1R – 1645

2009 - 2011 GWMR

03 / 29 / 2012

TETRA TECH

March 29, 2012

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

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

Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tract 7 Tank Battery (Site) from November 2009 through December 2011. The Site is located approximately 22 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

On October 8, 2007, Highlander (Tetra Tech) submitted an Investigation and Characterization work plan (ICP) for an open pit at the Site. The ICP was subsequently approved by the New Mexico Oil Conservation Division (NMOCD).

The Tract 7 Tank Battery pit was dewatered and the residual sludge, tank bottom materials, and liner were removed in October 2007. Removed fluids were placed into an existing SWD system or taken for disposal, while the sludge, tank bottom materials, and liner were disposed of at Gandy-Marley, Inc.'s landfill site in Lovington, New Mexico. Upon completion of the removal of the fluids, sludge, and liner, the underlying soils were visually inspected for signs of impact. Approximately 440 cubic yards of soil were excavated and transported to Gandy-Marley, Inc. for disposal. The pit was excavated to a point where the subsoil would support a soil boring rig.

Tetra Tech
Tel Fax

On October 12, 2009, a report entitled *Assessment and Closure Report for the Pit located at the Rock Queen Unit Track 7 Tank Battery* was submitted to the NMOCD. The report detailed the closure of the former pit at the facility.

Groundwater Investigation

Between November 2009 and December 2010, Celero installed four 2-inch monitor wells (MW-1 through MW-4) and one 5-inch recovery well (RW-1) to assess the groundwater quality at the Site. The lithology at the Site was relatively consistent with limestone encountered to approximately 15 feet below ground surface (bgs) and very fine grain sands extending to approximately 150 to 160 feet bgs. From approximately 150 to 160 feet to the terminus of the borings (approximately 155 to 180 feet) the soils consisted of gray to red clay. See Appendix A for Boring Logs.

During the investigation, groundwater was encountered at depths of approximately 149 to 155 feet bgs. Monitor Well MW-1 was drilled into the surrounding underlying clay to 170 feet bgs and installed with 60 feet of 0.02 inch slotted screen. The remaining monitor wells were drilled to depths of 175 to 180 feet bgs and installed with 40 feet of 0.02 inch slotted screen. Recovery well RW-1 was drilled to a depth of 155 feet and installed with 20 feet of 0.035 inch slotted screen. From the top of the screens to the surface of the boring, the wells were completed with blank schedule 40 PVC casing. See Appendix B for monitor well installation diagrams.

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

Gauging and Monitor Well Sampling

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

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

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

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

CONCLUSIONS

1. On November 24, 2009, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged, purged, and sampled. The samples were preserved, delivered to Trace Analysis, Inc. of Midland, Texas, and analyzed for BTEX utilizing method 8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+.

2. The hydraulic gradient indicates a westerly direction.

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

4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells with the exception of up gradient MW-4. The chloride concentrations at the site range from <125 mg/L in up gradient MW-4 on January 19, 2011 to 47,500 mg/L in down gradient monitor well MW-3 on January 19, 2011.

RECOMMENDATIONS

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

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

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

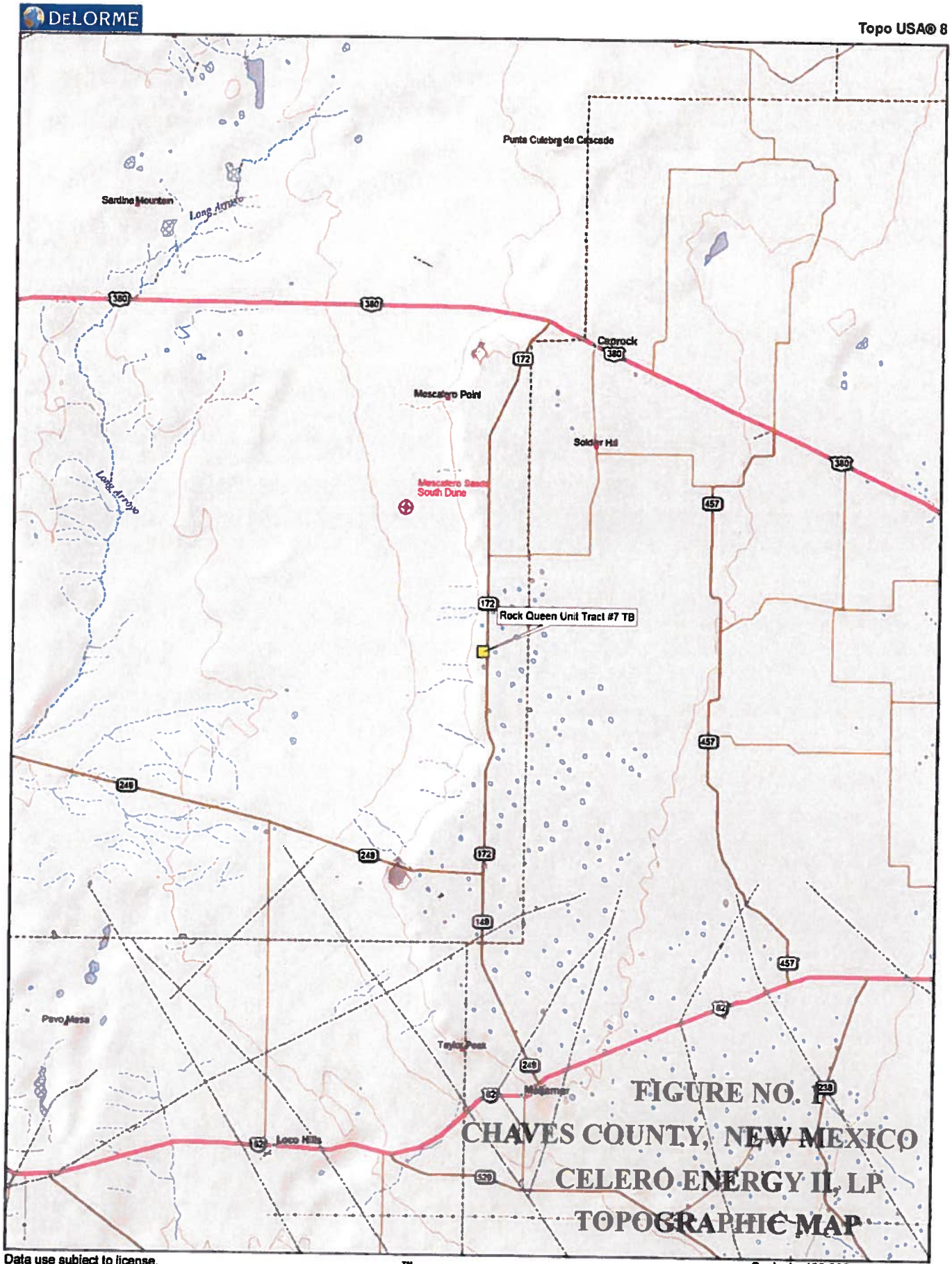
If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

Respectfully submitted,
Tetra Tech, Inc.

Jeffrey Kindley, P.G.
Senior Environmental Geologist

cc: Bruce Woodard – Celero Energy II, LP

FIGURES


DeLORME
Topo USA® 8
Punta Culebra de Cascade
Sardine Mountain
Long Arroyo
380
Caprock
172
Mescalero Point
Soldier Hill
Mescalero Sands
South Dune
457
Rock Queen Unit Tract #7 TB
249
149
Pavo Mesa
Tayloy Peak
Malaga
82
Loco Hills
529
FIGURE NO. 1
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY II, LP
TOPOGRAPHIC MAP
Data use subject to license.
© DeLorme. Topo USA® 8.
www.delorme.com
TN
MN (7.6°E)
Scale 1 : 400,000
1" = 6.31 mi
Data Zoom 9-2

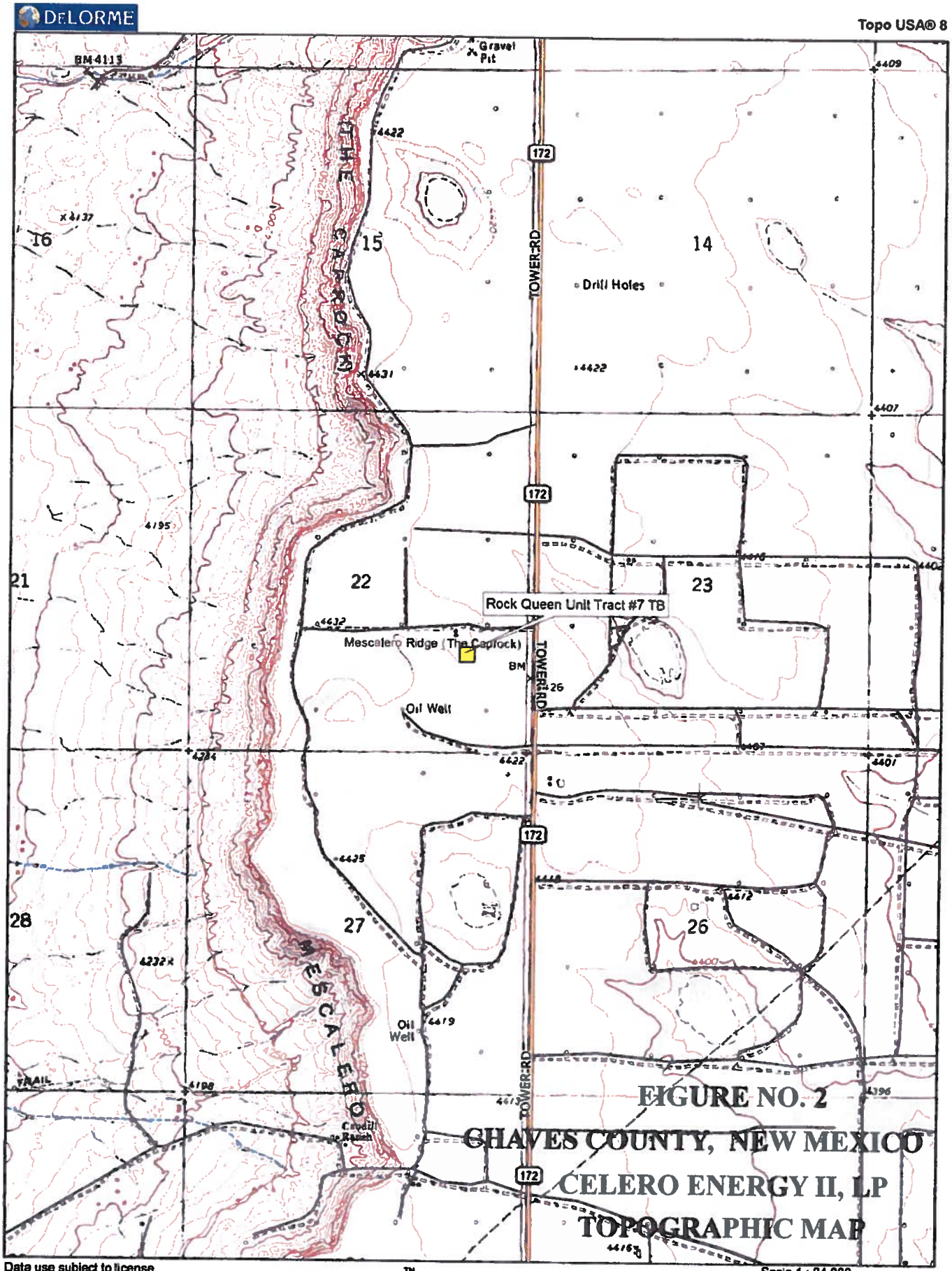
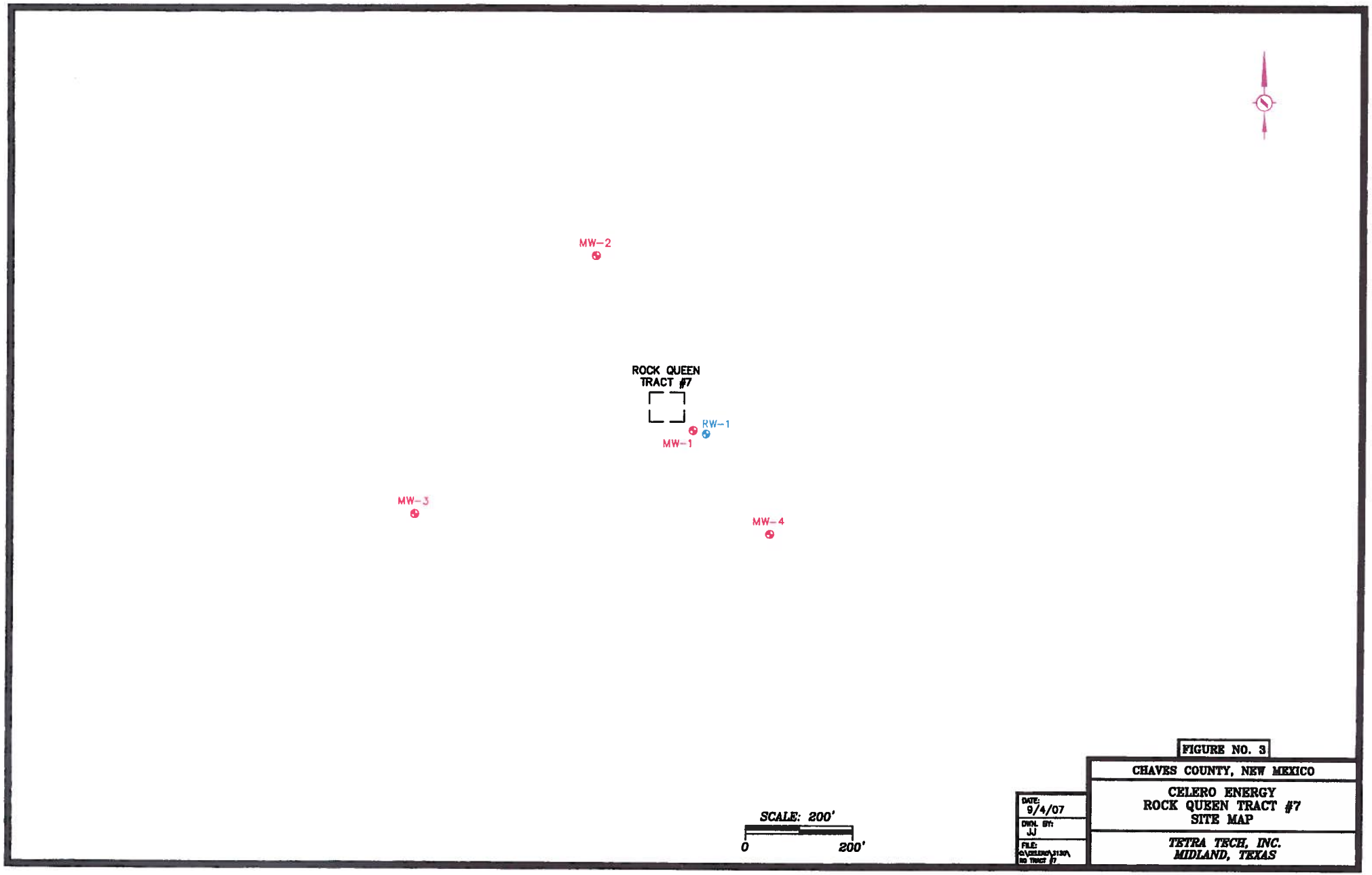


