

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

Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tract 13 Tank Battery (Site) from June 2007 through December 2011. The Site is located approximately 21 1/2 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

On September 21, 2007, Highlander (Tetra Tech) submitted an Investigation and Characterization work plan (ICP) for an open pit at the Site. The ICP was subsequently approved by the New Mexico Oil Conservation Division (NMOCD).

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

TE TETRATECH

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

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

Groundwater Investigation

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

During the investigation, groundwater was encountered at depths of approximately 147 to 154 feet bgs. Monitor Well MW-1 was drilled to a depth of 162 feet bgs and installed with 60 feet of 0.02 inch slotted screen. Monitoring wells MW-2, MW-3, MW-4, and MW-6 were drilled to depths ranging from 160 to 165 and installed with 30 feet of 0.02 inch slotted screen. Monitor well MW-5 was installed into the underlying clay to a depth of 180 feet bgs and installed with 40 feet of 0.02 inch slotted screen. From the top of the screens to the surface of the boring, the wells were completed with blank schedule 40 PVC casing. See Appendix B for monitor well installation diagrams.

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

Gauging and Monitor Well Sampling

On June 1, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for all but the June 1, 2007 sampling event. The hydraulic gradient indicates a southeasterly direction. Groundwater gradient maps for the sampling events are included as Figures 4 through 10. Gauging data is summarized in Table 1.

TETRA TECH

During the sampling events, each of the wells was purged utilizing either a submersible pump or by hand bailing and subsequently sampled for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+. The samples were properly preserved and submitted under proper chain-of-custody control to Trace Analysis Inc. of Lubbock, Texas. Water samples for monitor wells MW-1 (except June 1, 2007), MW-3, and MW-4 were below the NMWQCC standard of 250 mg/L chlorides. Chlorides for the sampling period ranged from 38.3 mg/L in monitor well MW-1 on July 12, 2010 to 17,700 mg/L in monitor well MW-5 on April 13, 2011. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 11 through 17. Copies of the laboratory analyses are enclosed in Appendix C.

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

CONCLUSIONS

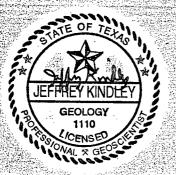
- On June 1, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling initiated. During the sampling events, all monitor wells were gauged and sampled. The samples were preserved, delivered to Trace Analysis, Inc. of Midland, Texas and analyzed for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+.
- 2. The hydraulic gradient indicates a southeasterly direction.
- 3. No PSH or dissolved phase separated hydrocarbons have been measured or detected in any of the onsite monitor wells above NMWQCC standards.
- Water samples for monitor wells MW-1 (except June 1, 2007), MW-3, and MW-4 were below the NMWQCC standard of 250 mg/L chlorides. Chlorides for the sampling period ranged from 38.3 mg/L in monitor well MW-1 on July 12, 2010 to 17,700 mg/L in monitor well MW-5 on April 13, 2011.



RECOMMENDATIONS

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

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



cc:

Respectfully submitted, Tetra Tech, Inc.

Jeffrey Kindley, P.G.

