC Batch: 68931 Date Analyzed: 2010-04-08 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	6.88	98	98 - 102	2010-04-08

Standard (ICV-1)

QC Batch: 68948 Date Analyzed: 2010-04-09 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	23.7	95	90 - 110	2010-04-09

Standard (ICV-1)

QC Batch: 68948 Date Analyzed: 2010-04-09 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	24.9	100	90 - 110	2010-04-09

Standard (CCV-1)

QC Batch: 68948 Date Analyzed: 2010-04-09 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	23.8	95	90 - 110	2010-04-09

Standard (CCV-1)

QC Batch: 68948 Date Analyzed: 2010-04-09 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	24.7	99	90 - 110	2010-04-09

Standard (ICV-1)

QC Batch: 68950 Date Analyzed: 2010-04-09 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	<1.00		0 - 200	2010-04-09
Carbonate Alkalinity		mg/L as CaCo3	0.00	210		0 - 200	2010-04-09
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	38.0		0 - 200	2010-04-09
Total Alkalinity		mg/L as CaCo3	250	248	99	90 - 110	2010-04-09

Standard (CCV-1)

QC Batch: 68950 Date Analyzed: 2010-04-09 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	<1.00		0 - 200	2010-04-09
Carbonate Alkalinity		mg/L as CaCo3	0.00	220		0 - 200	2010-04-09
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	25.0		0 - 200	2010-04-09
Total Alkalinity		mg/L as CaCo3	250	245	98	90 - 110	2010-04-09

Standard (CCV-2)

QC Batch: 69005 Date Analyzed: 2010-04-09 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	0.0892	89	80 - 120	2010-04-09
Toluene		mg/L	0.100	0.0874	87	80 - 120	2010-04-09
Ethylbenzene		mg/L	0.100	0.0861	86	80 - 120	2010-04-09
Xylene		mg/L	0.300	0.259	86	80 - 120	2010-04-09

Standard (CCV-3)

QC Batch: 69005 Date Analyzed: 2010-04-09 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	0.0933	93	80 - 120	2010-04-09
Toluene		mg/L	0.100	0.0917	92	80 - 120	2010-04-09
Ethylbenzene		mg/L	0.100	0.0895	90	80 - 120	2010-04-09
Xylene		mg/L	0.300	0.272	91	80 - 120	2010-04-09

Standard (ICV-1)

QC Batch: 69039 Date Analyzed: 2010-04-13 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	51.6	101	90 - 110	2010-04-13
Dissolved Potassium		mg/L	55.0	55.9	102	90 - 110	2010-04-13
Dissolved Magnesium		mg/L	51.0	52.8	104	90 - 110	2010-04-13
Dissolved Sodium		mg/L	51.0	52.5	103	90 - 110	2010-04-13

Standard (CCV-1)

QC Batch: 69039 Date Analyzed: 2010-04-13 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	51.0	54.4	107	90 - 110	2010-04-13
Dissolved Potassium		mg/L	55.0	57.6	105	90 - 110	2010-04-13
Dissolved Magnesium		mg/L	51.0	54.5	107	90 - 110	2010-04-13
Dissolved Sodium		mg/L	51.0	54.4	107	90 - 110	2010-04-13

Order # 1004080[illegible]

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.: 115-6403132A
PROJECT NAME: Celero / Rock Queen Tract #13 I13 Chaves Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.): 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

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	Chloride	Major Anions/Cations, pH, TDS
227830	4/6	1450	W		X	MW-1	4	N	3		X	1	X	X	X
831	↓	1425	↓		↓	MW-2	↓	↓	↓		↓	↓	↓	↓	↓
832	↓	1500	↓		↓	MW-3	↓	↓	↓		↓	↓	↓	↓	↓
833	↓	1435	↓		↓	MW-4	↓	↓	↓		↓	↓	↓	↓	↓

RELINQUISHED BY: (Signature) [signature] Date: 4/7/10 Time: 1650
RECEIVED BY: (Signature) [signature] Date: 4/7/10 Time: 1650
RELINQUISHED BY: (Signature) [signature] Date: 4/8/10 Time: 17:00
RECEIVED BY: (Signature) Date: Time:
RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace Lab
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Carol Fox
DATE: 4-9-10 TIME: 9:40 AM
5.1 / 5.5

SAMPLED BY: (Print & Initial) JT / TF Date: 4/6/10 Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #:
HAND DELIVERED (circled) UPS OTHER:
TETRA TECH CONTACT PERSON: JR Jeff Kindley
Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.3°c intact
REMARKS: Midland-Btex, chloride, anions, pH, TDS Artesia-cations

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

IS 7T70.31.17

TRACEANALYSIS, INC.