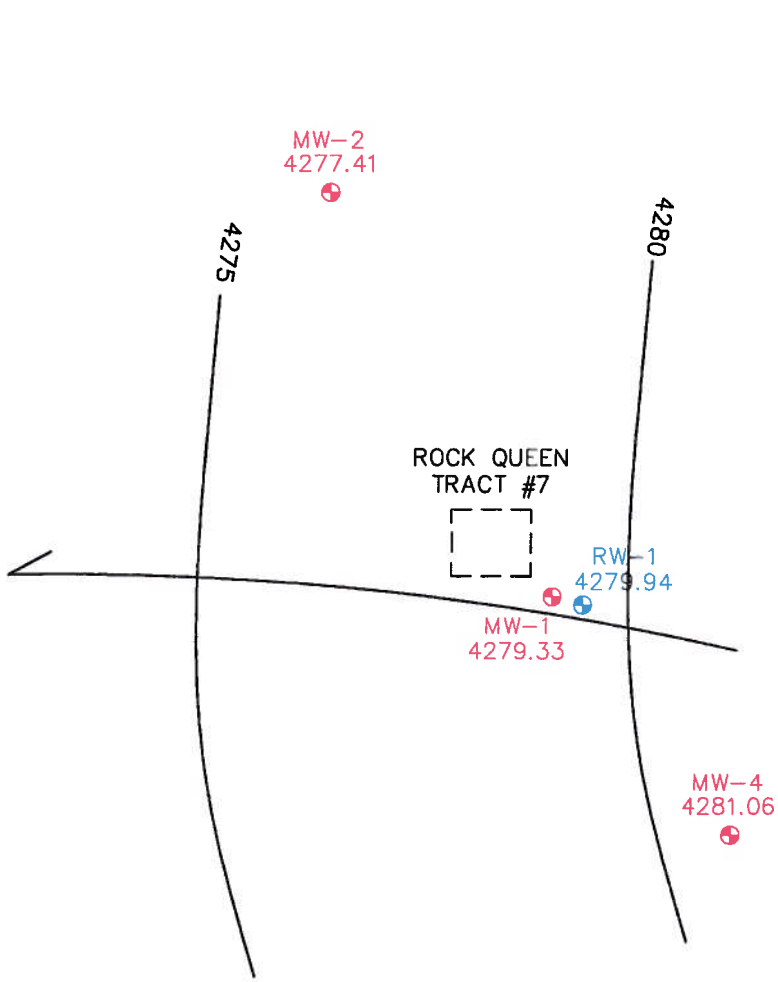
FIGURE NO. 2

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY II, LP

TOPOGRAPHIC MAP


MW-2
ROCK QUEEN
TRACT #7
RW-1
MW-1
MW-3
MW-4
SCALE: 200'
0
200'
DATE:
9/4/07
DWN. BY:
JJ
FILE:
FIGURE NO. 3
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN TRACT #7
SITE MAP
TETRA TECH, INC.
MIDLAND, TEXAS



C.I. = 5'

SCALE: 150'

0 150'

DATE: 1/17/11

DWN. BY: IM

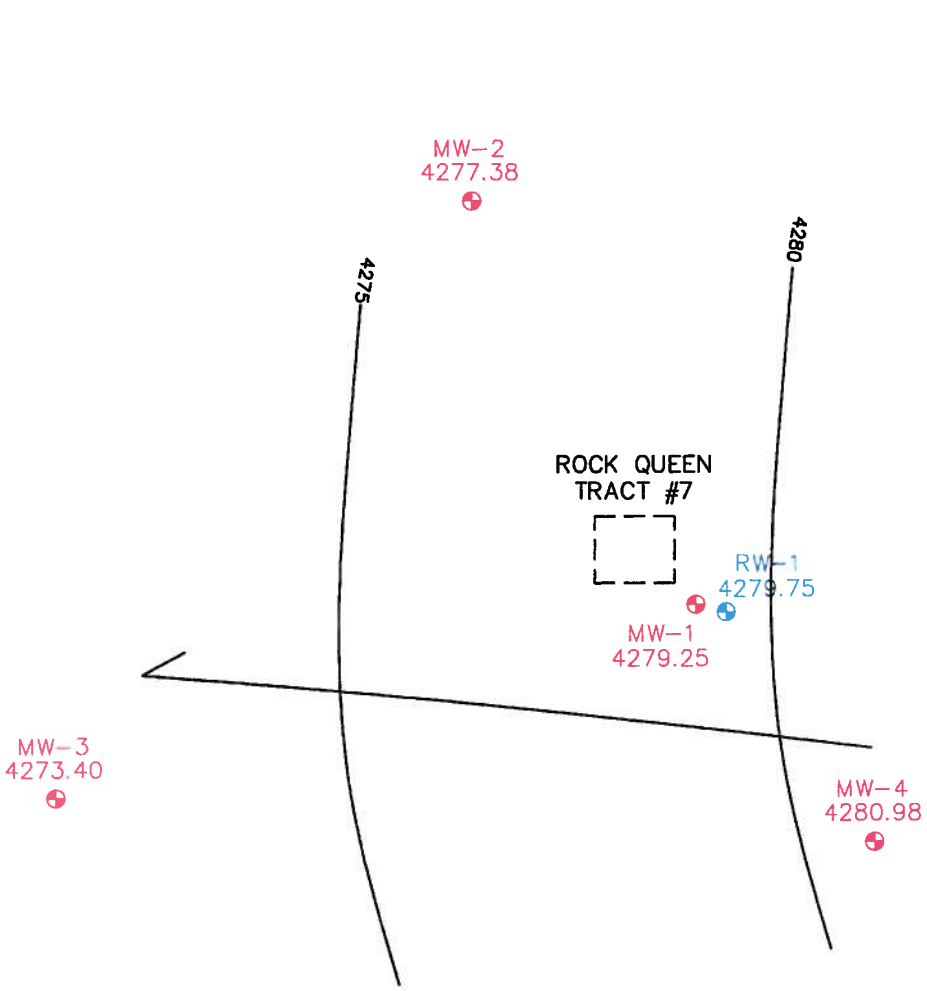
FILE:

FIGURE NO. 4

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
GROUNDWATER GRADIENT MAP
GAUGED ON 1/17/11

TETRA TECH, INC.
MIDLAND, TEXAS



C.I. = 5'

SCALE: 150'

0 150'

DATE: 4/11/2011

DSN. BY: IM

FILE:

FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
GROUNDWATER GRADIENT MAP
GAUGED ON 4/11/2011

TETRA TECH, INC.
MIDLAND, TEXAS

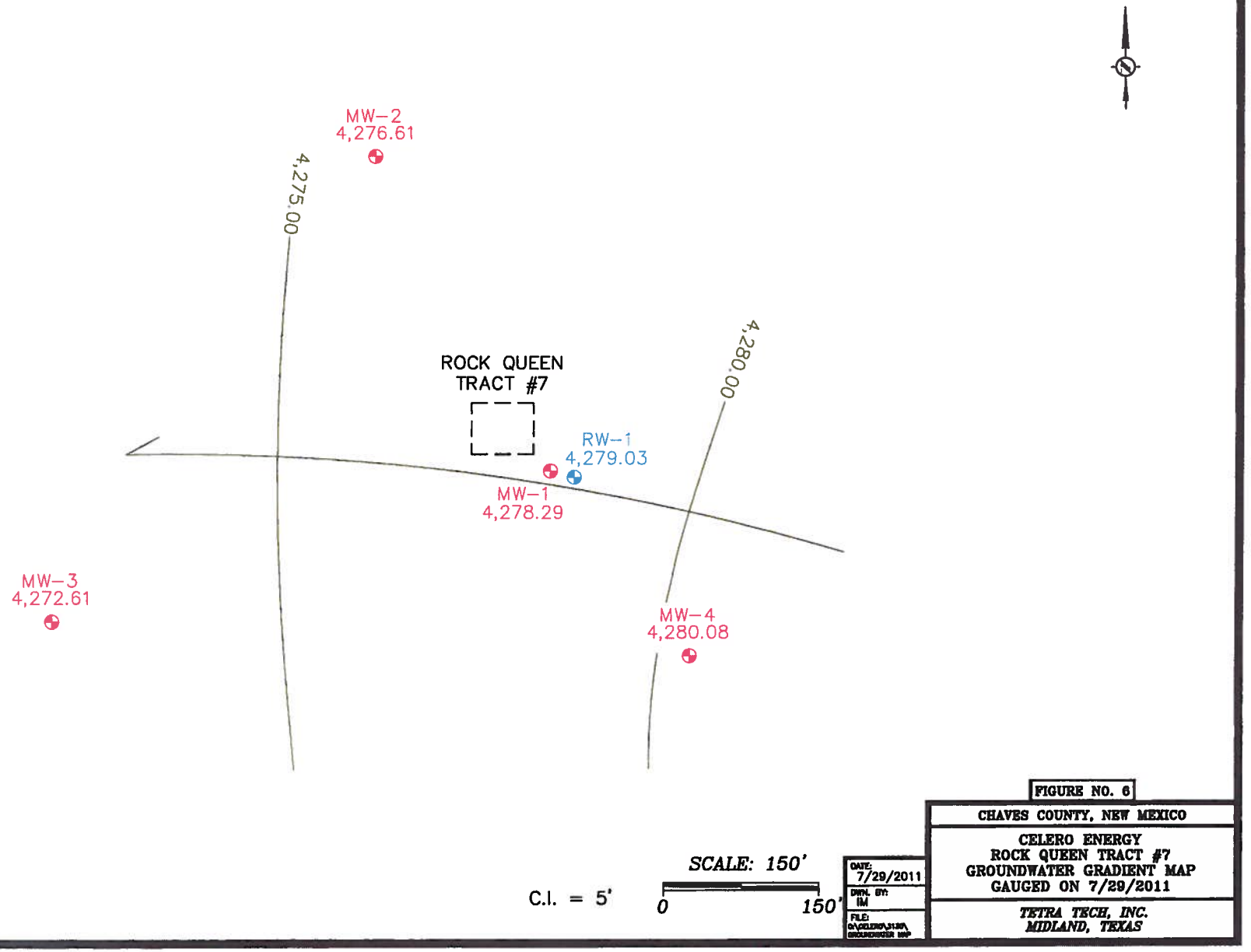


FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
GROUNDWATER GRADIENT MAP
GAUGED ON 7/29/2011

TETRA TECH, INC.
MIDLAND, TEXAS

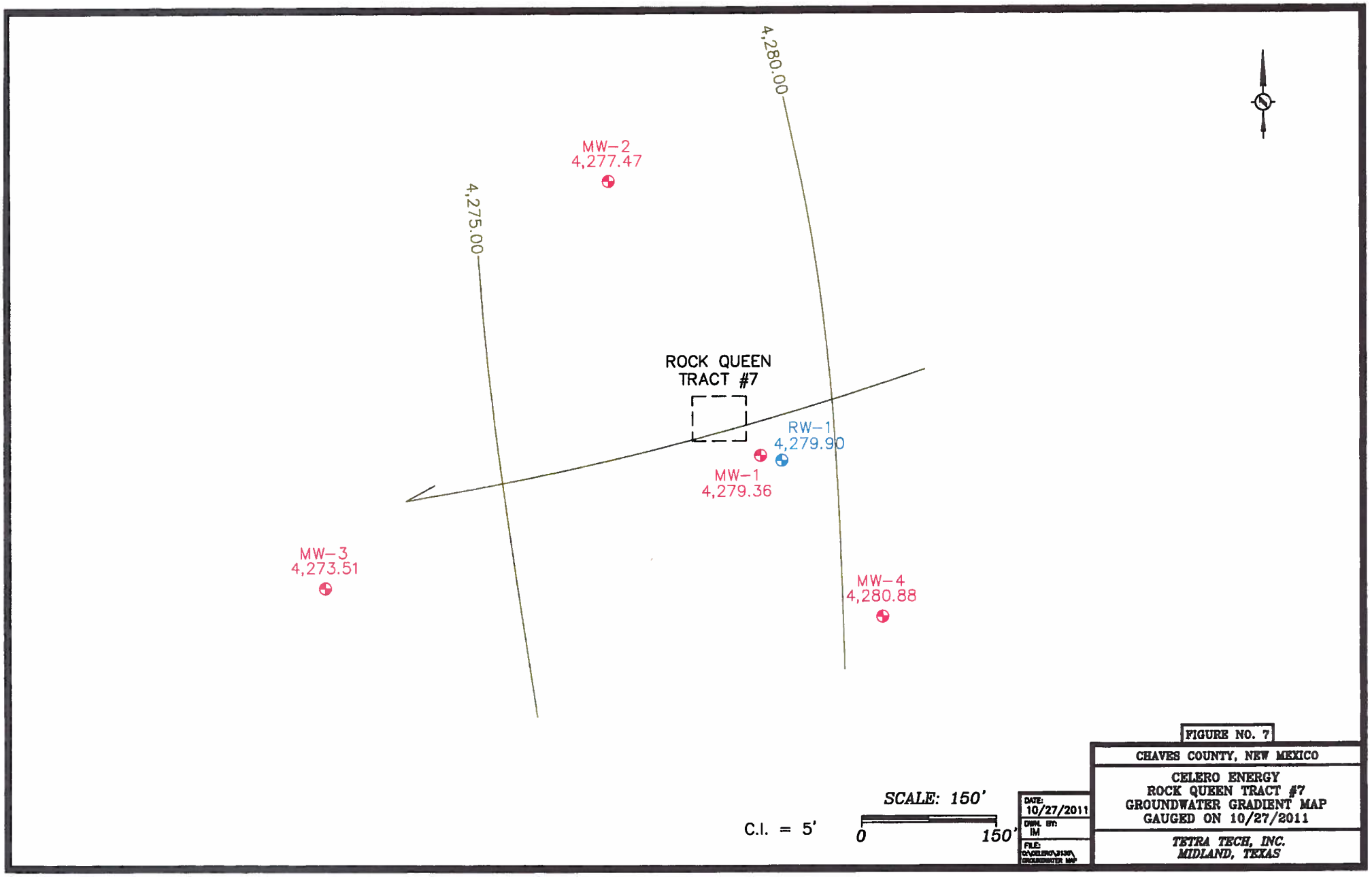
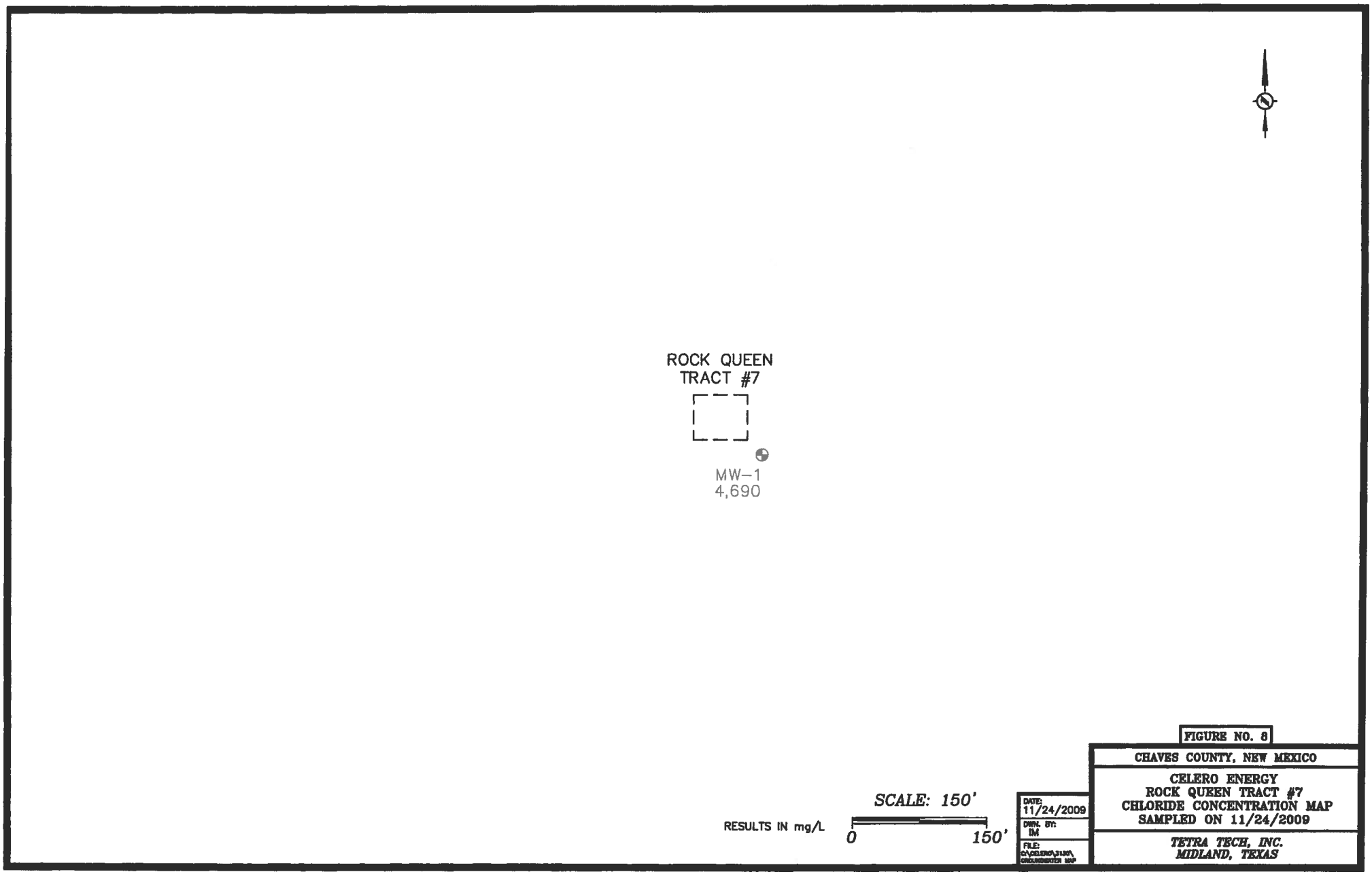