Senior Environmental Geologist

Bruce Woodard - Celero Energy II, LP

FIGURES

MW-3

MW-4

| ROCK QUEEN | TRACT 13 | SATELLITE |

MW-2 **⊕**

MW-5

FIGURE NO. 3

CHAVES COUNTY, NEW MEXICO

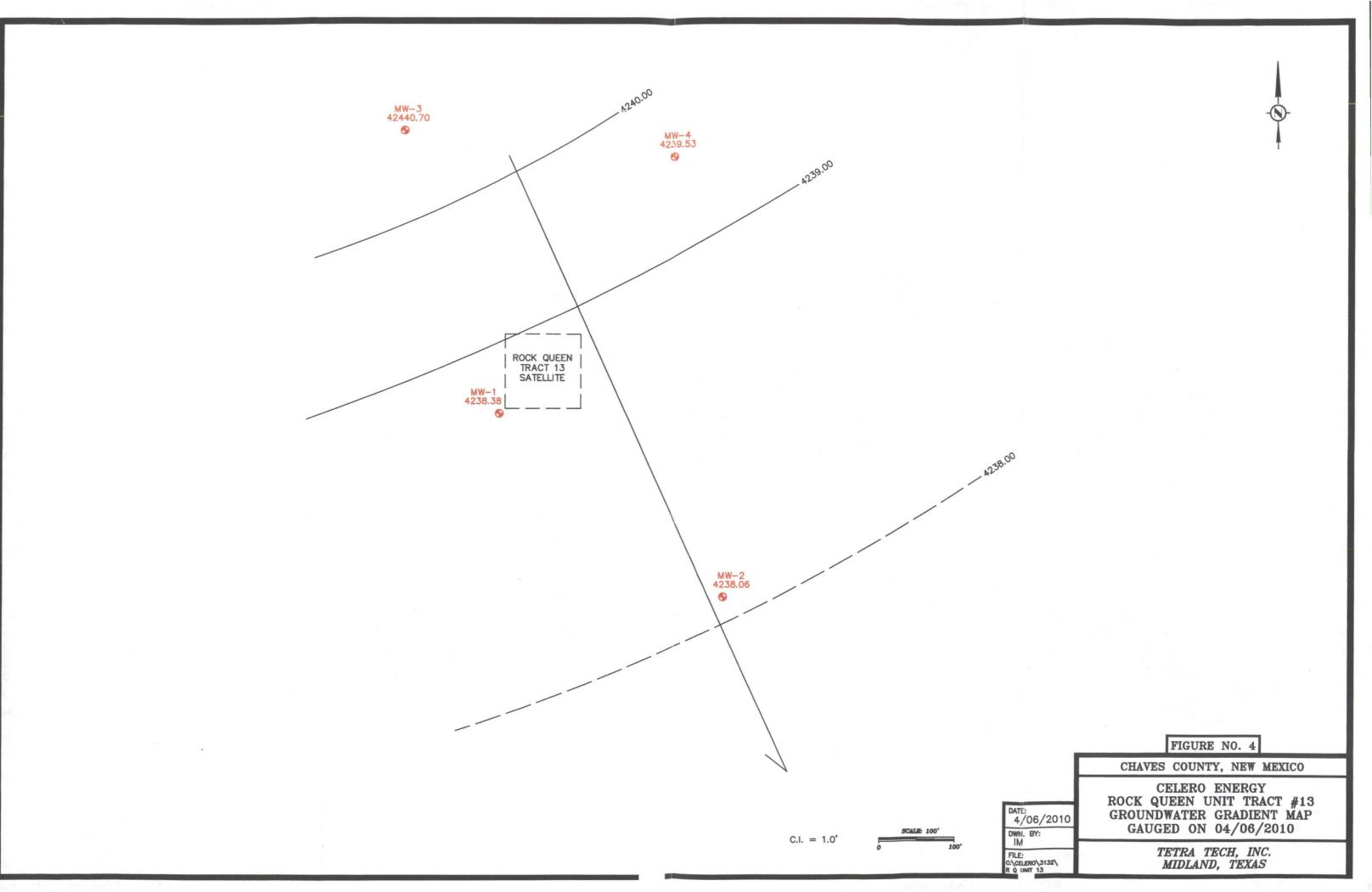
CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
SITE MAP

SCALE: 100'