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200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
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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: July 27, 2010

Work Order: 10071414

Project Location: Chavez County, NM
Project Name: Celero/Rock Queen #13 TB
Project Number: 115-6403122

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
237458	MW-1	water	2010-07-12	16:40	2010-07-14
237459	MW-2	water	2010-07-12	16:30	2010-07-14
237460	MW-3	water	2010-07-12	17:00	2010-07-14
237461	MW-4	water	2010-07-12	16:50	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 #13 TB were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071414. Samples for work order 10071414 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	61482	2010-07-15 at 09:54	71929	2010-07-16 at 03:27
SO4 (IC)	E 300.0	61482	2010-07-15 at 09:54	71929	2010-07-16 at 03:27
TDS	SM 2540C	61516	2010-07-15 at 10:29	72039	2010-07-26 at 12:30

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10071414 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: 237458 - 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	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)		0.102	mg/L	1	0.100	102	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0852	mg/L	1	0.100	85	51.1 - 128

Sample: 237458 - MW-1

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**38.8**		mg/L	5	2.50

Sample: 237458 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**37.2**		mg/L	5	2.50

Sample: 237458 - 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		**1130**	mg/L	1	10.0

Sample: 237459 - 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)		0.0987	mg/L	1	0.100	99	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0818	mg/L	1	0.100	82	51.1 - 128

Sample: 237459 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**9870**	mg/L	1000	2.50

Sample: 237459 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**189**		mg/L	5	2.50

Sample: 237459 - 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		**27200**		mg/L	100	10.0

Sample: 237460 - 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)		0.0948	mg/L	1	0.100	95	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0768	mg/L	1	0.100	77	51.1 - 128

Sample: 237460 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**83.6**		mg/L	5	2.50

Sample: 237460 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**64.0**		mg/L	5	2.50

Sample: 237460 - 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		**562**		mg/L	2	10.0

Sample: 237461 - 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 237461 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)		0.115	mg/L	1	0.100	115	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0945	mg/L	1	0.100	94	51.1 - 128

Sample: 237461 - MW-4

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**147**	mg/L	5	2.50

Sample: 237461 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	71929	Date Analyzed:	2010-07-16	Analyzed By:	AR
Prep Batch:	61482	Sample Preparation:	2010-07-15	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**48.5**	mg/L	5	2.50

Sample: 237461 - 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		**630**	mg/L	2	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: 71929

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

Parameter	Flag	MDL Result	Units	RL
Chloride		0.462	mg/L	2.5

Method Blank (1) QC Batch: 71929

QC Batch: 71929 | Date Analyzed: 2010-07-16 | Analyzed By: AR
Prep Batch: 61482 | 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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	25.1	mg/L	1	25.0	<0.265	100	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.9	mg/L	1	25.0	<0.177	100	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	25.0	mg/L	1	25.0	<0.177	100	90 - 110	0	20

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

Laboratory Control Spike (LCS-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.

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
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: 237459

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[10]	15500	mg/L	100	2750	12350	114	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	[11]	15500	mg/L	100	2750	12350	114	90 - 110	0	20

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] 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.
[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.

Matrix Spike (MS-1) Spiked Sample: 237459

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	[12]	2500	mg/L	100	2750	181	84	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	[13]	2500	mg/L	100	2750	181	84	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: 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 (ICV-1)

QC Batch: 71929 | Date Analyzed: 2010-07-16 | Analyzed By: AR

[12] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[13] 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
Chloride		mg/L	25.0	27.3	109	90 - 110	2010-07-16

Standard (ICV-1)

QC Batch: 71929 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	23.9	96	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71929 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	26.9	108	90 - 110	2010-07-16

Standard (CCV-1)

QC Batch: 71929 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	26.4	106	90 - 110	2010-07-16

Order #: 10071414

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.: 116-6403122

PROJECT NAME: Celero / Rock Queen # 13 T13 Chavez Co, NM

LAB I.D. NUMBER	DATE	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
237458	7/12/10	1640	W		X	MW-1	4	N	X		X		X											X				X	X
459	7/12/10	1630				MW-2																							
460	7/12/10	1700				MW-3																							
461	7/12/10	1650				MW-4																							

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: 7/12/10 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:

RECEIVING LABORATORY: Xenco Lab Tracy
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: 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
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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: November 10, 2010