FIGURE NO. 7

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
GROUNDWATER GRADIENT MAP
GAUGED ON 10/27/2011

TETRA TECH, INC.
MIDLAND, TEXAS


ROCK QUEEN
TRACT #7
MW-1
4,690
RESULTS IN mg/L
SCALE: 150'
0
150'
DATE:
11/24/2009
DWN. BY:
IM
FILE:
FIGURE NO. 8
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 11/24/2009
TETRA TECH, INC.
MIDLAND, TEXAS

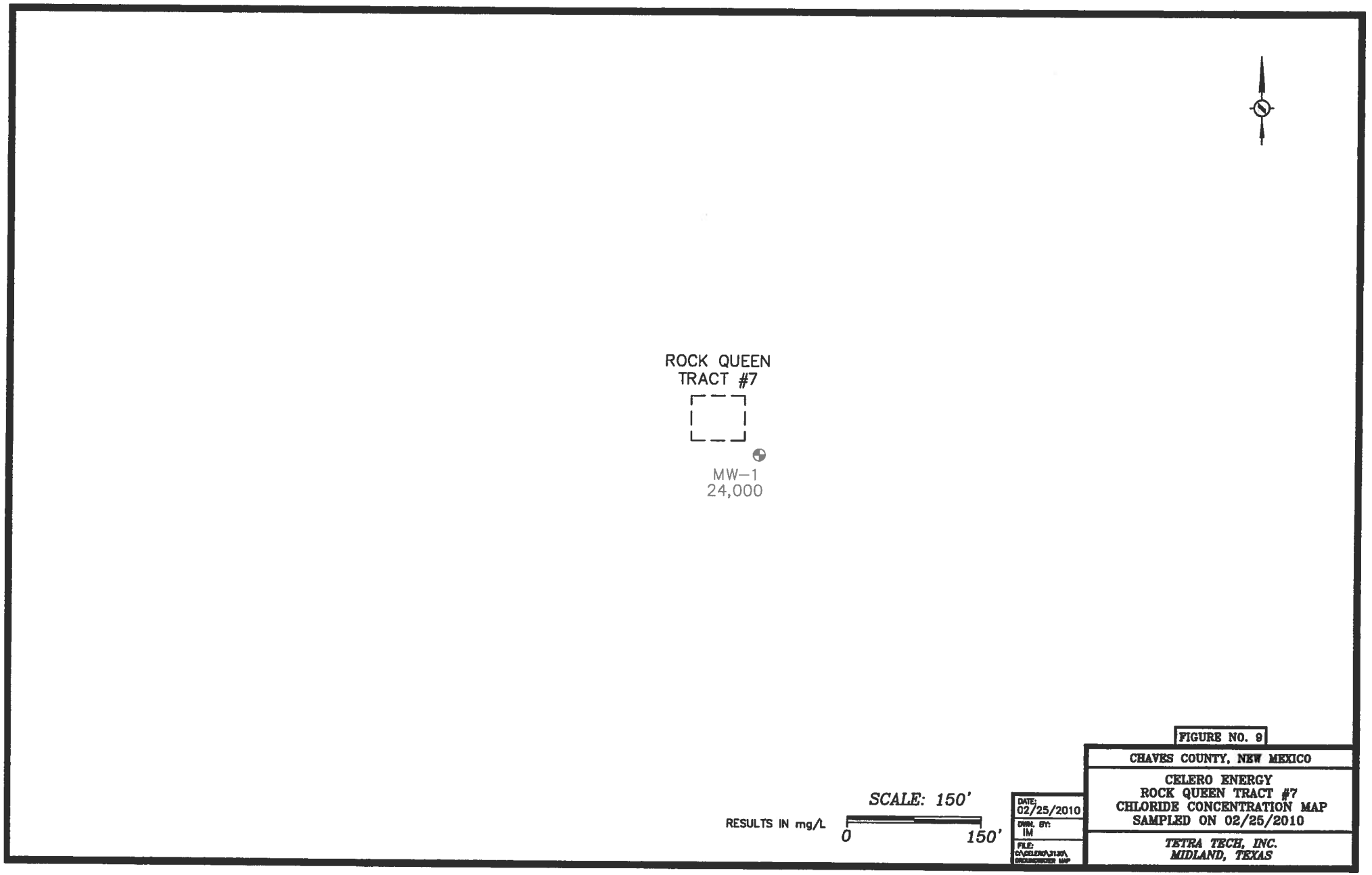


FIGURE NO. 9

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 02/25/2010

TETRA TECH, INC.
MIDLAND, TEXAS

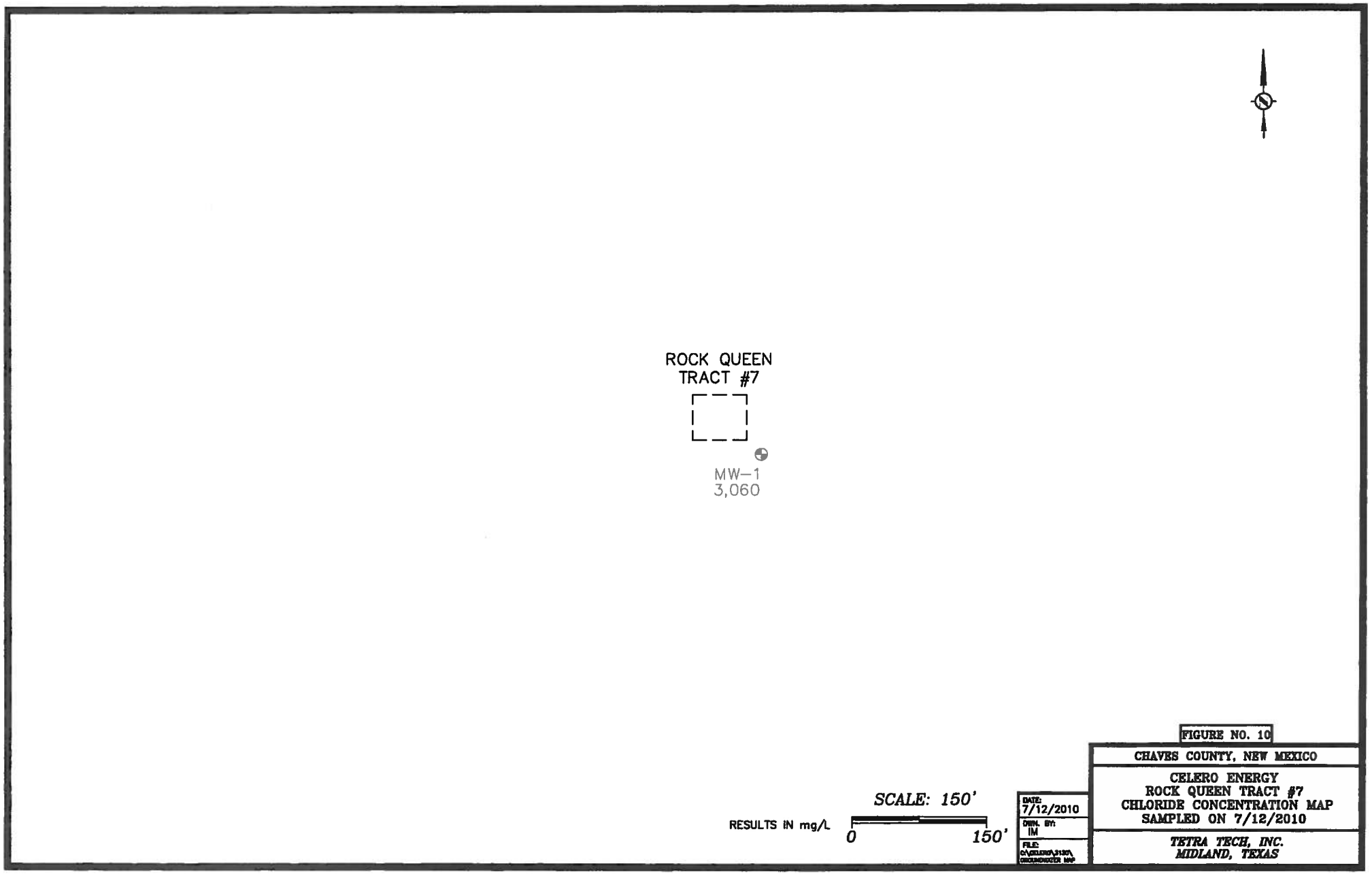


FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC.
MIDLAND, TEXAS

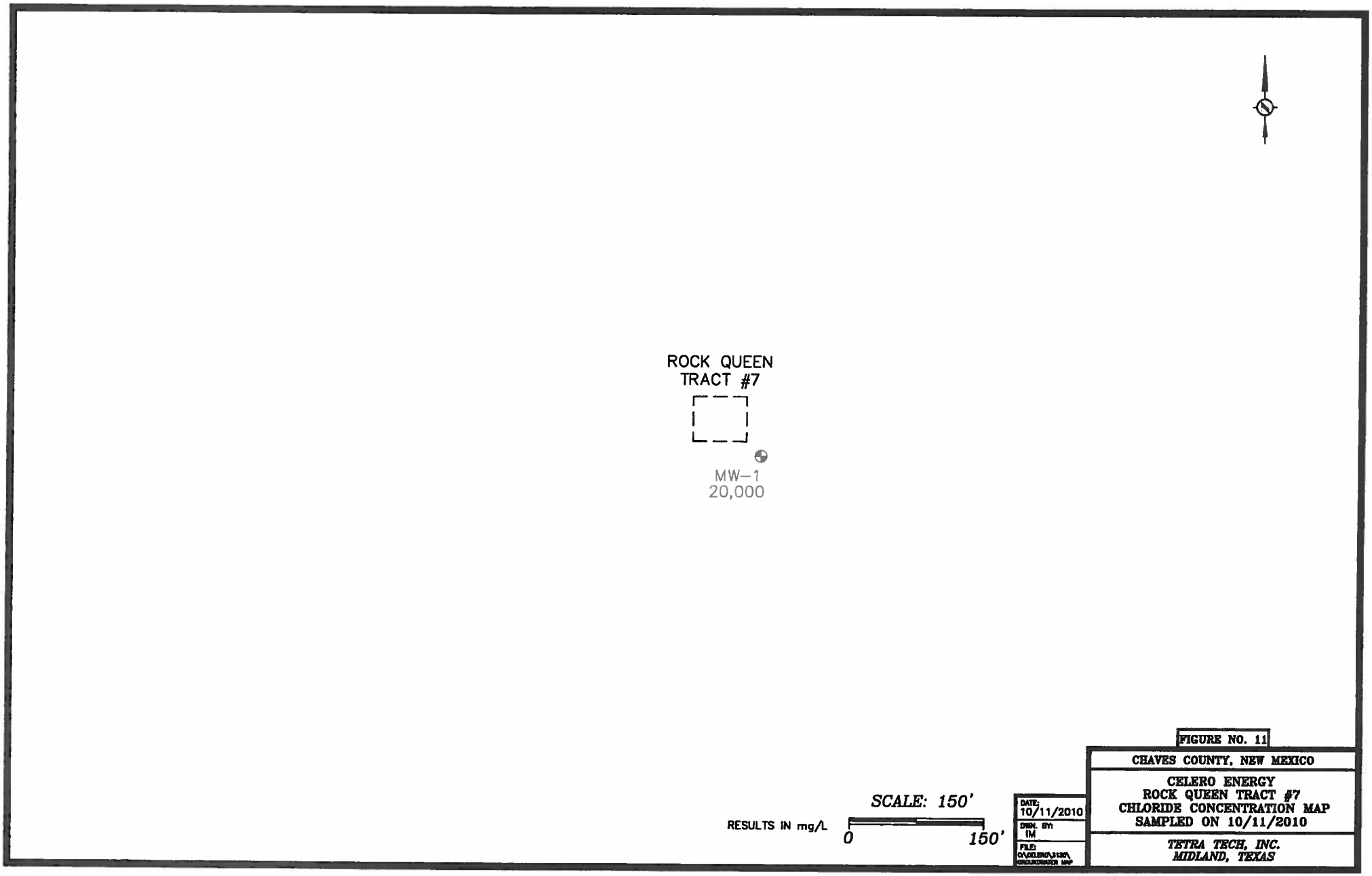


FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 10/11/2010

TETRA TECH, INC.
MIDLAND, TEXAS

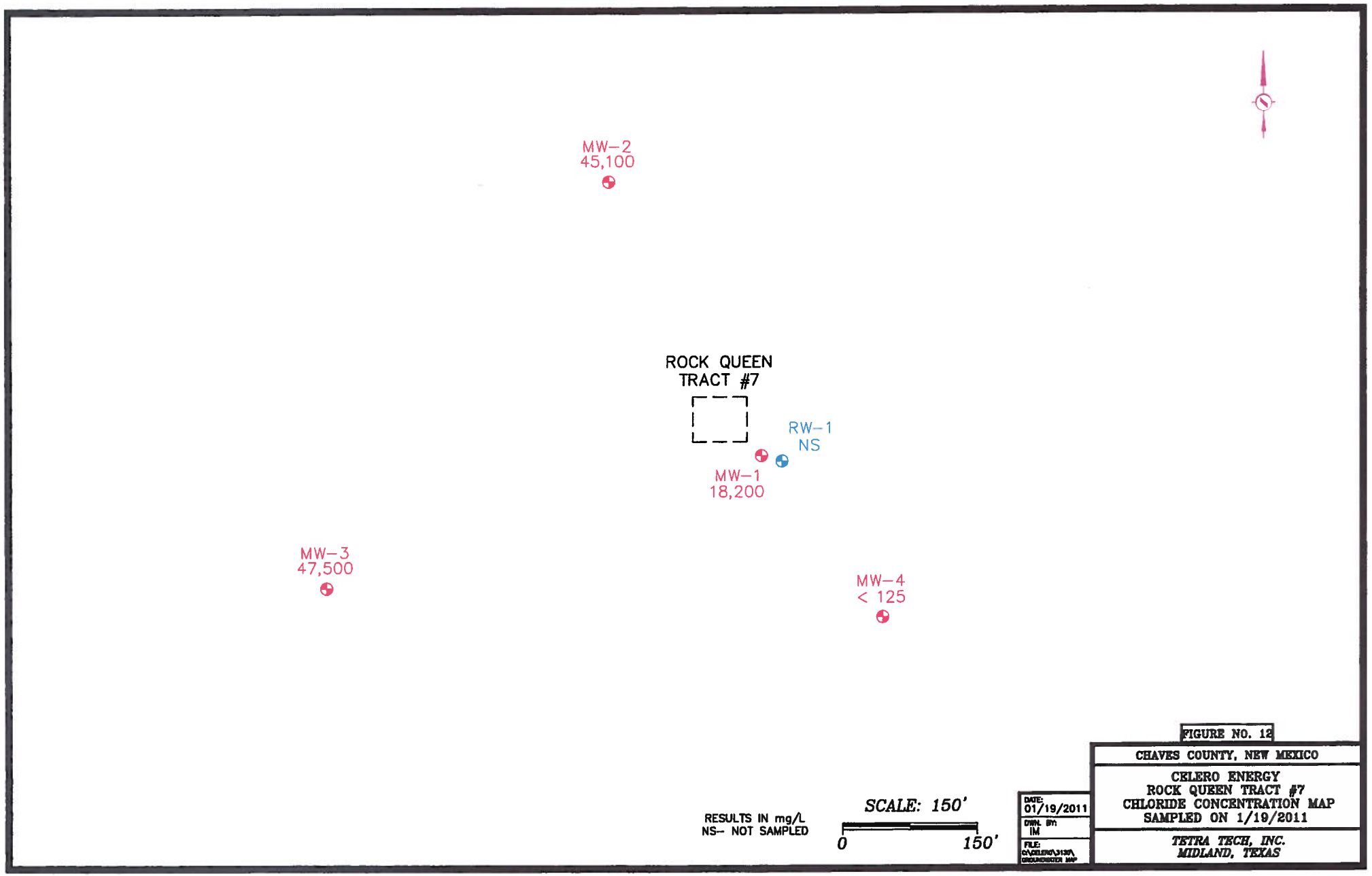
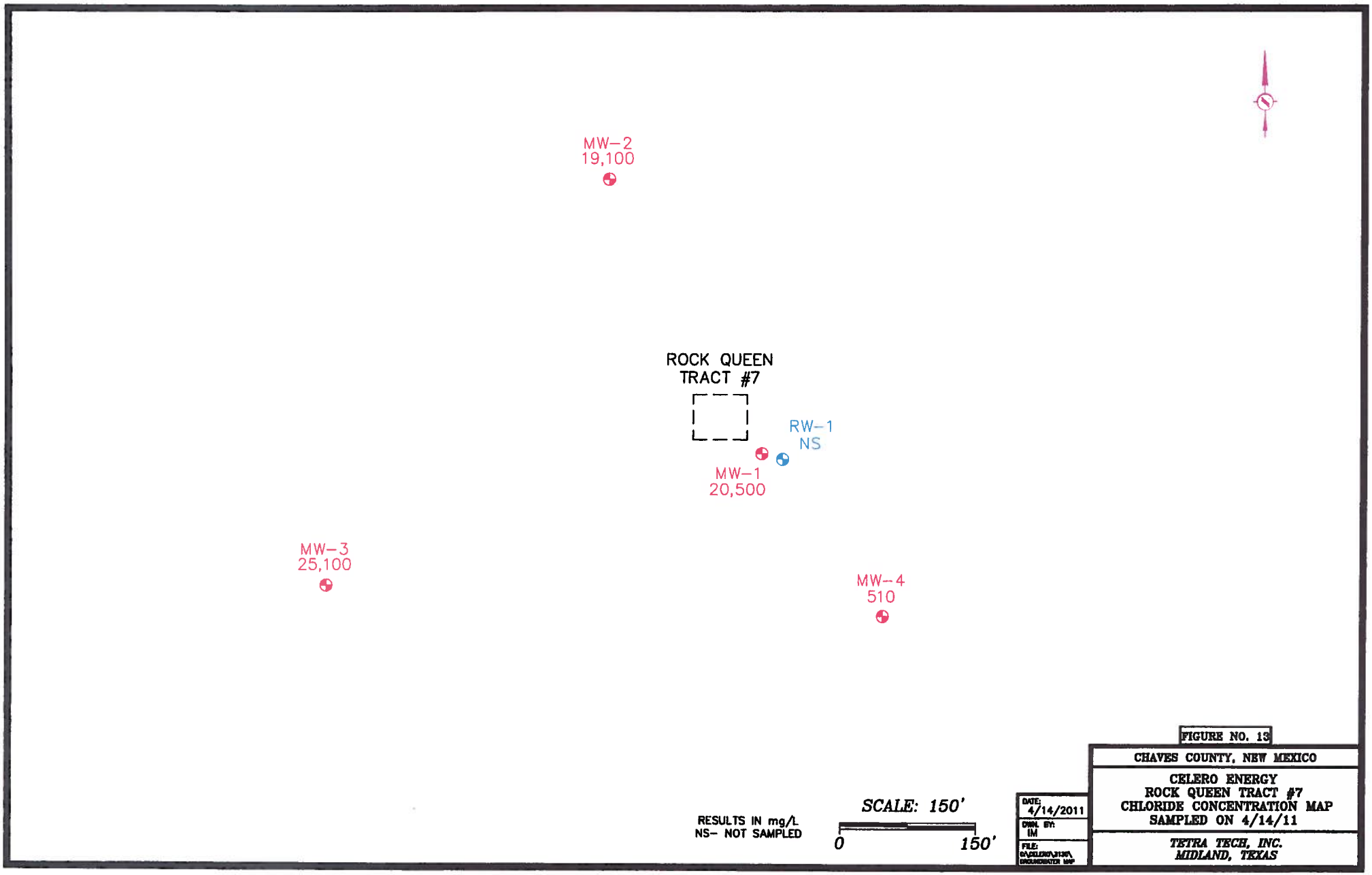


FIGURE NO. 12

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 1/19/2011

TETRA TECH, INC.
MIDLAND, TEXAS


MW-2
19,100
ROCK QUEEN
TRACT #7
RW-1
NS
MW-1
20,500
MW-3
25,100
MW-4
510
RESULTS IN mg/L
NS- NOT SAMPLED
SCALE: 150'
0
150'
DATE:
4/14/2011
DRN. BY:
IM
FILE:
FIGURE NO. 13
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 4/14/11
TETRA TECH, INC.
MIDLAND, TEXAS

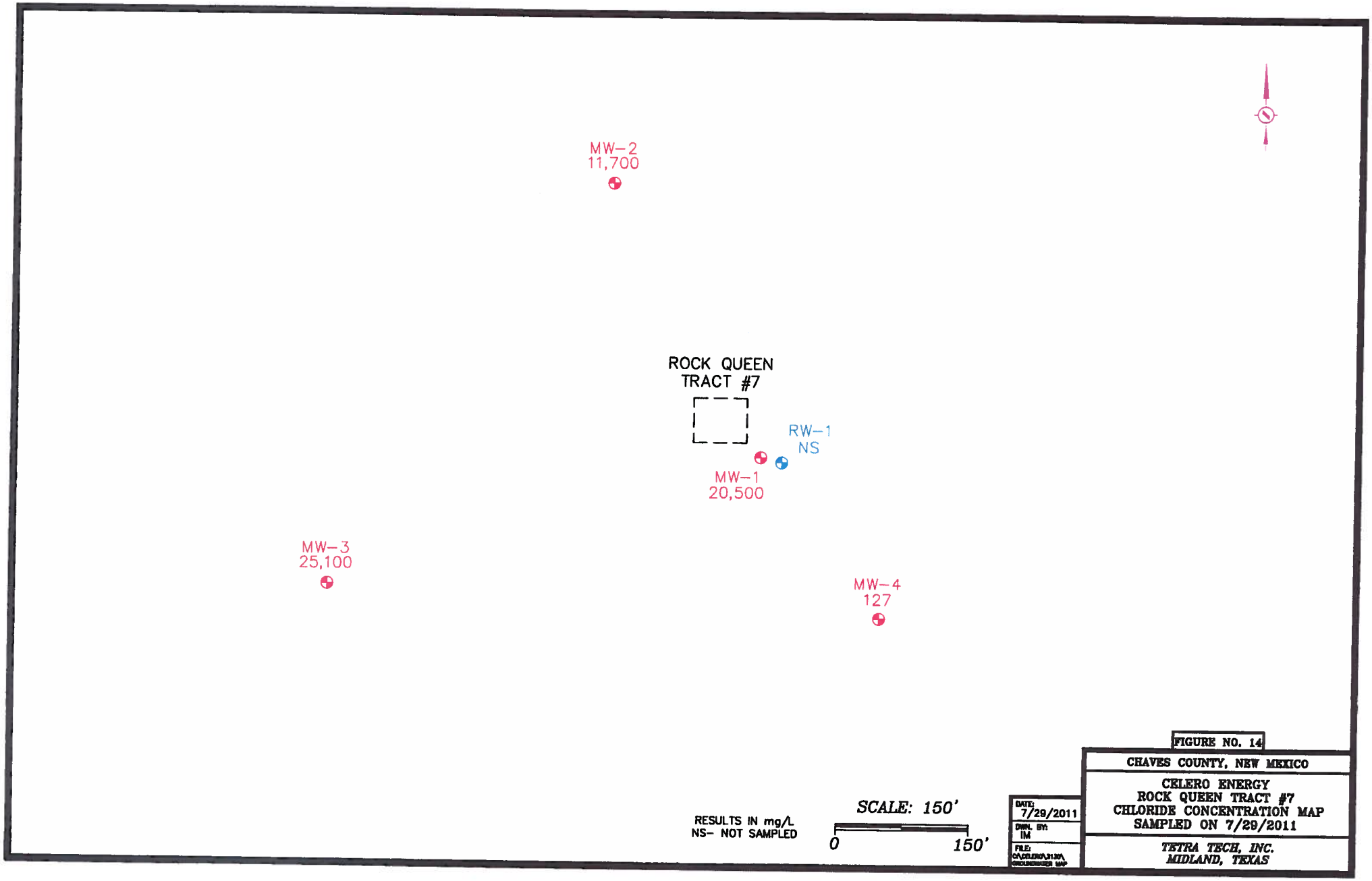
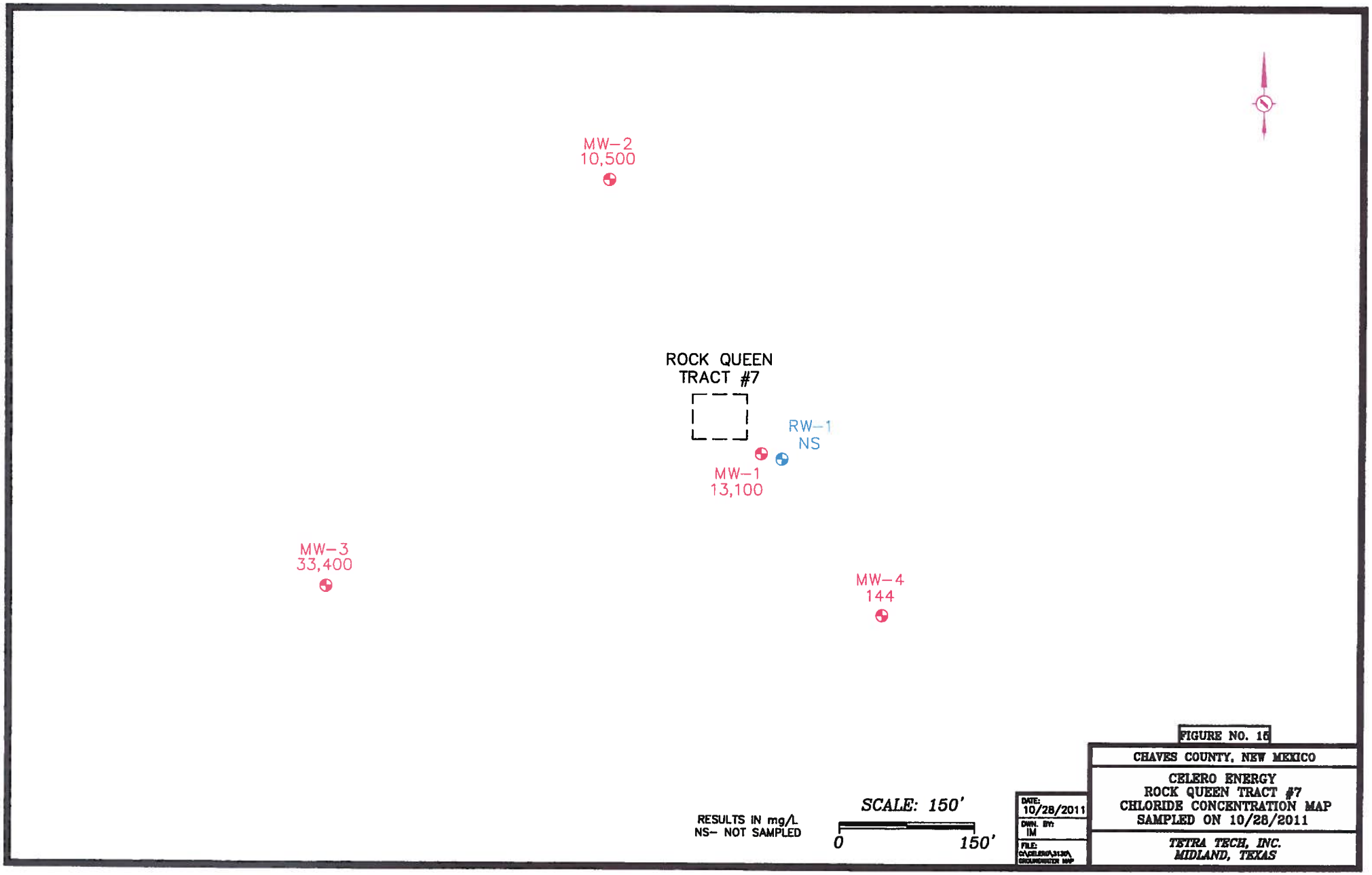