MW−6

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

TETRA TECH, INC. MIDLAND, TEXAS



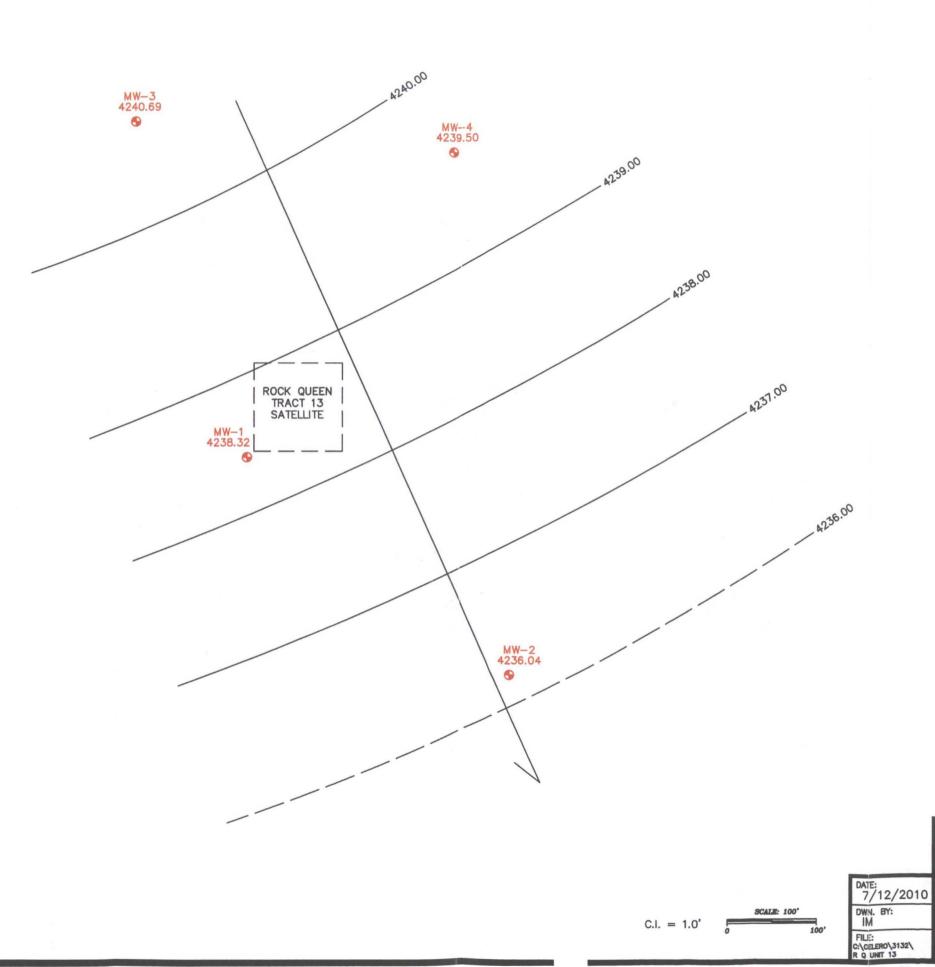


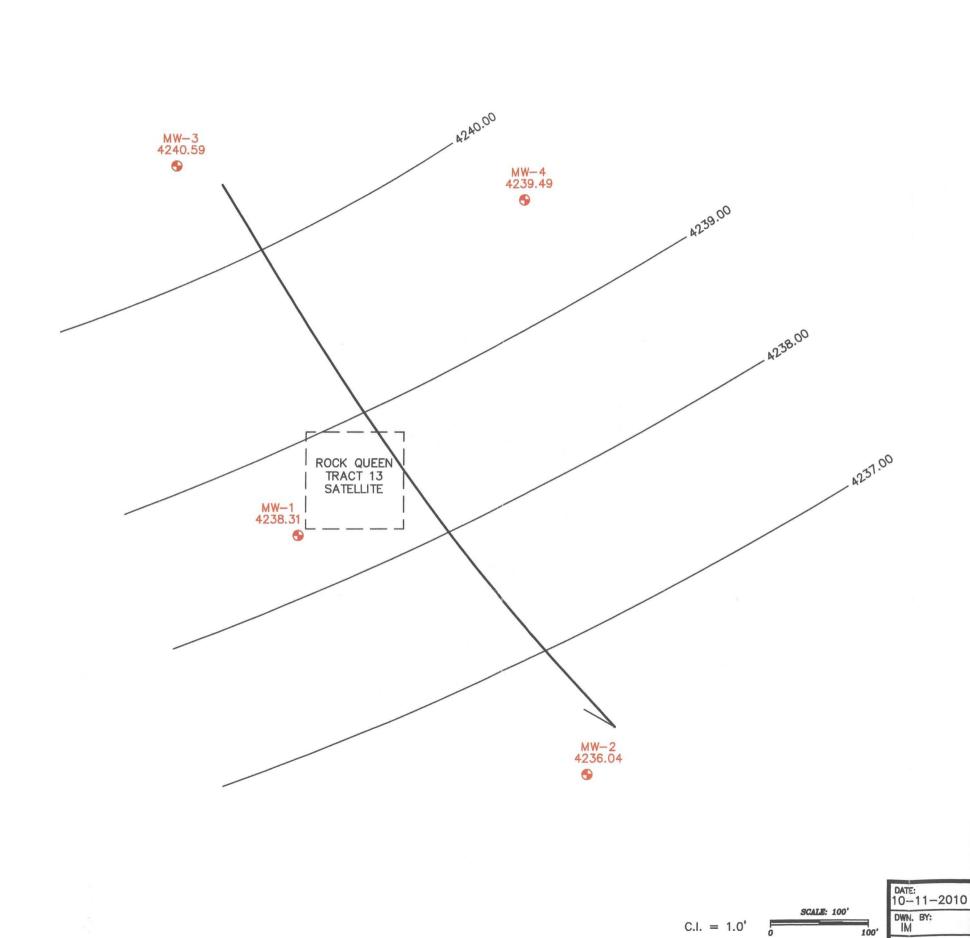
FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC. MIDLAND, TEXAS