Work Order: 10101403

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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
247493	MW-1	water	2010-10-12	15:40	2010-10-13
247494	MW-2	water	2010-10-12	15:20	2010-10-13
247495	MW-3	water	2010-10-12	15:50	2010-10-13
247496	MW-4	water	2010-10-12	15:30	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 Tract #13 TB were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101403. Samples for work order 10101403 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	64180	2010-10-26 at 14:38	74818	2010-10-26 at 17:25
SO4 (IC)	E 300.0	64180	2010-10-26 at 14:38	74818	2010-10-26 at 17:25
SO4 (IC)	E 300.0	64528	2010-11-09 at 10:35	75227	2010-11-09 at 18:09
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 10101403 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: 247493 - 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)		0.0939	mg/L	1	0.100	94	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0849	mg/L	1	0.100	85	39 - 138

Sample: 247493 - MW-1

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**52.3**		mg/L	5	2.50

Sample: 247493 - MW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**49.6**		mg/L	5	2.50

Sample: 247493 - 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		**445**		mg/L	1	10.0

Sample: 247494 - 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)		0.0916	mg/L	1	0.100	92	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0849	mg/L	1	0.100	85	39 - 138

Sample: 247494 - MW-2

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**7750**		mg/L	1000	2.50

Sample: 247494 - MW-2

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**203**		mg/L	5	2.50

Sample: 247494 - 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		**15300**		mg/L	100	10.0

Sample: 247495 - 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)		0.0926	mg/L	1	0.100	93	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0826	mg/L	1	0.100	83	39 - 138

Sample: 247495 - MW-3

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**170**	mg/L	50	2.50

Sample: 247495 - MW-3

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

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**84.5**	mg/L	5	2.50

Sample: 247495 - 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	RL Result	Units	Dilution	RL
Total Dissolved Solids		**608**	mg/L	2	10.0

Sample: 247496 - 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	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100

continued ...

sample 247496 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)		0.0933	mg/L	1	0.100	93	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0828	mg/L	1	0.100	83	39 - 138

Sample: 247496 - MW-4

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

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

Sample: 247496 - MW-4

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	SS

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**56.4**	mg/L	10	2.50

Sample: 247496 - 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		**616**	mg/L	2	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: 74818

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

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

Method Blank (1) QC Batch: 74818

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

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

Method Blank (1) QC Batch: 75227

QC Batch: 75227 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64528 | 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-1)

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	979	mg/L	1	1000	<9.75	98	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids	994	mg/L	1	1000	<9.75	99	90 - 110	2	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23.9	mg/L	1	25.0	<0.0350	96	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.5	mg/L	1	25.0	<0.596	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	24.9	mg/L	1	25.0	<0.596	100	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 75227 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64528 | QC Preparation: 2010-11-09 | Prepared By: PG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	25.2	mg/L	1	25.0	<0.596	101	90 - 110	2	20

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

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: 247502

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	244000	mg/L	10000	250000	16700	91	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	248000	mg/L	10000	250000	16700	92	90 - 110	2	20

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

Matrix Spike (MS-1) Spiked Sample: 247502

QC Batch: 74818 | Date Analyzed: 2010-10-26 | Analyzed By: PG
Prep Batch: 64180 | QC Preparation: 2010-10-26 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	244000	mg/L	10000	250000	<5960	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	<5960	98	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 247504

QC Batch: 75227 | Date Analyzed: 2010-11-09 | Analyzed By: PG
Prep Batch: 64528 | QC Preparation: 2010-11-09 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate [6]	493	mg/L	5	125	<2.98	394	90 - 110

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

continued ...

[6] matrix spikes run with batch but spiked sample was reported in another run •

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate [7]	484	mg/L	5	125	<2.98	387	90 - 110	2	20

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

Standard (CCV-1)

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	0.0953	95	80 - 120	2010-10-14
Toluene		mg/L	0.100	0.0980	98	80 - 120	2010-10-14
Ethylbenzene		mg/L	0.100	0.0945	94	80 - 120	2010-10-14
Xylene		mg/L	0.300	0.280	93	80 - 120	2010-10-14

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-1)

QC Batch: 74818 Date Analyzed: 2010-10-26 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	24.2	97	90 - 110	2010-10-26

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

Standard (CCV-1)

QC Batch: 74818 | Date Analyzed: 2010-10-26 | 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	2010-10-26

Standard (CCV-2)

QC Batch: 74818 | Date Analyzed: 2010-10-26 | 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	2010-10-26