FIGURE NO. 14

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 7/29/2011

TETRA TECH, INC.
MIDLAND, TEXAS


MW-2
10,500
ROCK QUEEN
TRACT #7
RW-1
NS
MW-1
13,100
MW-3
33,400
MW-4
144
RESULTS IN mg/L
NS- NOT SAMPLED
SCALE: 150'
0
150'
DATE:
10/28/2011
DWN. BY:
IM
FILE:
FIGURE NO. 16
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN TRACT #7
CHLORIDE CONCENTRATION MAP
SAMPLED ON 10/28/2011
TETRA TECH, INC.
MIDLAND, TEXAS

TABLES

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

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

Table 2
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract #7
Chaves County, New Mexico

Monitor 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	11/24/09	1,730	430	585	15.3	<1.00	<1.00	114	114	150	4,690	9,100	6,100	7.55
	02/25/10	8,010	2,250	2,860	80.0	<1.00	<1.00	93	93	463	24,000	38,300	29,300	7.11
	07/12/10	-	-	-	-	-	-	-	-	316	3,060	3,060	-	-
	10/11/10	-	-	-	-	-	-	-	-	960	20,000	48,400	-	-
	01/19/11	-	-	-	-	-	-	-	-	<2500	18,200	38,600	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,020	20,500	32,000	-	-
	07/29/11	-	-	-	-	-	-	-	-	1,170	20,500	33,700	-	-
	10/28/11	-	-	-	-	-	-	-	-	1,270	13,100	23,200	-	-
MW-2	01/19/11	-	-	-	-	-	-	-	-	1,250	45,100	78,200	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,280	19,100	33,000	-	-
	07/29/11	-	-	-	-	-	-	-	-	1,570	11,700	25,900	-	-
	10/28/11	-	-	-	-	-	-	-	-	1,010	10,500	19,500	-	-
MW-3	01/19/11	-	-	-	-	-	-	-	-	1,750	47,500	81,800	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,170	25,100	41,000	-	-
	07/29/11	-	-	-	-	-	-	-	-	1,420	25,100	52,400	-	-
	10/28/11	-	-	-	-	-	-	-	-	1,480	33,400	57,000	-	-
MW-4	01/19/11	-	-	-	-	-	-	-	-	279	<125	792	-	-
	04/14/11	-	-	-	-	-	-	-	-	81	510	3,330	-	-
	07/29/11	-	-	-	-	-	-	-	-	114	127	648	-	-
	10/28/11	-	-	-	-	-	-	-	-	113	144	770	-	-
RW-1	01/19/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/14/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/29/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/28/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS - Not sampled

(-) Not analyzed

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

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	11/24/09	<0.001	<0.001	<0.001	<0.001	<0.001
	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/12/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	0.0068	<0.001	<0.001	<0.001	0.0068
	07/29/11	0.0065	<0.001	<0.001	<0.001	0.0068
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/29/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/11	<0.001	<0.001	<0.001	<0.001	<0.001
RW-1	01/19/11	NS	NS	NS	NS	NS
	04/14/11	NS	NS	NS	NS	NS
	07/29/11	NS	NS	NS	NS	NS
	10/28/11	NS	NS	NS	NS	NS

NS - Not sampled

APPENDIX A
BORING LOGS

SAMPLE LOG

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

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

SAMPLE LOG

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

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

Total Depth: 170' Depth to groundwater encountered unknown.

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

SAMPLE LOG

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

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

Total Depth: 175' Ground water depth not encountered while drilling.

SAMPLE LOG

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

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

SAMPLE LOG

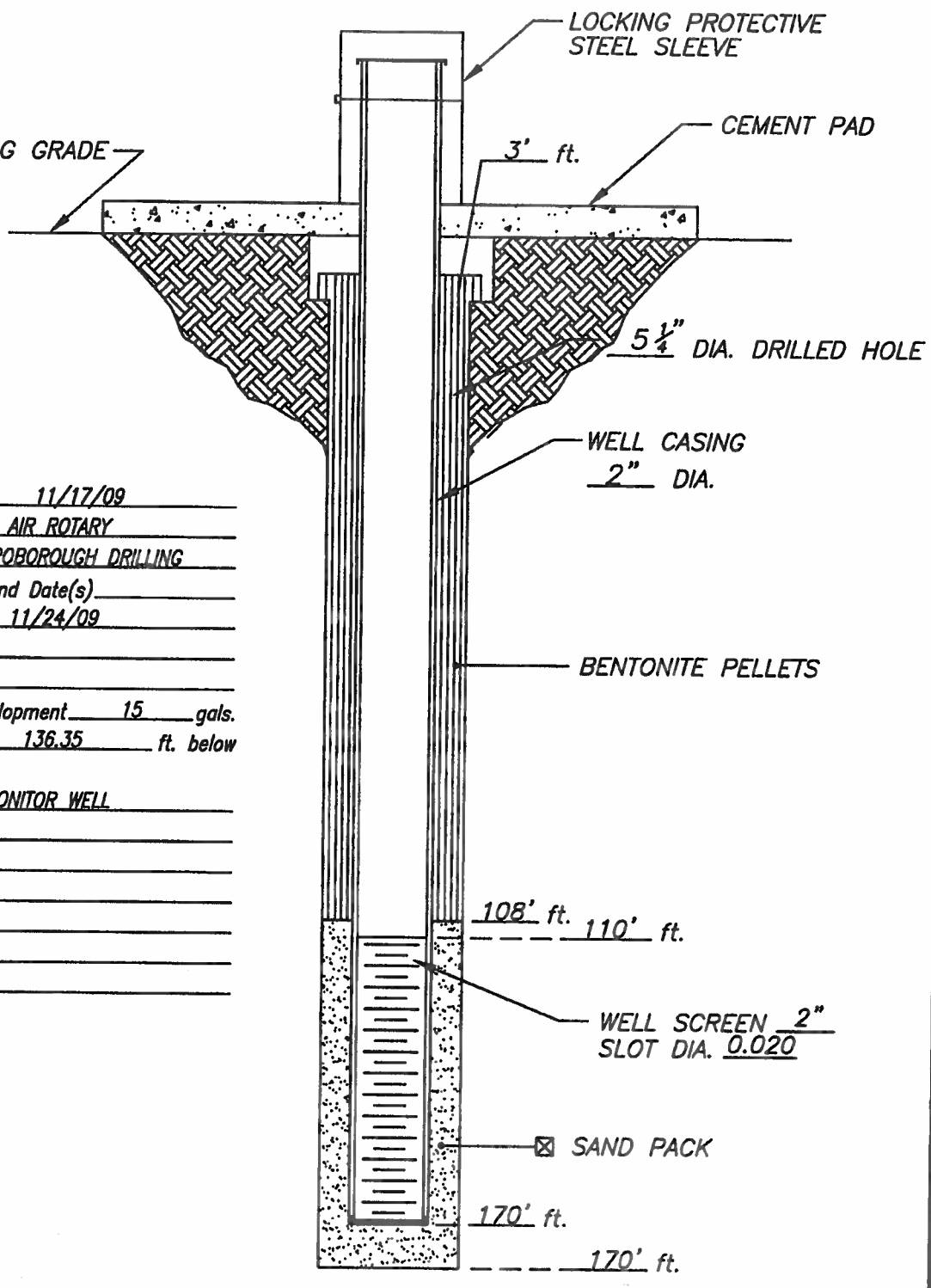
Boring/Well RW-1
GPS N33.172547° W103.803986°
Project Number 115-6403130A
Client Celero Energy II, LP
Site Name Rock Queen Unit Tract #7 Tank Battery
Site Location Chaves, New Mexico
Letter I, Section 22, Township 13 South, Range 31 East
Total Depth 155
Date Installed 12/7/10 to 12/8/10

130-131'	--	Tan fine grain sand with gravel
135-136'	--	Tan fine grain sand with gravel
140-141'	--	Tan fine grain sand with gravel
145-146'	--	Tan fine grain sand with gravel
150-151'	--	Tan to red clay
155-156'	--	Tan to red clay

Total Depth: 155' Ground water depth not encountered while drilling.

APPENDIX B
MONITOR WELL INSTALLATION DIAGRAMS

WELL CONSTRUCTION LOG



Installation Date(s) 11/17/09
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HAND BAILED 11/24/09

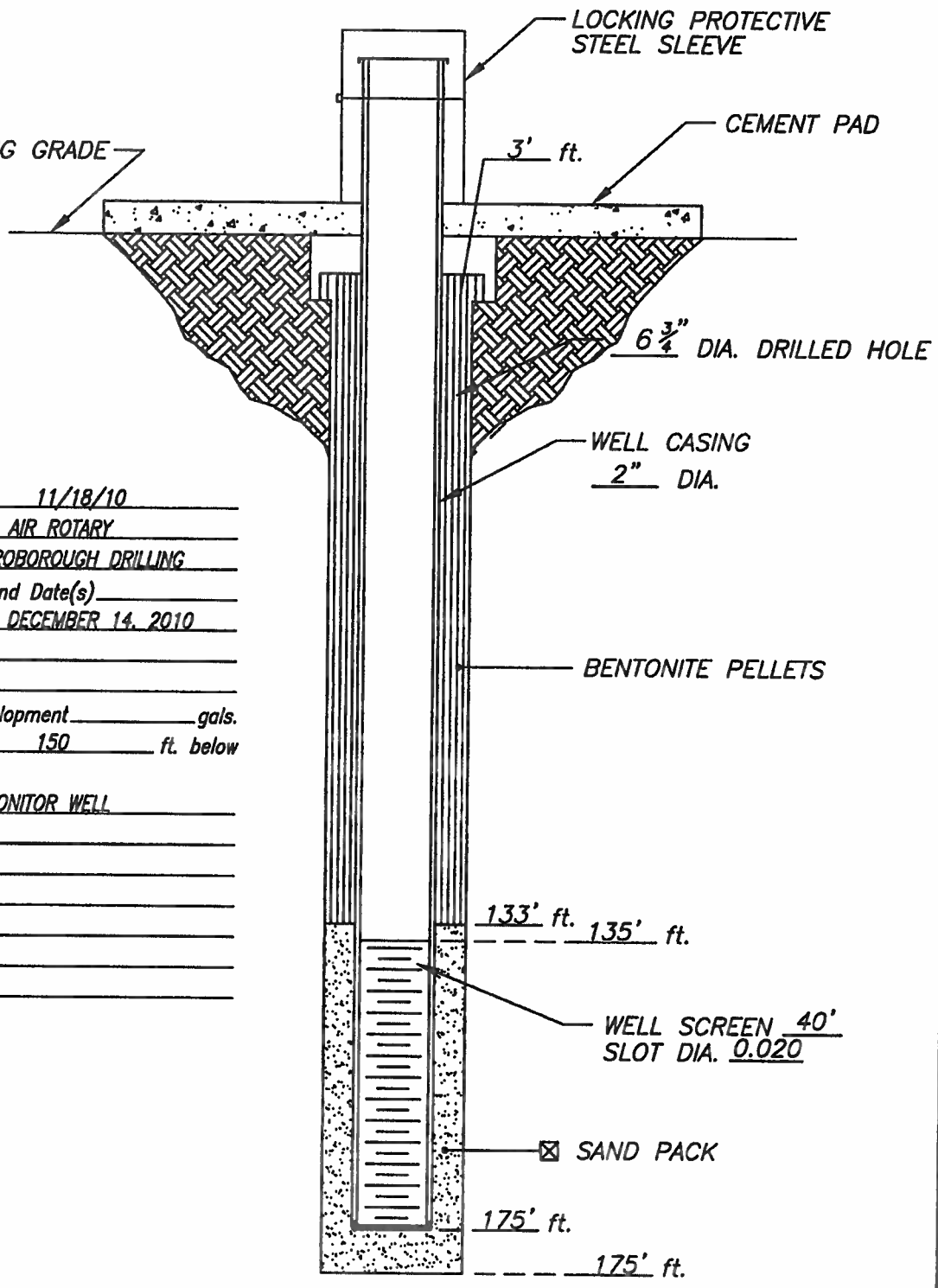
Water Removed During Development 15 gals.
Static Depth to Water 136.35 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 11/20/09	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT #7	MW-1
	LOCATION: CHAVES COUNTY, NEW MEXICO	