SCALE: 100'



C.I. = 1.0'

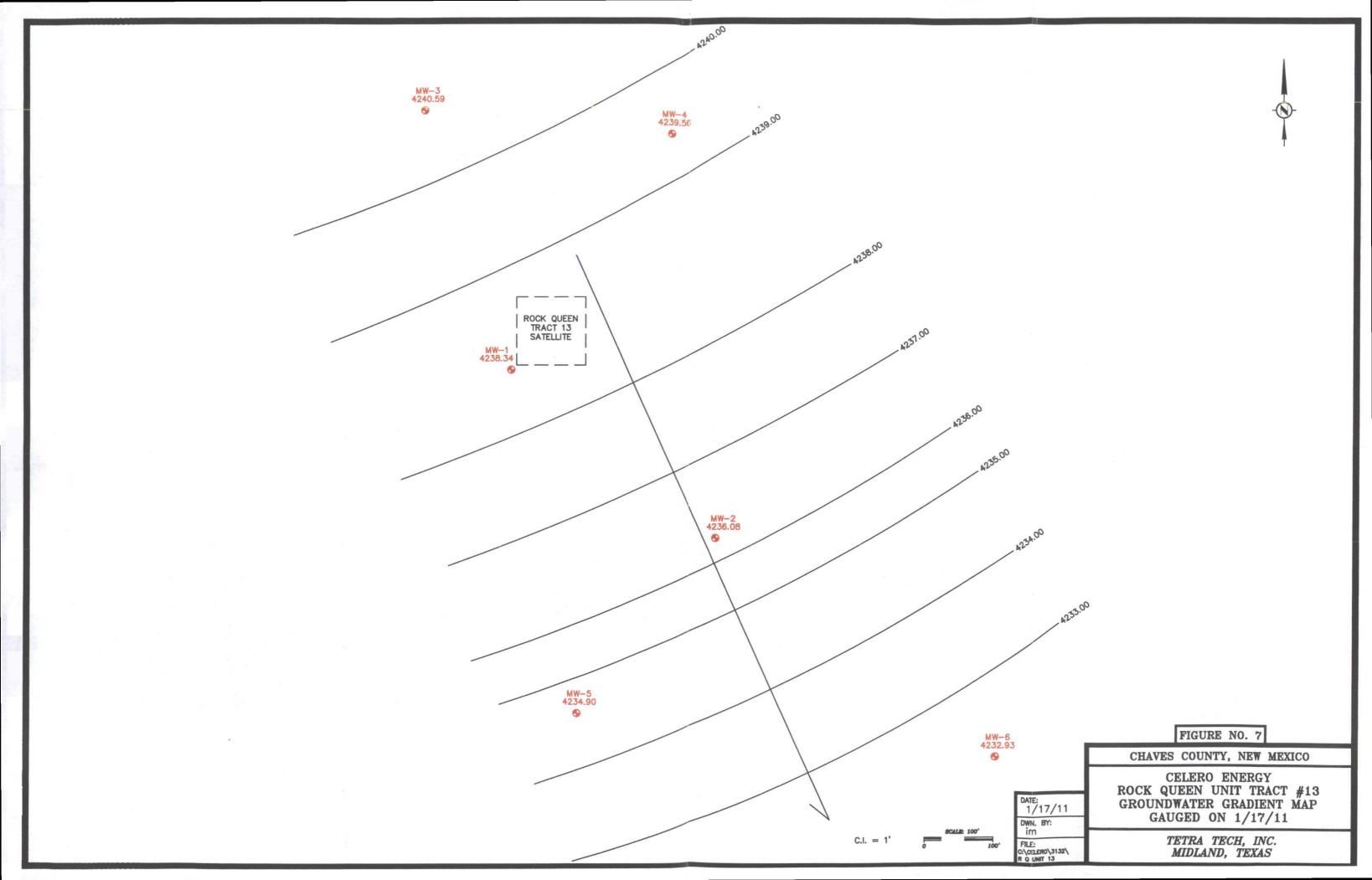