Standard (CCV-2)

QC Batch: 74818 | Date Analyzed: 2010-10-26 | 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	2010-10-26

Standard (CCV-1)

QC Batch: 75227 | 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	24.9	100	90 - 110	2010-11-09

Standard (CCV-2)

QC Batch: 75227 | 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

LOC#: 1610403

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 6403152
PROJECT NAME: Celero / Rock Queen #13 Chloride

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2016	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	Sulfate
249493	10/12	1440	W		X	MW-1	4	N	3		X	1	X												X				X	X
494	↓	1520	↓		↓	MW-2	↓	↓	↓		↓	↓	↓												↓				↓	↓
495	↓	1550	↓		↓	MW-3	↓	↓	↓		↓	↓	↓												↓				↓	↓
496	↓	1530	↓		↓	MW-4	↓	↓	↓		↓	↓	↓												↓				↓	↓

RELINQUISHED BY: (Signature) [signature] Date: 10/13/16 Time: [illegible]
RECEIVED BY: (Signature) [signature] Date: 10/13/16 Time: [illegible]
RELINQUISHED BY: (Signature) [signature] Date: 10/14/16 Time: 1630
RECEIVED BY: (Signature) Carol Fox Date: 10-15-16 Time: 9:50 AM
RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JK Date: 10/12/16 Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: HAND DELIVERED UPS 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: DATE: TIME:
RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 3.5°C intact
REMARKS: * Midland - BTEX, TDS * [illegible] - Chlorides, Sulfate *

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

3.1/3.0 IR

1S 7K566164

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: February 3, 2011

Work Order: 11012128

Project Location: Chavez County, NM
Project Name: Celero/Rock Queen #13 TB
Project Number: 115-6403132

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
255897	MW-1	water	2011-01-21	10:55	2011-01-21
255898	MW-2	water	2011-01-21	10:37	2011-01-21
255899	MW-3	water	2011-01-21	11:05	2011-01-21
255900	MW-4	water	2011-01-21	10:46	2011-01-21
255901	MW-5	water	2011-01-21	10:25	2011-01-21
255902	MW-6	water	2011-01-21	10:10	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 21 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Standard Flags

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

Samples for project Celero/Rock Queen #13 TB were received by TraceAnalysis, Inc. on 2011-01-21 and assigned to work order 11012128. Samples for work order 11012128 were received intact without headspace and at a temperature of 12.5 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	66157	2011-01-24 at 11:00	77124	2011-01-24 at 13:17
Chloride (IC)	E 300.0	66272	2011-01-30 at 10:00	77264	2011-01-30 at 12:27
Chloride (IC)	E 300.0	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66272	2011-01-30 at 10:00	77264	2011-01-30 at 12:27
SO4 (IC)	E 300.0	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66364	2011-02-01 at 10:33	77367	2011-02-01 at 12:49
TDS	SM 2540C	66128	2011-01-24 at 11:48	77161	2011-01-26 at 15:20

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 11012128 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: 255897 - 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)		0.119	mg/L	1	0.100	119	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.112	mg/L	1	0.100	112	51.1 - 128

Sample: 255897 - MW-1

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77264	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66272	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**44.5**		mg/L	5	2.50

Sample: 255897 - MW-1

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77264	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66272	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**48.8**		mg/L	5	2.50

Sample: 255897 - MW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**447**	mg/L	1	10.0

Sample: 255898 - 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)		0.110	mg/L	1	0.100	110	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	51.1 - 128

Sample: 255898 - MW-2

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77264	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66272	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**9070**	mg/L	500	2.50

Sample: 255898 - MW-2

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77367	Date Analyzed:	2011-02-01	Analyzed By:	PG
Prep Batch:	66364	Sample Preparation:	2011-02-01	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**202**		mg/L	5	2.50

Sample: 255898 - MW-2

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**15200**		mg/L	100	10.0

Sample: 255899 - 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)		0.111	mg/L	1	0.100	111	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.104	mg/L	1	0.100	104	51.1 - 128

Sample: 255899 - MW-3

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77264	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66272	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**133**		mg/L	5	2.50

Sample: 255899 - MW-3

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77264	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66272	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL	Units	Dilution	RL
Sulfate		**62.0**		mg/L	5	2.50

Sample: 255899 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**535**		mg/L	1	10.0

Sample: 255900 - 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 255900 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)		0.113	mg/L	1	0.100	113	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.104	mg/L	1	0.100	104	51.1 - 128