115-6403130

WELL CONSTRUCTION LOG



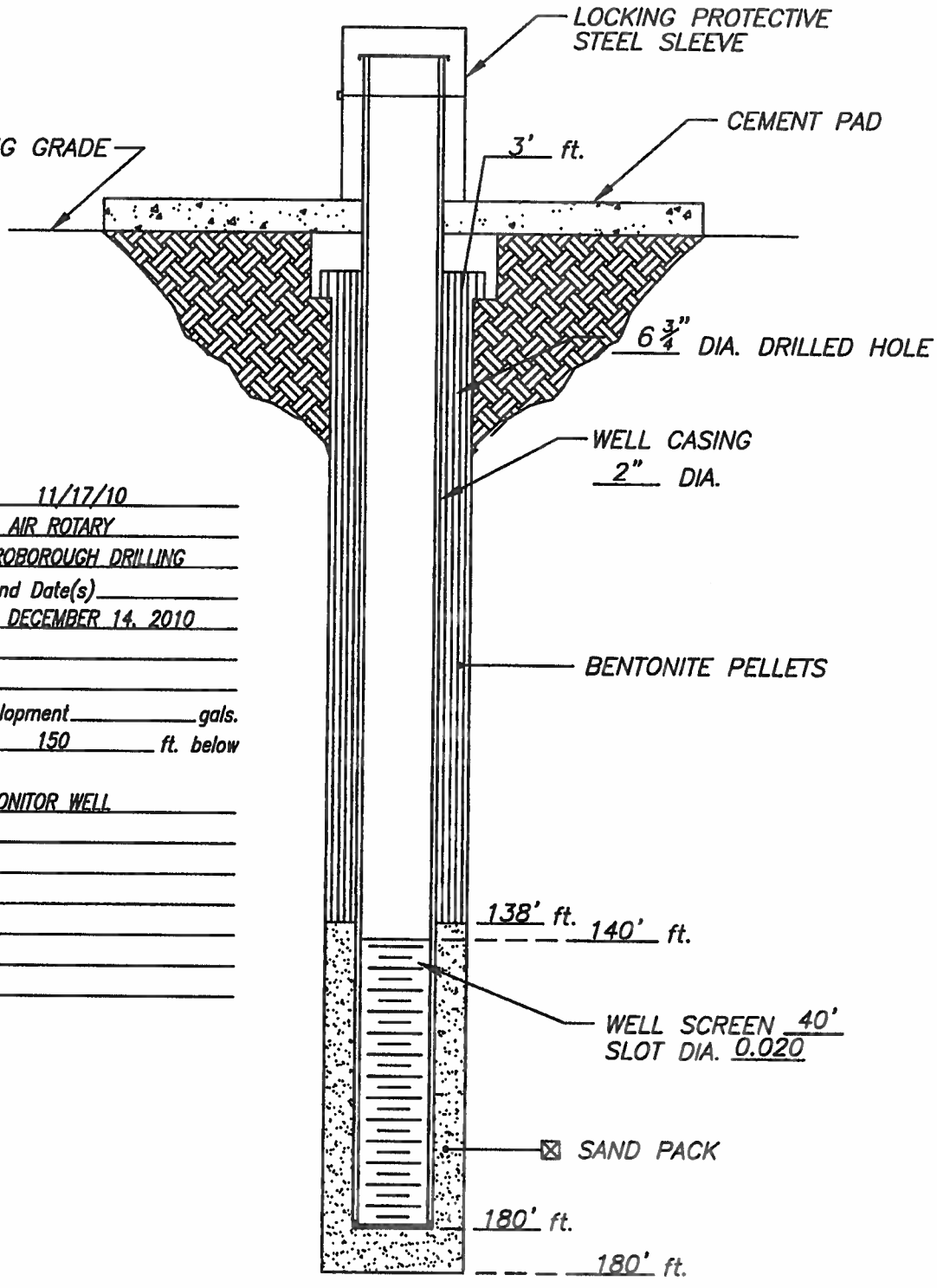
Installation Date(s) 11/18/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

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

Remarks

DATE: 11/18/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT #7	MW-2
	LOCATION: CHAVES COUNTY, NEW MEXICO	
	115-6403130	

WELL CONSTRUCTION LOG



Installation Date(s) 11/17/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

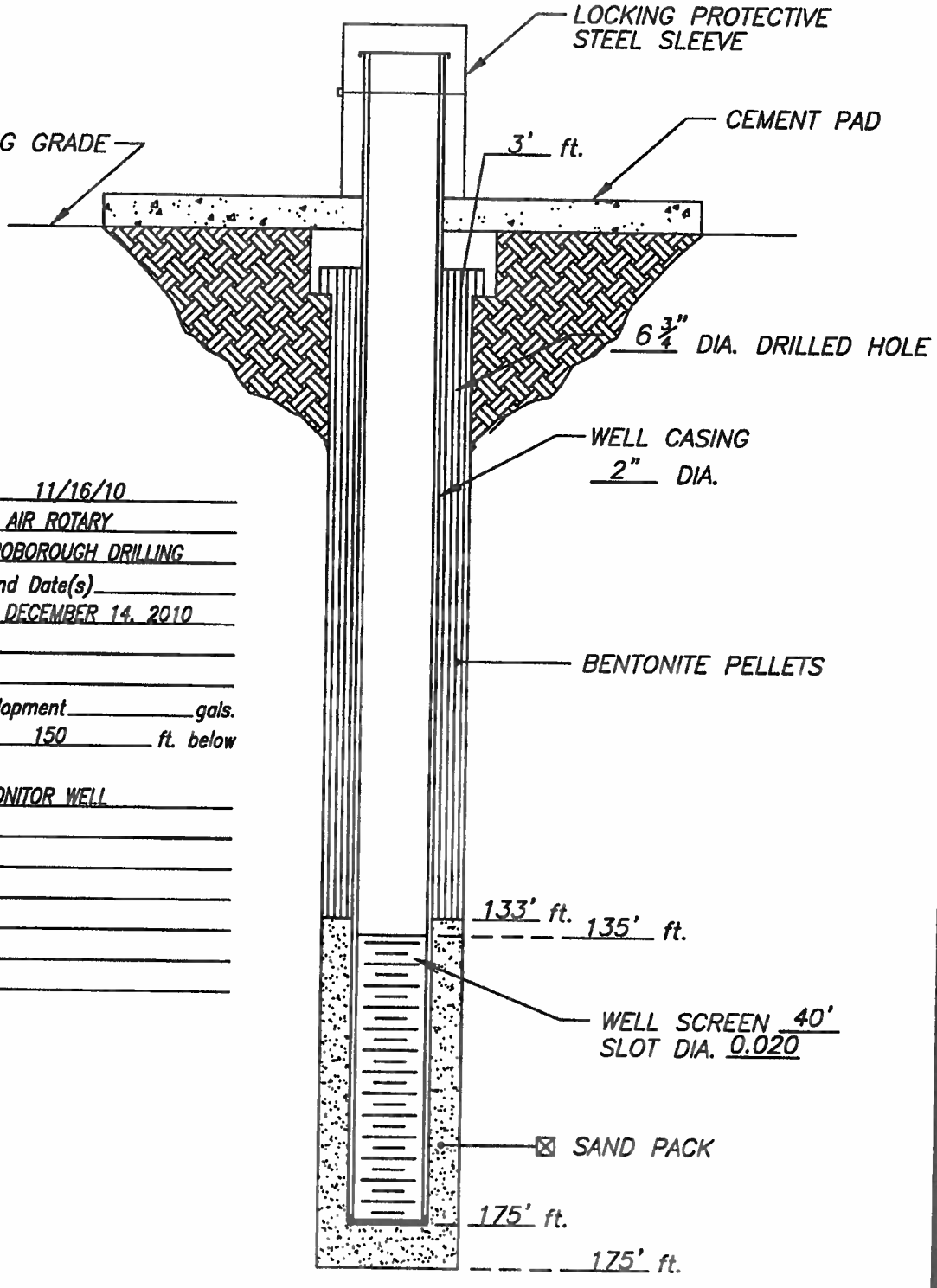
Water Removed During Development _____ gals.
Static Depth to Water 150 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 11/17/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT #7	MW-3
	LOCATION: CHAVES COUNTY, NEW MEXICO	

115-6403130

WELL CONSTRUCTION LOG



Installation Date(s) 11/16/10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

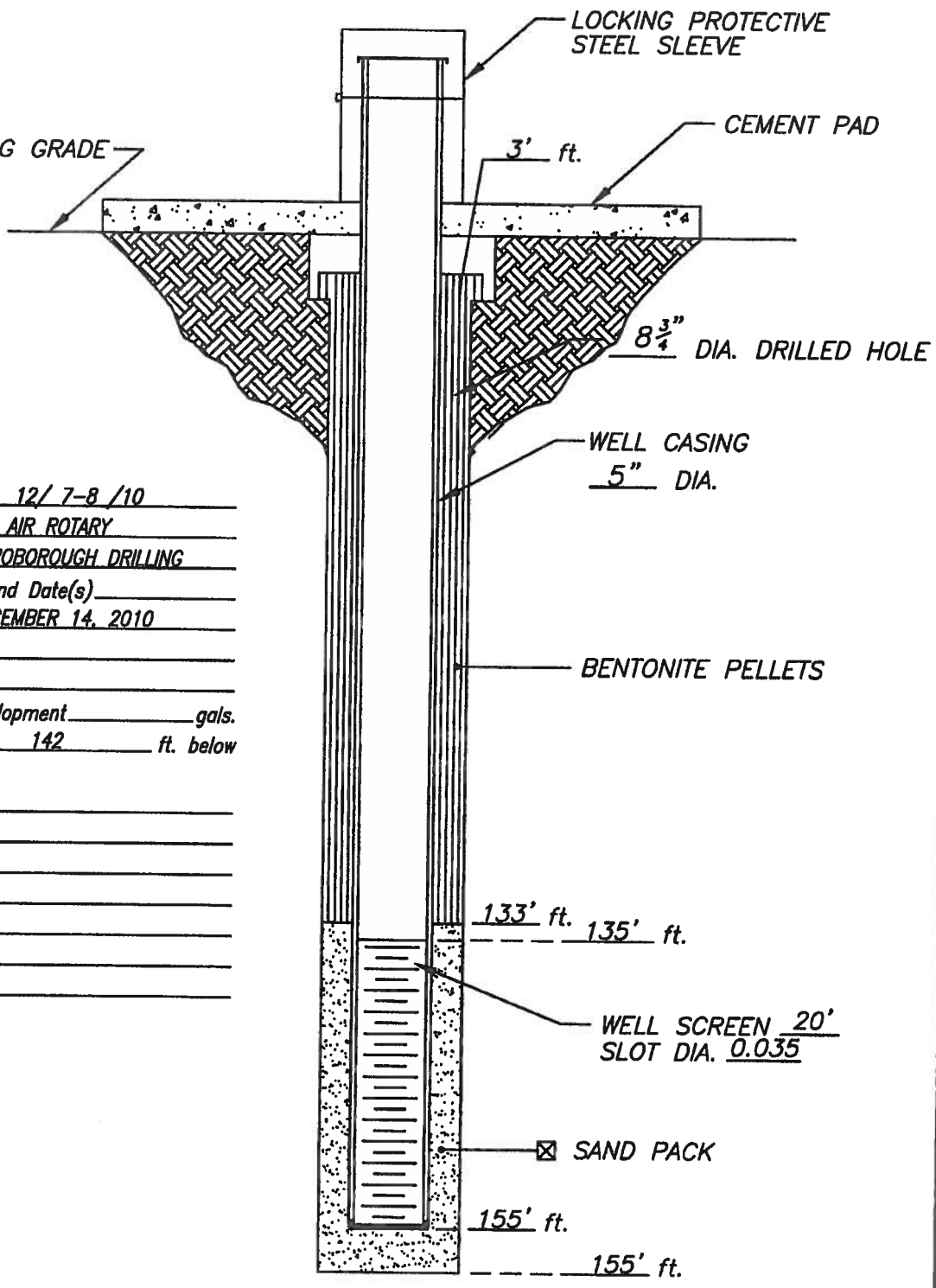
Water Removed During Development ____ gals.
Static Depth to Water 150 ft. below Ground Level
Well Purpose MONITOR WELL

Remarks

DATE: 11/16/10	CLIENT: CELERO ENERGY II, LLC	WELL NO.
TETRA TECH, INC. MIDLAND, TEXAS	PROJECT: ROCK QUEEN TRACT #7	MW-4
	LOCATION: CHAVES COUNTY, NEW MEXICO	

115-8403130

WELL CONSTRUCTION LOG



Installation Date(s) 12/ 7-8 /10
Drilling Method AIR ROTARY
Drilling Contractor SCROBOROUGH DRILLING
Development Technique(s) and Date(s)
HANDBAILED ON DECEMBER 14, 2010

Water Removed During Development _____ gals.
Static Depth to Water 142 ft. below Ground Level
Well Purpose _____

Remarks _____

DATE: 12/7/10 TETRA TECH, INC. MIDLAND, TEXAS	CLIENT: CELERO ENERGY II, LLC PROJECT: ROCK QUEEN TRACT #7 LOCATION: CHAVES COUNTY, NEW MEXICO 115-6403130	WELL NO. RW-1

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

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: 11012129

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

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
255903	MW-1	water	2011-01-20	18:19	2011-01-21
255904	MW-2	water	2011-01-20	18:00	2011-01-21
255905	MW-3	water	2011-01-20	18:12	2011-01-21
255906	MW-4	water	2011-01-20	18:16	2011-01-21
255907	Rinseate	water	2011-01-20	16:45	2011-01-21

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

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

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

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

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	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66273	2011-01-30 at 10:00	77266	2011-01-30 at 17:14
SO4 (IC)	E 300.0	66364	2011-02-01 at 10:33	77367	2011-02-01 at 12:49
TDS	SM 2540C	66128	2011-01-24 at 11:48	77161	2011-01-26 at 15:20
TDS	SM 2540C	66142	2011-01-24 at 11:30	77255	2011-01-31 at 10:09

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11012129 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 255903 - 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	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)		0.108	mg/L	1	0.100	108	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 255903 - MW-1

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		**18200**	mg/L	1000	2.50

Sample: 255903 - MW-1

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		<2500	mg/L	1000	2.50

Sample: 255903 - 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		**38600**		mg/L	100	10.0

Sample: 255904 - 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)		0.107	mg/L	1	0.100	107	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.0992	mg/L	1	0.100	99	51.1 - 128

Sample: 255904 - MW-2

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		**45100**		mg/L	10000	2.50

Sample: 255904 - 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	RL Result	Units	Dilution	RL
Sulfate		**1250**	mg/L	50	2.50

Sample: 255904 - 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	RL Result	Units	Dilution	RL
Total Dissolved Solids		**78200**	mg/L	100	10.0

Sample: 255905 - 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	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)		0.108	mg/L	1	0.100	108	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.101	mg/L	1	0.100	101	51.1 - 128

Sample: 255905 - MW-3

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		**47500**	mg/L	5000	2.50

Sample: 255905 - MW-3

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	RL Result	Units	Dilution	RL
Sulfate		**1750**	mg/L	50	2.50

Sample: 255905 - 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	RL Result	Units	Dilution	RL
Total Dissolved Solids		**81800**	mg/L	100	10.0

Sample: 255906 - 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	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100

continued ...

sample 255906 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)		0.114	mg/L	1	0.100	114	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	51.1 - 128

Sample: 255906 - 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		**279**	mg/L	50	2.50

Sample: 255906 - 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		<125	mg/L	50	2.50

Sample: 255906 - MW-4

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**792**	mg/L	2	10.0

Sample: 255907 - Rinseate

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.108	mg/L	1	0.100	108	67.8 - 126
4-Bromofluorobenzene (4-BFB)		0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 255907 - Rinseate

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		<12.5	mg/L	5	2.50

Sample: 255907 - Rinseate

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		<12.5	mg/L	5	2.50

Sample: 255907 - Rinseate

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

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**74.0**	mg/L	1	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: 77255

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

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

Method Blank (1) QC Batch: 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

Duplicates (1) Duplicated Sample: 255921

QC Batch: 77255 | Date Analyzed: 2011-01-31 | Analyzed By: AR
Prep Batch: 66142 | QC Preparation: 2011-01-24 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0885	mg/L	1	0.100	<0.000600	88	82.9 - 118
Toluene	0.0989	mg/L	1	0.100	<0.000600	99	82.7 - 117
Ethylbenzene	0.102	mg/L	1	0.100	<0.000800	102	78.8 - 116
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: 77255 | Date Analyzed: 2011-01-31 | Analyzed By: AR
Prep Batch: 66142 | QC Preparation: 2011-01-24 | Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 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

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	24.6	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.