FILE: C:\CELERO\3132\ R Q UNIT 13

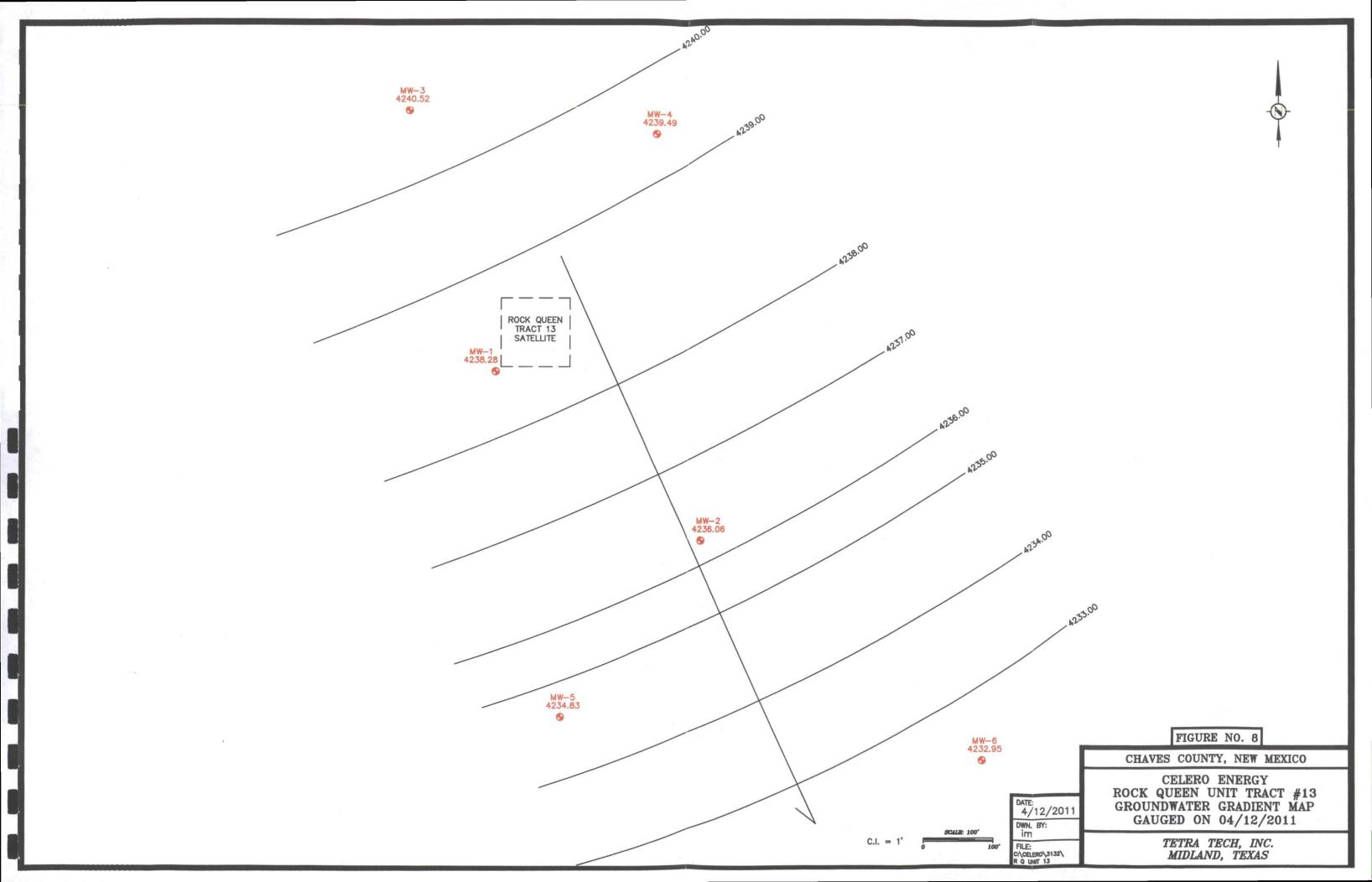