Sample: 255900 - MW-4

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77266	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66273	Sample Preparation:	2011-01-30	Prepared By:	PG

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

Sample: 255900 - MW-4

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77266	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66273	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		**50.8**	mg/L	5	2.50

Sample: 255900 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**534**	mg/L	2	10.0

Sample: 255901 - 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	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)		0.116	mg/L	1	0.100	116	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.107	mg/L	1	0.100	107	51.1 - 128

Sample: 255901 - MW-5

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77266	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66273	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**5690**	mg/L	500	2.50

Sample: 255901 - MW-5

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77367	Date Analyzed:	2011-02-01	Analyzed By:	PG
Prep Batch:	66364	Sample Preparation:	2011-02-01	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Sulfate		**128**	mg/L	5	2.50

Sample: 255901 - MW-5

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**7890**	mg/L	10	10.0

Sample: 255902 - 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	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)		0.112	mg/L	1	0.100	112	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.106	mg/L	1	0.100	106	51.1 - 128

Sample: 255902 - MW-6

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77266	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66273	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**2880**	mg/L	100	2.50

Sample: 255902 - MW-6

Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77266	Date Analyzed:	2011-01-30	Analyzed By:	PG
Prep Batch:	66273	Sample Preparation:	2011-01-30	Prepared By:	PG

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		<250	mg/L	100	2.50

Sample: 255902 - MW-6

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	Sample Preparation:	2011-01-24	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**4690**	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
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: 77161

QC Batch:	77161	Date Analyzed:	2011-01-26	Analyzed By:	AR
Prep Batch:	66128	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: 77264

QC Batch: 77264 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66272 QC Preparation: 2011-01-30 Prepared By: PG

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

Method Blank (1) QC Batch: 77264

QC Batch: 77264 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66272 QC Preparation: 2011-01-30 Prepared By: PG

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

Method Blank (1) QC Batch: 77266

QC Batch: 77266 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66273 QC Preparation: 2011-01-30 Prepared By: PG

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

Method Blank (1) QC Batch: 77266

QC Batch: 77266 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66273 QC Preparation: 2011-01-30 Prepared By: PG

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

Method Blank (1) QC Batch: 77367

QC Batch: 77367 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66364 | QC Preparation: 2011-02-01 | Prepared By: PG

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

Duplicates (1) Duplicated Sample: 255905

QC Batch: 77161 | Date Analyzed: 2011-01-26 | Analyzed By: AR
Prep Batch: 66128 | QC Preparation: 2011-01-24 | Prepared By: AR

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	81500	81800	mg/L	100	0	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
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: 77161 | Date Analyzed: 2011-01-26 | Analyzed By: AR
Prep Batch: 66128 | QC Preparation: 2011-01-24 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids	993	mg/L	1	1000	<9.75	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
Total Dissolved Solids	999	mg/L	1	1000	<9.75	100	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: 77264 | Date Analyzed: 2011-01-30 | Analyzed By: PG
Prep Batch: 66272 | QC Preparation: 2011-01-30 | 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	23.9	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: 77264 | Date Analyzed: 2011-01-30 | Analyzed By: PG
Prep Batch: 66272 | QC Preparation: 2011-01-30 | 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	24.6	mg/L	1	25.0	<0.126	98	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77266 | Date Analyzed: 2011-01-30 | Analyzed By: PG
Prep Batch: 66273 | QC Preparation: 2011-01-30 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	24.0	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	24.0	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: 77266 | Date Analyzed: 2011-01-30 | Analyzed By: PG
Prep Batch: 66273 | QC Preparation: 2011-01-30 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.6	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	24.6	mg/L	1	25.0	<0.126	98	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77367 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66364 | QC Preparation: 2011-02-01 | Prepared By: PG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.4	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	24.0	mg/L	1	25.0	<0.126	96	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: 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.

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: 255899

QC Batch: 77264 | Date Analyzed: 2011-01-30 | Analyzed By: PG
Prep Batch: 66272 | QC Preparation: 2011-01-30 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	273	mg/L	5	125	133	112	90 - 110

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.
[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	275	mg/L	5	125	133	114	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: 255899

QC Batch: 77264 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66272 QC Preparation: 2011-01-30 Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	191	mg/L	5	125	62	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	191	mg/L	5	125	62	103	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 256128

QC Batch: 77266 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66273 QC Preparation: 2011-01-30 Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	121	mg/L	5	125	2.2	95	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	120	mg/L	5	125	2.2	94	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: 256128