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[5]	0.0811	mg/L	1	0.100	0.0121	69	77.9 - 114	19	20
Toluene	[6]	0.0774	mg/L	1	0.100	0.0066	71	78.3 - 111	20	20
Ethylbenzene	[7]	0.0693	mg/L	1	0.100	<0.000800	69	75.3 - 110	19	20
Xylene	[8]	0.180	mg/L	1	0.300	<0.000767	60	75.7 - 109	22	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[9]	0.0705	0.0437	mg/L	1	0.1	70	44	68.3 - 107
4-Bromofluorobenzene (4-BFB)	[10]	0.0736	0.0449	mg/L	1	0.1	74	45	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 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

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.

[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
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
Prep Batch: 66364

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

Analyzed By: PG
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-3)

QC Batch: 77124 Date Analyzed: 2011-01-24 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0820	82	80 - 120	2011-01-24
Toluene		mg/L	0.100	0.0952	95	80 - 120	2011-01-24
Ethylbenzene		mg/L	0.100	0.0976	98	80 - 120	2011-01-24
Xylene		mg/L	0.300	0.294	98	80 - 120	2011-01-24

Standard (CCV-1)

QC Batch: 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

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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: C.

SITE MANAGER: Jeff Kindley

PROJECT NO.: 15-L4031X

PROJECT NAME: Clovis Rock Queen Texas Chevron C N

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 Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC MS Vol. 8240/8260/624	GC MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	(X-1)
275903	1/20	1814	W		X	MW-1	4	N	X		X	X	X												X				X	X
904	"	1800	"		"	MW-2	"	"	"		"	"	"												"				"	"
905	"	1817	"		"	MW-3	"	"	"		"	"	"												"				"	"
906	"	1816	"		"	MW-4	"	"	"		"	"	"												"				"	"
907	1/20	1645	W		X	Blank	Y		Y		X	X	X												X				X	X

RELINQUISHED BY: (Signature) — Date — Time

RECEIVED BY: (Signature) — Date: 1/24/11 — Time: 13:15

RELINQUISHED BY: (Signature) — Date: 1/24/11 — Time: 16:20

RECEIVED BY: (Signature) — Date — Time

RELINQUISHED BY: (Signature) — Date — Time

RECEIVED BY: (Signature) — Date — Time

SAMPLED BY (Print & Initial) — Date — Time

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

RECEIVING LABORATORY: ADDRESS — CITY: Xenco STATE: PHONE ZIP — CONTACT

RECEIVED BY: (Signature) Brenda Wanes — DATE 1/25/11 — TIME 10 10 — LS - ZK 951497

TETRA TECH CONTACT PERSON: Jeff Kindley

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2.3 C intact

REMARKS: Midland - BTEX DS + Lubbock Chlorides, SO4

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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: April 27, 2011

Work Order: 11041526

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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
263892	MW-1	water	2011-04-14	10:05	2011-04-15
263893	MW-2	water	2011-04-14	10:15	2011-04-15
263894	MW-3	water	2011-04-14	10:00	2011-04-15
263895	MW-4	water	2011-04-14	10:25	2011-04-15

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

This report consists of a total of 20 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Report Contents

Case Narrative

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

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	68257	2011-04-18 at 08:51	80419	2011-04-18 at 08:51
Chloride (IC)	E 300.0	68430	2011-04-20 at 12:00	80628	2011-04-22 at 15:03
Chloride (IC)	E 300.0	68436	2011-04-25 at 08:21	80663	2011-04-26 at 15:30
SO4 (IC)	E 300.0	68430	2011-04-20 at 12:00	80628	2011-04-22 at 15:03
SO4 (IC)	E 300.0	68436	2011-04-25 at 08:21	80663	2011-04-26 at 15:30
TDS	SM 2540C	68387	2011-04-20 at 11:51	80715	2011-04-26 at 13:47

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11041526 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 263892 - MW-1

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

Parameter	Flag	Cert	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	0.0981	mg/L	1	0.100	98	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.100	mg/L	1	0.100	100	51.1 - 128

Sample: 263892 - MW-1

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**20500**	mg/L	1000	2.50

Sample: 263892 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1020**	mg/L	100	2.50

Sample: 263892 - MW-1

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**32000**	mg/L	100	10.0

Sample: 263893 - MW-2

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.00680**	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	0.0903	mg/L	1	0.100	90	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0980	mg/L	1	0.100	98	51.1 - 128

Sample: 263893 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**19100**	mg/L	1000	2.50

Sample: 263893 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1280**	mg/L	100	2.50

Sample: 263893 - MW-2

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**33000**	mg/L	100	10.0

Sample: 263894 - MW-3

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

Parameter	Flag	Cert	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	0.0914	mg/L	1	0.100	91	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0998	mg/L	1	0.100	100	51.1 - 128

Sample: 263894 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**25100**	mg/L	500	2.50

Sample: 263894 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80628	Date Analyzed:	2011-04-22	Analyzed By:	AR
Prep Batch:	68430	Sample Preparation:	2011-04-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1170**	mg/L	50	2.50

Sample: 263894 - MW-3

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**41000**	mg/L	100	10.0

Sample: 263895 - MW-4

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

continued ...

sample 263895 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	0.0952	mg/L	1	0.100	95	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0967	mg/L	1	0.100	97	51.1 - 128

Sample: 263895 - MW-4

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80663	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68436	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**510**	mg/L	50	2.50

Sample: 263895 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	80663	Date Analyzed:	2011-04-26	Analyzed By:	AR
Prep Batch:	68436	Sample Preparation:	2011-04-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**80.5**	mg/L	5	2.50

Sample: 263895 - MW-4

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	**3330**	mg/L	5	10.0

Method Blanks

Method Blank (1) QC Batch: 80419

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME
Prep Batch: 68257 | QC Preparation: 2011-04-18 | Prepared By: ME

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

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

Method Blank (1) QC Batch: 80628

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.593	mg/L	2.5

Method Blank (1) QC Batch: 80628

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

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

Method Blank (1) QC Batch: 80663

QC Batch: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | QC Preparation: 2011-04-25 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.878	mg/L	2.5

Method Blank (1) QC Batch: 80663

QC Batch: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | 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: 80715

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

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

Duplicates (1) Duplicated Sample: 263895

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

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	3480	3330	mg/L	5	4	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME
Prep Batch: 68257 | QC Preparation: 2011-04-18 | Prepared By: ME

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	24.6	mg/L	1	25.0	<0.265	98	90 - 110

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

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.7	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: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	24.2	mg/L	1	25.0	<0.177	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	24.2	mg/L	1	25.0	<0.177	97	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: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	25.3	mg/L	1	25.0	<0.265	101	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.6	mg/L	1	25.0	<0.265	102	90 - 110	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: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	23.5	mg/L	1	25.0	<0.177	94	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	22.7	mg/L	1	25.0	<0.177	91	90 - 110	4	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: 80715 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68387 | QC Preparation: 2011-04-20 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	966	mg/L	1	1000	<9.75	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	992	mg/L	1	1000	<9.75	99	90 - 110	3	10

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

Matrix Spike (MS-1) Spiked Sample: 263891

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	3430	mg/L	100	2750	997	88	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3380	mg/L	100	2750	997	87	90 - 110	2	20

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

Matrix Spike (MS-1) Spiked Sample: 263891

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR
Prep Batch: 68430 | QC Preparation: 2011-04-20 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	3830	mg/L	100	2750	1570	82	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	3800	mg/L	100	2750	1570	81	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 263897

QC Batch: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | QC Preparation: 2011-04-25 | Prepared By: AR

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 263897

QC Batch: 80663 | Date Analyzed: 2011-04-26 | Analyzed By: AR
Prep Batch: 68436 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	1200	mg/L	50	1380	32	85	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	1240	mg/L	50	1380	32	88	90 - 110	3	20

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

Calibration Standards

Standard (CCV-2)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0964	96	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.100	100	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0997	100	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-18

Standard (CCV-3)

QC Batch: 80419 | Date Analyzed: 2011-04-18 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0957	96	80 - 120	2011-04-18
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-04-18
Ethylbenzene		1	mg/L	0.100	0.0987	99	80 - 120	2011-04-18
Xylene		1	mg/L	0.300	0.294	98	80 - 120	2011-04-18

Standard (ICV-1)

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22

Standard (ICV-1)

QC Batch: 80628 | Date Analyzed: 2011-04-22 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22

Standard (CCV-1)

QC Batch: 80628 Date Analyzed: 2011-04-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.1	96	90 - 110	2011-04-22

Standard (CCV-1)

QC Batch: 80628 Date Analyzed: 2011-04-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.8	99	90 - 110	2011-04-22

Standard (ICV-1)

QC Batch: 80663 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	24.3	97	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80663 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	25.0	100	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80663 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	22.8	91	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80663 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	22.8	91	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.

*WO #: 1041526

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.: 115-6403130
PROJECT NAME: Rock Queen Tract #7

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	SAR/ESP
208892	4/14	1005	W		X	mw-1	4	N	X		X	X	X												X				X	X
893	"	1015	"		"	mw-2	"	"	"		"	"	"												"				"	"
894	"	1000	"		"	mw-3	"	"	"		"	"	"												"				"	"
895	4/14	1025	W		X	mw-4	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: 13:50
SAMPLED BY: (Print & Initial) James Kennedy JFK — Date: 4-14-11 Time:
RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: OTHER:
RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Jeff Kindley — Results by:
RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)
ADDRESS:
CITY: Midland STATE: ZIP:
CONTACT: PHONE: 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.

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: August 25, 2011

Work Order: 11080110

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

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

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

This report consists of a total of 21 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Report Contents

Case Narrative

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

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

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

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

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

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

Analytical Report

Sample: 273243 - MW-1

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	83538	Date Analyzed:	2011-08-03	Analyzed By:	ME
Prep Batch:	70958	Sample Preparation:	2011-08-03	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0972	mg/L	1	0.100	97	67.5 - 140.8

Sample: 273243 - MW-1

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	83606	Date Analyzed:	2011-08-04	Analyzed By:	AR
Prep Batch:	71007	Sample Preparation:	2011-08-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**20500**	mg/L	1000	2.50

Sample: 273243 - MW-1

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	83606	Date Analyzed:	2011-08-04	Analyzed By:	AR
Prep Batch:	71007	Sample Preparation:	2011-08-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1170**	mg/L	100	2.50

Sample: 273243 - MW-1

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	83880	Date Analyzed:	2011-08-15	Analyzed By:	AR
Prep Batch:	71017	Sample Preparation:	2011-08-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids	H	1	**33700**	mg/L	100	10.0

Sample: 273244 - MW-2

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	83538	Date Analyzed:	2011-08-03	Analyzed By:	ME
Prep Batch:	70958	Sample Preparation:	2011-08-03	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.00650**	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene	U	1	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0996	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0948	mg/L	1	0.100	95	67.5 - 140.8

Sample: 273244 - MW-2

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	84218	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71505	Sample Preparation:	2011-08-22	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**11700**	mg/L	1000	2.50

Sample: 273244 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	84218	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71505	Sample Preparation:	2011-08-22	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1570**	mg/L	100	2.50

Sample: 273244 - MW-2

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	83880	Date Analyzed:	2011-08-15	Analyzed By:	AR
Prep Batch:	71017	Sample Preparation:	2011-08-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids	H	1	**25900**	mg/L	100	10.0

Sample: 273245 - MW-3

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	83538	Date Analyzed:	2011-08-03	Analyzed By:	ME
Prep Batch:	70958	Sample Preparation:	2011-08-03	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0977	mg/L	1	0.100	98	67.5 - 140.8

Sample: 273245 - MW-3

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	84218	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71505	Sample Preparation:	2011-08-22	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**25100**	mg/L	500	2.50

Sample: 273245 - MW-3

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	84218	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71505	Sample Preparation:	2011-08-22	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**1420**	mg/L	50	2.50

Sample: 273245 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	83880	Date Analyzed:	2011-08-15	Analyzed By:	AR
Prep Batch:	71017	Sample Preparation:	2011-08-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids	H	1	**52400**	mg/L	100	10.0

Sample: 273246 - MW-4

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	83538	Date Analyzed:	2011-08-03	Analyzed By:	ME
Prep Batch:	70958	Sample Preparation:	2011-08-03	Prepared By:	ME

continued ...

sample 273246 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0991	mg/L	1	0.100	99	67.5 - 140.8

Sample: 273246 - MW-4

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	83606	Date Analyzed:	2011-08-04	Analyzed By:	AR
Prep Batch:	71007	Sample Preparation:	2011-08-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	**127**	mg/L	5	2.50

Sample: 273246 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	83606	Date Analyzed:	2011-08-04	Analyzed By:	AR
Prep Batch:	71007	Sample Preparation:	2011-08-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	**114**	mg/L	5	2.50

Sample: 273246 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	83880	Date Analyzed:	2011-08-15	Analyzed By:	AR
Prep Batch:	71017	Sample Preparation:	2011-08-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids	H	1	**648**	mg/L	2	10.0

Method Blanks

Method Blank (1) QC Batch: 83538

QC Batch: 83538 Date Analyzed: 2011-08-03 Analyzed By: ME
Prep Batch: 70958 QC Preparation: 2011-08-03 Prepared By: ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.103	mg/L	1	0.100	103	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0946	mg/L	1	0.100	95	45.9 - 126.4

Method Blank (1) QC Batch: 83606

QC Batch: 83606 Date Analyzed: 2011-08-04 Analyzed By: AR
Prep Batch: 71007 QC Preparation: 2011-08-03 Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	2.99	mg/L	2.5

Method Blank (1) QC Batch: 83606

QC Batch: 83606 Date Analyzed: 2011-08-04 Analyzed By: AR
Prep Batch: 71007 QC Preparation: 2011-08-03 Prepared By: AR

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

Method Blank (1) QC Batch: 83880

QC Batch: 83880 | Date Analyzed: 2011-08-15 | Analyzed By: AR
Prep Batch: 71017 | QC Preparation: 2011-08-05 | Prepared By: AR

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

Method Blank (1) QC Batch: 84218

QC Batch: 84218 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71505 | QC Preparation: 2011-08-22 | Prepared By: AR

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

Method Blank (1) QC Batch: 84218

QC Batch: 84218 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71505 | QC Preparation: 2011-08-22 | Prepared By: AR

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

Duplicates (1) Duplicated Sample: 273246

QC Batch: 83880 | Date Analyzed: 2011-08-15 | Analyzed By: AR
Prep Batch: 71017 | QC Preparation: 2011-08-05 | Prepared By: AR

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	614	648	mg/L	2	5	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 83538 | Date Analyzed: 2011-08-03 | Analyzed By: ME
Prep Batch: 70958 | QC Preparation: 2011-08-03 | Prepared By: ME

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.103	mg/L	1	0.100	<0.000400	103	76.8 - 110.3	2	20
Toluene		1	0.0996	mg/L	1	0.100	<0.000300	100	90.9 - 122.2	2	20
Ethylbenzene		1	0.0942	mg/L	1	0.100	<0.000300	94	72.7 - 120.2	2	20
Xylene		1	0.282	mg/L	1	0.300	<0.000333	94	72.1 - 121.5	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0992	0.0894	mg/L	1	0.100	99	89	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0986	0.0880	mg/L	1	0.100	99	88	56.4 - 127.9

Laboratory Control Spike (LCS-1)

QC Batch: 83606 | Date Analyzed: 2011-08-04 | Analyzed By: AR
Prep Batch: 71007 | QC Preparation: 2011-08-03 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	27.5	mg/L	1	25.0	<0.265	110	90.9 - 113.9

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

continued ...