QC Batch: 77266 Date Analyzed: 2011-01-30 Analyzed By: PG
Prep Batch: 66273 QC Preparation: 2011-01-30 Prepared By: PG

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	123	mg/L	5	125	<0.630	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	122	mg/L	5	125	<0.630	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: 256245

QC Batch: 77367 | Date Analyzed: 2011-02-01 | Analyzed By: PG
Prep Batch: 66364 | QC Preparation: 2011-02-01 | Prepared By: PG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	13000	mg/L	500	12500	<63.0	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	13000	mg/L	500	12500	<63.0	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: 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	0.0910	91	80 - 120	2011-01-24
Toluene		mg/L	0.100	0.102	102	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.108	108	80 - 120	2011-01-24
Xylene		mg/L	0.300	0.325	108	80 - 120	2011-01-24

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-1)

QC Batch: 77264 Date Analyzed: 2011-01-30 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	24.4	98	90 - 110	2011-01-30

Standard (CCV-1)

QC Batch: 77264 Date Analyzed: 2011-01-30 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	2011-01-30

Standard (CCV-2)

QC Batch: 77264 Date Analyzed: 2011-01-30 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	24.1	96	90 - 110	2011-01-30

Standard (CCV-2)

QC Batch: 77264 Date Analyzed: 2011-01-30 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	2011-01-30

Standard (CCV-1)

QC Batch: 77266 Date Analyzed: 2011-01-30 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	24.1	96	90 - 110	2011-01-30

Standard (CCV-1)

QC Batch: 77266 Date Analyzed: 2011-01-30 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	2011-01-30

Standard (CCV-2)

QC Batch: 77266 Date Analyzed: 2011-01-30 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	2011-01-30

Standard (CCV-2)

QC Batch: 77266 Date Analyzed: 2011-01-30 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	2011-01-30

Standard (CCV-1)

QC Batch: 77367 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
Sulfate		mg/L	25.0	23.9	96	90 - 110	2011-02-01

Standard (CCV-2)

QC Batch: 77367 | 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
Sulfate		mg/L	25.0	24.1	96	90 - 110	2011-02-01

WO #: 11012128

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.: 114-6403132

PROJECT NAME: Celero / Rock Queen Unit Tract 13 TB
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
255897	1/21	1055	W		X	MW-1	4	N	X		X	X	X												X				X	X
898		1037				MW-2																								
899		1105				MW-3																								
900		1016				MW-4																								
901		1025				MW-5																								
902		1010				MW-6																								

RELINQUISHED BY: (Signature) [signature] Date: 1/21/11 Time: 15:15
RECEIVED BY: (Signature) [signature] Date: 1/21/11 Time: 15:15

RELINQUISHED BY: (Signature) [signature] Date: 1/24/11 Time: 16:00
RECEIVED BY: (Signature) [signature] Date: Time:

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

RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Brenda Ward
DATE: 1/25/11 TIME: 10:10
LS ZK 951497 Temp 3.9/3.5°C

SAMPLED BY: (Print & Initial) JK Date: 1/21/11 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

SAMPLE CONDITION WHEN RECEIVED: 12.5°C intact

REMARKS: Midland - BTEX, TDS; Lubbock - Chloride, SO4

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

SAMPLE LOG

Boring/Well: TMW-1
Project Number: N/A
Client: COG
Site Location: Pronghorn 1/2 Mile Leak
Location: Lea Co., NM
Legals: T-18S R-32E Sec 11
Total Depth 130
Date Installed: 03/16/11
Gauged: 3/23/11 - 133' Dry Well

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
5	--	Soft white caliche powder
10	--	Stiff sandy clay
15	--	Stiff sandy clay
20	--	Tan loose silty sand
25	--	Medium stiff silty clay with some sand
30	--	Tan loose coarse sand with gravel 10-20mm
35	--	Lighter loose sand and gravel - dry
40	--	Well sorted loose sand - very fine silty - dry
45	--	Well sorted loose sand - very fine silty - dry
50	--	Loose reddish/brown well sorted sand - dry
55	--	Loose coarse sand small gravel 0.5mm
60	--	Silty reddish sandy clay with some gravel 1mm
65	--	Silty reddish sandy clay with some gravel 1mm
70	--	Silty reddish sandy clay with some gravel 1mm
75	--	Soft red silty clay - dry
80	--	Soft red silty clay - dry
85	--	Soft red silty clay - dry
90	--	Soft red silty clay - dry
95	--	Soft brown silty clay - dry
100	--	Soft brown silty clay - dry
105	--	Soft brown silty clay - dry
110	--	Soft brown silty clay - dry
115	--	Soft brown silty clay - dry
120	--	Loose brown sand - well sorted silty - dry
125	--	Loose brown sand - well sorted silty - dry
130	--	Loose silty clay - gray color - shale