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	27.5	mg/L	1	25.0	<0.265	110	90.9 - 113.9	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: 83606 | Date Analyzed: 2011-08-04 | Analyzed By: AR
Prep Batch: 71007 | QC Preparation: 2011-08-03 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	26.8	mg/L	1	25.0	<0.177	107	99 - 113.6

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	26.7	mg/L	1	25.0	<0.177	107	99 - 113.6	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: 83880 | Date Analyzed: 2011-08-15 | Analyzed By: AR
Prep Batch: 71017 | QC Preparation: 2011-08-05 | Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 84218 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71505 | QC Preparation: 2011-08-22 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	24.3	mg/L	1	25.0	<0.265	97	90.9 - 113.9

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	24.0	mg/L	1	25.0	<0.265	96	90.9 - 113.9	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: 84218 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71505 | QC Preparation: 2011-08-22 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	26.0	mg/L	1	25.0	<0.177	104	99 - 113.6

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	26.1	mg/L	1	25.0	<0.177	104	99 - 113.6	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: 273037

QC Batch: 83538 | Date Analyzed: 2011-08-03 | Analyzed By: ME
Prep Batch: 70958 | QC Preparation: 2011-08-03 | Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.587	mg/L	5	0.500	0.127	92	66.9 - 128.2
Toluene		1	0.544	mg/L	5	0.500	0.1205	85	81.6 - 122.9
Ethylbenzene		1	0.421	mg/L	5	0.500	<0.00150	84	62.7 - 117.9

continued ...

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene		1	1.29	mg/L	5	1.50	0.1543	76	62.9 - 118.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.607	mg/L	5	0.500	0.127	96	66.9 - 128.2	3	20
Toluene		1	0.563	mg/L	5	0.500	0.1205	88	81.6 - 122.9	3	20
Ethylbenzene		1	0.438	mg/L	5	0.500	<0.00150	88	62.7 - 117.9	4	20
Xylene		1	1.34	mg/L	5	1.50	0.1543	79	62.9 - 118.2	4	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)	0.511	0.468	mg/L	5	0.5	102	94	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.502	0.461	mg/L	5	0.5	100	92	52.2 - 135.8

Matrix Spike (MS-1) Spiked Sample: 273243

QC Batch: 83606 | Date Analyzed: 2011-08-04 | Analyzed By: AR
Prep Batch: 71007 | QC Preparation: 2011-08-03 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	18000	mg/L	100	2750	18000	0	48.4 - 143.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	17900	mg/L	100	2750	18000	0	48.4 - 143.2	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: 273243

QC Batch: 83606 | Date Analyzed: 2011-08-04 | Analyzed By: AR
Prep Batch: 71007 | QC Preparation: 2011-08-03 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	3380	mg/L	100	2750	1170	80	59.7 - 115.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	3360	mg/L	100	2750	1170	80	59.7 - 115.4	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: 273206

QC Batch: 84218
Prep Batch: 71505
Date Analyzed: 2011-08-22
QC Preparation: 2011-08-22
Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	2200	mg/L	50	1380	1010	86	48.4 - 143.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	2150	mg/L	50	1380	1010	83	48.4 - 143.2	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: 273206

QC Batch: 84218
Prep Batch: 71505
Date Analyzed: 2011-08-22
QC Preparation: 2011-08-22
Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	1270	mg/L	50	1380	103	85	59.7 - 115.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	1230	mg/L	50	1380	103	82	59.7 - 115.4	3	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: 83538 Date Analyzed: 2011-08-03 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	0.0989	99	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0948	95	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0892	89	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.271	90	80 - 120	2011-08-03

Standard (CCV-2)

QC Batch: 83538 Date Analyzed: 2011-08-03 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	0.102	102	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0980	98	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0920	92	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.276	92	80 - 120	2011-08-03

Standard (CCV-3)

QC Batch: 83538 Date Analyzed: 2011-08-03 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	0.101	101	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0972	97	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0903	90	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.272	91	80 - 120	2011-08-03

Standard (ICV-1)

QC Batch: 83606 Date Analyzed: 2011-08-04 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	26.8	107	90 - 110	2011-08-04

Standard (ICV-1)

QC Batch: 83606 Date Analyzed: 2011-08-04 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	26.7	107	90 - 110	2011-08-04

Standard (CCV-1)

QC Batch: 83606 Date Analyzed: 2011-08-04 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	27.1	108	90 - 110	2011-08-04

Standard (CCV-1)

QC Batch: 83606 Date Analyzed: 2011-08-04 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	26.6	106	90 - 110	2011-08-04

Standard (ICV-1)

QC Batch: 84218 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.8	99	90 - 110	2011-08-22

Standard (ICV-1)

QC Batch: 84218 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2011-08-22

Standard (CCV-1)

QC Batch: 84218 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.3	97	90 - 110	2011-08-22

Standard (CCV-1)

QC Batch: 84218 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	27.4	110	90 - 110	2011-08-22

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Xto #: 110801O

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-G40 3130 | PROJECT NAME: Celero / Rick Queen #7 Chavez Co. NM

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	TDS	Sulfates
273243	7/29	1250	W		X	MW-1	4	N	X		X		X											X				X	X	X
244		1230				MW-2																								
245		1240				MW-3																								
246		1300				MW-4																								

RELINQUISHED BY: (Signature) — Date: 11/29/11 Time: 1535 — RECEIVED BY: (Signature) — Date: 11/29/11 Time: 1535

SAMPLED BY: (Print & Initial) JT/RS — Date: 11/29/11 Time:

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

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

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

RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)

ADDRESS: — CITY: Midland STATE: TX ZIP: — CONTACT: — PHONE: — DATE: — TIME:

TETRA TECH CONTACT PERSON: Jeff Kindley — Results by: — RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 10.8°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.

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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: November 30, 2011

Work Order: 11103124

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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
281139	MW-4	water	2011-10-28	13:25	2011-10-31
281140	MW-2	water	2011-10-28	13:55	2011-10-31
281141	MW-1	water	2011-10-28	13:45	2011-10-31
281142	MW-3	water	2011-10-28	13:35	2011-10-31

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

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

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

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

Report Contents

Case Narrative

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

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

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

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11103124 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 281139 - MW-4

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	86371	Date Analyzed:	2011-11-02	Analyzed By:	AR
Prep Batch:	73346	Sample Preparation:	2011-11-03	Prepared By:	AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	1	**113**	**113**	<0.885	mg/L	5	0.885	2.5	0.177

Sample: 281139 - MW-4

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	86753	Date Analyzed:	2011-11-18	Analyzed By:	AR
Prep Batch:	73423	Sample Preparation:	2011-11-15	Prepared By:	AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		1	**770**	**770**	<19.5	mg/L	2	19.5	10	9.75

Sample: 281140 - MW-2

Laboratory:	Midland				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	86373	Date Analyzed:	2011-11-02	Analyzed By:	AR
Prep Batch:	73346	Sample Preparation:	2011-11-03	Prepared By:	AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	1	**1010**	**1010**	<17.7	mg/L	100	17.7	2.5	0.177

Sample: 281140 - MW-2

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

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

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		1	**19500**	**19500**	<975	mg/L	100	975	10	9.75

Sample: 281141 - MW-1

Laboratory: Midland
Analysis: SO4 (IC) | Analytical Method: E 300.0 | Prep Method: N/A
QC Batch: 86373 | Date Analyzed: 2011-11-02 | Analyzed By: AR
Prep Batch: 73346 | Sample Preparation: 2011-11-03 | Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	1	**1270**	**1270**	<17.7	mg/L	100	17.7	2.5	0.177

Sample: 281141 - MW-1

Laboratory: Midland
Analysis: TDS | Analytical Method: SM 2540C | Prep Method: N/A
QC Batch: 86753 | Date Analyzed: 2011-11-18 | Analyzed By: AR
Prep Batch: 73423 | Sample Preparation: 2011-11-15 | Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		1	**23200**	**23200**	<975	mg/L	100	975	10	9.75

Sample: 281142 - MW-3

Laboratory: Midland
Analysis: SO4 (IC) | Analytical Method: E 300.0 | Prep Method: N/A
QC Batch: 86373 | Date Analyzed: 2011-11-02 | Analyzed By: AR
Prep Batch: 73346 | Sample Preparation: 2011-11-03 | Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	1	**1480**	**1480**	<88.5	mg/L	500	88.5	2.5	0.177

Sample: 281142 - MW-3

Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	86754	Date Analyzed:	2011-11-21	Analyzed By:	AR
Prep Batch:	73460	Sample Preparation:	2011-11-17	Prepared By:	AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		1	**57000**	**57000**	<975	mg/L	100	975	10	9.75

Method Blanks

Method Blank (1)

QC Batch: 86371 | Date Analyzed: 2011-11-02 | Analyzed By: AR
Prep Batch: 73346 | QC Preparation: 2011-11-01 | Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Sulfate		1	<0.177	mg/L	0.177

Method Blank (1)

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

Parameter	F	C	Result	Units	Reporting Limits
Sulfate		1	<0.177	mg/L	0.177

Method Blank (1)

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

Parameter	F	C	Result	Units	Reporting Limits
Total Dissolved Solids		1	<9.75	mg/L	9.75

Method Blank (1)

QC Batch: 86754 | Date Analyzed: 2011-11-21 | Analyzed By: AR
Prep Batch: 73460 | QC Preparation: 2011-11-16 | Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Total Dissolved Solids		1	<9.75	mg/L	9.75

Duplicate (1) Duplicated Sample: 281141

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

Param	F	C	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1	22400	23200	mg/L	100	4	10

Duplicate (1) Duplicated Sample: 281151

QC Batch: 86754 | Date Analyzed: 2011-11-21 | Analyzed By: AR
Prep Batch: 73460 | QC Preparation: 2011-11-16 | Prepared By: AR

Param	F	C	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1	130000	135000	mg/L	100	4	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 86371 | Date Analyzed: 2011-11-02 | Analyzed By: AR
Prep Batch: 73346 | QC Preparation: 2011-11-01 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.2	mg/L	1	25.0	<0.177	101	90 - 110

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

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

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

Laboratory Control Spike (LCS-1)

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.2	mg/L	1	25.0	<0.177	101	90 - 110

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

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

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

Laboratory Control Spike (LCS-1)

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	961	mg/L	1	1000	<9.75	96	85.5 - 112.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	987	mg/L	1	1000	<9.75	99	85.5 - 112.7	3	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 86754 | Date Analyzed: 2011-11-21 | Analyzed By: AR
Prep Batch: 73460 | QC Preparation: 2011-11-16 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	1000	mg/L	1	1000	<9.75	100	85.5 - 112.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1030	mg/L	1	1000	<9.75	103	85.5 - 112.7	3	10

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

Matrix Spike (MS-1) Spiked Sample: 281137

QC Batch: 86371 | Date Analyzed: 2011-11-02 | Analyzed By: AR
Prep Batch: 73346 | QC Preparation: 2011-11-01 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Qs	1	2450	mg/L	100	2750	173	83	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	Qs	1	2460	mg/L	100	2750	173	83	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: 281141

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

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Qs	1	3480	mg/L	100	2750	1270	80	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	3500	mg/L	100	2750	1270	81	90 - 110	1	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 86371 Date Analyzed: 2011-11-02 Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 86371 Date Analyzed: 2011-11-02 Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.2	101	90 - 110	2011-11-02

Standard (ICV-1)

QC Batch: 86373 Date Analyzed: 2011-11-02 Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.2	101	90 - 110	2011-11-02

Standard (CCV-1)

QC Batch: 86373 Date Analyzed: 2011-11-02 Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.3	101	90 - 110	2011-11-02

Limits of Detection (LOD)

Appendix

Report Definitions

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

Laboratory Certifications

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

WO # 11103124

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-L40 3130

PROJECT NAME: Celero / Rock Queen #7

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
281139	12/28/	1325	W		X	MW-4	4	W	X		X		X												X				
140		1355				MW-2																							
141		1345				MW-1																							
142		1335				MW-3																							

RELINQUISHED BY: (Signature) — Date: 10/31/11 Time: 1140
RECEIVED BY: (Signature) — Date: 10/31/11 Time: 1140

RELINQUISHED BY: (Signature) — Date: 10/31/11 Time: 1600
RECEIVED BY: (Signature) — Date: Time:

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

SAMPLED BY: (Print & Initial) JT/SA — Date: Time:

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

TETRA TECH CONTACT PERSON: Jeff Kindley 1.9.2.10

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Brandy Ward
DATE: 11/1/11 TIME: 8:40

SAMPLE CONDITION WHEN RECEIVED: Intact 3.9°c

REMARKS: Midland - Chloride Lubbock - BTEX LS ZN0039G4 3.9°

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

KB

WO # 11103124

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: Cekero
SITE MANAGER: Jeff Kindley
PROJECT NO.: 115-L40 3130
PROJECT NAME: Cekero / Rock Queen #7

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	504, TDS - Added 11/1/11 per Jeanne E.		
281139	12/28/	1525	W		X	MW-4	4	N	X		X		X											X				X	X		
140		1355				MW-2																									
141		1345				MW-1																									
142		1335				MW-3																									

RELINQUISHED BY: (Signature)	Date: 10/31/11 Time: 1140	RECEIVED BY: (Signature)	Date: 10/31/11 Time: 1140
RELINQUISHED BY: (Signature)	Date: 10-1-11 Time: 1600	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT/SA Date: Time:

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

TETRA TECH CONTACT PERSON: Jeff Kindley 1.9.2.10

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) Brenda Ward
DATE: 11/1/11 TIME: 8:40

SAMPLE CONDITION WHEN RECEIVED: Intact 3.9°c

REMARKS: Midland-Chloride Lubbock-BTEX LS ZN0039G4 3.9°

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

NOV - 4 2011 EP

11 of 11