Total Depth 130' **Groundwater was not encountered**

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: May 2, 2011

Work Order: 11041528

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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
263898	MW-1	water	2011-04-13	11:00	2011-04-15
263899	MW-2	water	2011-04-13	12:25	2011-04-15
263900	MW-3	water	2011-04-13	11:20	2011-04-15
263901	MW-4	water	2011-04-13	11:45	2011-04-15
263902	MW-5	water	2011-04-13	12:45	2011-04-15
263903	MW-6	water	2011-04-13	12:10	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 Tract #13 TB were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041528. Samples for work order 11041528 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	68258	2011-04-18 at 08:51	80420	2011-04-18 at 23:21
Chloride (IC)	E 300.0	68437	2011-04-25 at 09:23	80664	2011-04-26 at 15:31
Chloride (IC)	E 300.0	68438	2011-04-25 at 11:24	80665	2011-04-26 at 15:32
SO4 (IC)	E 300.0	68437	2011-04-25 at 09:23	80664	2011-04-26 at 15:31
SO4 (IC)	E 300.0	68438	2011-04-25 at 11:24	80665	2011-04-26 at 15:32
TDS	SM 2540C	68432	2011-04-22 at 12:00	80826	2011-04-29 at 14:31

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 11041528 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: 263898 - MW-1

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	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	0.0956	mg/L	1	0.100	96	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 263898 - MW-1

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride		1	**52.7**	mg/L	5	2.50

Sample: 263898 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**52.4**	mg/L	5	2.50

Sample: 263898 - MW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**481**	mg/L	1	10.0

Sample: 263899 - MW-2

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	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	0.0950	mg/L	1	0.100	95	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 263899 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride		1	**9380**	mg/L	1000	2.50

Sample: 263899 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**193**	mg/L	5	2.50

Sample: 263899 - MW-2

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**16900**	mg/L	100	10.0

Sample: 263900 - MW-3

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	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	0.0944	mg/L	1	0.100	94	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0969	mg/L	1	0.100	97	51.1 - 128

Sample: 263900 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**148**	mg/L	5	2.50

Sample: 263900 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**84.1**	mg/L	5	2.50

Sample: 263900 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**630**	mg/L	2	10.0

Sample: 263901 - MW-4

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	Sample Preparation:	2011-04-18	Prepared By:	ME

continued ...

sample 263901 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	0.0982	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.101	mg/L	1	0.100	101	51.1 - 128

Sample: 263901 - MW-4

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**174**	mg/L	5	2.50

Sample: 263901 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**49.4**	mg/L	5	2.50

Sample: 263901 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**604**	mg/L	2	10.0

Sample: 263902 - MW-5

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	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	0.0956	mg/L	1	0.100	96	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0975	mg/L	1	0.100	98	51.1 - 128

Sample: 263902 - MW-5

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride		1	**17700**	mg/L	1000	2.50

Sample: 263902 - MW-5

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80664	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68437	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Sulfate		1	**336**	mg/L	100	2.50

Sample: 263902 - MW-5

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Total Dissolved Solids		1	**27000**	mg/L	100	10.0

Sample: 263903 - MW-6

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	80420	Date Analyzed:	2011-04-18	Analyzed By:	ME
Prep Batch:	68258	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	0.0914	mg/L	1	0.100	91	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0955	mg/L	1	0.100	96	51.1 - 128

Sample: 263903 - MW-6

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80665	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68438	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**3010**	mg/L	100	2.50

Sample: 263903 - MW-6

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80665	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68438	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**85.2**	mg/L	5	2.50

Sample: 263903 - MW-6

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**4890**	mg/L	5	10.0

Method Blanks

Method Blank (1) QC Batch: 80420

QC Batch: 80420 | Date Analyzed: 2011-04-18 | Analyzed By: ME
Prep Batch: 68258 | 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	0.0862	mg/L	1	0.100	86	70.2 - 118
4-Bromofluorobenzene (4-BFB)		1	0.0861	mg/L	1	0.100	86	47.3 - 116

Method Blank (1) QC Batch: 80664

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.484	mg/L	2.5

Method Blank (1) QC Batch: 80664

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

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

Method Blank (1) QC Batch: 80665

QC Batch:	80665	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68438	QC Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.513	mg/L	2.5

Method Blank (1) QC Batch: 80665

QC Batch:	80665	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68438	QC Preparation:	2011-04-25	Prepared By:	AR

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

Method Blank (1) QC Batch: 80826

QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	QC Preparation:	2011-04-22	Prepared By:	AR

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

Duplicates (1) Duplicated Sample: 263904

QC Batch:	80826	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68432	QC Preparation:	2011-04-22	Prepared By:	AR

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	121000	116000	mg/L	100	4	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 80420 | Date Analyzed: 2011-04-18 | Analyzed By: ME
Prep Batch: 68258 | QC Preparation: 2011-04-18 | Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0962	mg/L	1	0.100	<0.000400	96	76.8 - 110
Toluene		1	0.100	mg/L	1	0.100	<0.000300	100	81 - 108
Ethylbenzene		1	0.0993	mg/L	1	0.100	<0.000300	99	78.8 - 118
Xylene		1	0.297	mg/L	1	0.300	<0.000333	99	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	0.0930	mg/L	1	0.100	<0.000400	93	76.8 - 110	3	20
Toluene		1	0.0981	mg/L	1	0.100	<0.000300	98	81 - 108	2	20
Ethylbenzene		1	0.0969	mg/L	1	0.100	<0.000300	97	78.8 - 118	2	20
Xylene		1	0.292	mg/L	1	0.300	<0.000333	97	80.3 - 119	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)	1	0.0921	0.0869	mg/L	1	0.100	92	87	66.6 - 114
4-Bromofluorobenzene (4-BFB)	1	0.0975	0.0930	mg/L	1	0.100	98	93	68.2 - 124

Laboratory Control Spike (LCS-1)

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

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

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

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control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.5	mg/L	1	25.0	<0.265	102	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	23.2	mg/L	1	25.0	<0.177	93	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	23.7	mg/L	1	25.0	<0.177	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: 80665 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68438 | QC Preparation: 2011-04-25 | Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.8	mg/L	1	25.0	<0.265	99	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80665 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68438 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	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	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	23.1	mg/L	1	25.0	<0.177	92	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: 80826 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68432 | QC Preparation: 2011-04-22 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	1050	mg/L	1	1000	<9.75	105	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	954	mg/L	1	1000	<9.75	95	90 - 110	10	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: 263900

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	354	mg/L	10	275	139	78	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	352	mg/L	10	275	139	77	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: 263900

QC Batch: 80664 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68437 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	292	mg/L	10	275	79.5	77	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	297	mg/L	10	275	79.5	79	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: 263903

QC Batch: 80665 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68438 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	5530	mg/L	100	2750	3010	92	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	5580	mg/L	100	2750	3010	93	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: 263903

QC Batch: 80665 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68438 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2680	mg/L	100	2750	136	92	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	2680	mg/L	100	2750	136	92	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: 80420 | 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	0.0933	93	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0975	98	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0974	97	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.291	97	80 - 120	2011-04-18

Standard (CCV-2)

QC Batch: 80420 | 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	0.0951	95	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0993	99	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0998	100	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-18

Standard (ICV-1)

QC Batch: 80664 | Date Analyzed: 2011-04-26 | 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	22.8	91	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80664 | Date Analyzed: 2011-04-26 | 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	22.8	91	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80664 Date Analyzed: 2011-04-26 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.3	93	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80664 Date Analyzed: 2011-04-26 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	23.3	93	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80665 Date Analyzed: 2011-04-26 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	23.3	93	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80665 Date Analyzed: 2011-04-26 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	23.3	93	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80665 Date Analyzed: 2011-04-26 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.1	92	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80665 Date Analyzed: 2011-04-26 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	2011-04-26

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.

XWO #: 1104528

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.: 115-6403132

PROJECT NAME: Rock Queen Unit Tract 13 TB

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)	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
2603898	4/13	1100	W		X	mw-1	4	N	X		X	X	X											X				X	X
899		1225				mw-2																							
900		1120				mw-3																							
901		1145				mw-4																							
902		1245				mw-5																							
903	4/13	1210	W		X	mw-6	4	N	X		X	X	X											X				X	X

RELINQUISHED BY: (Signature) — Date: 4-15-11 Time:
RECEIVED BY: (Signature) — Date: 4/15/11 Time: 13:30
SAMPLED BY: (Print & Initial) James Kennedy JFK — Date: 4-13-11 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:
TETRA TECH CONTACT PERSON: Jeff Kindley — Results by:

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