FIGURE NO. 6

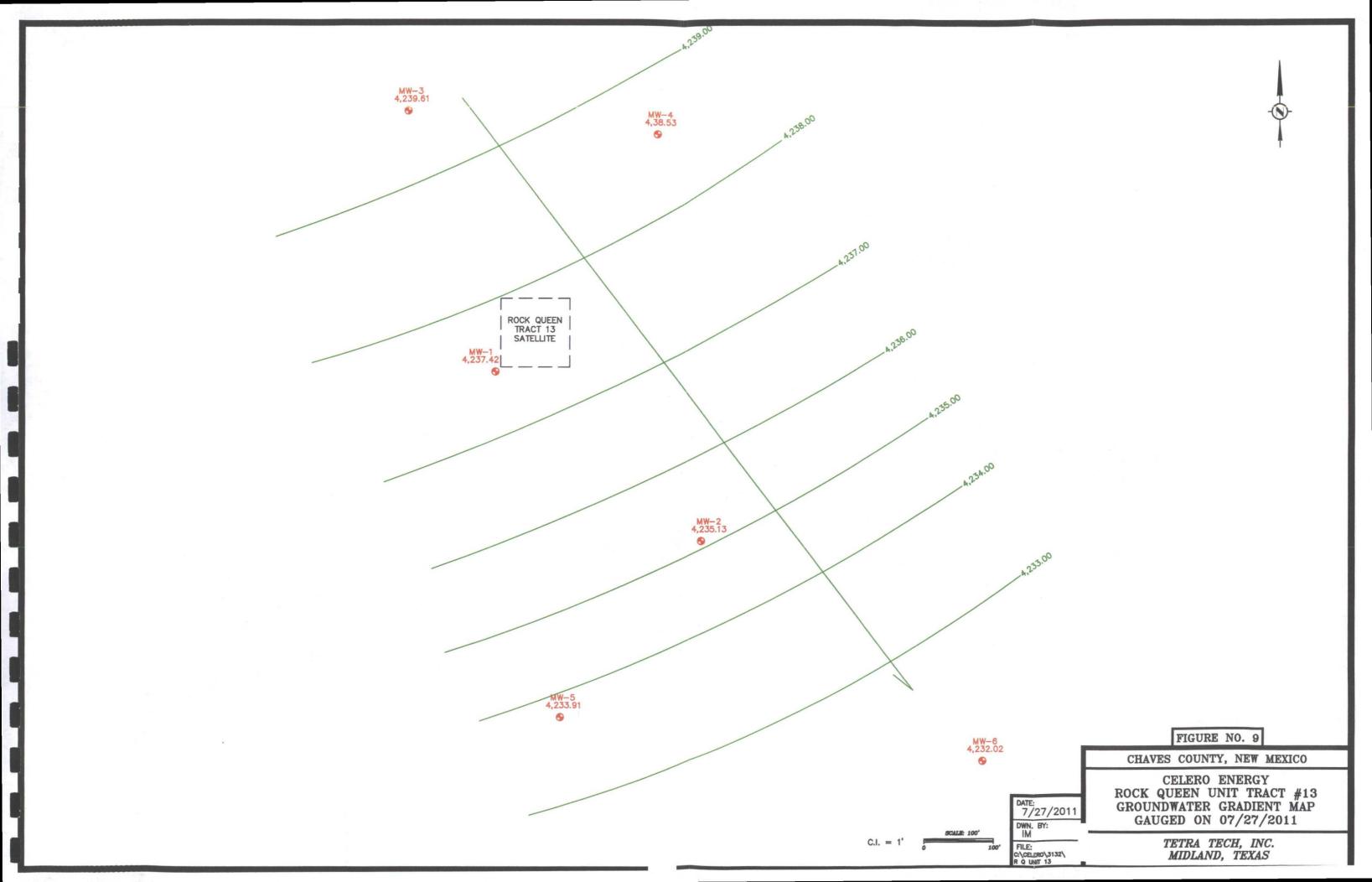
CHAVES COUNTY, NEW MEXICO

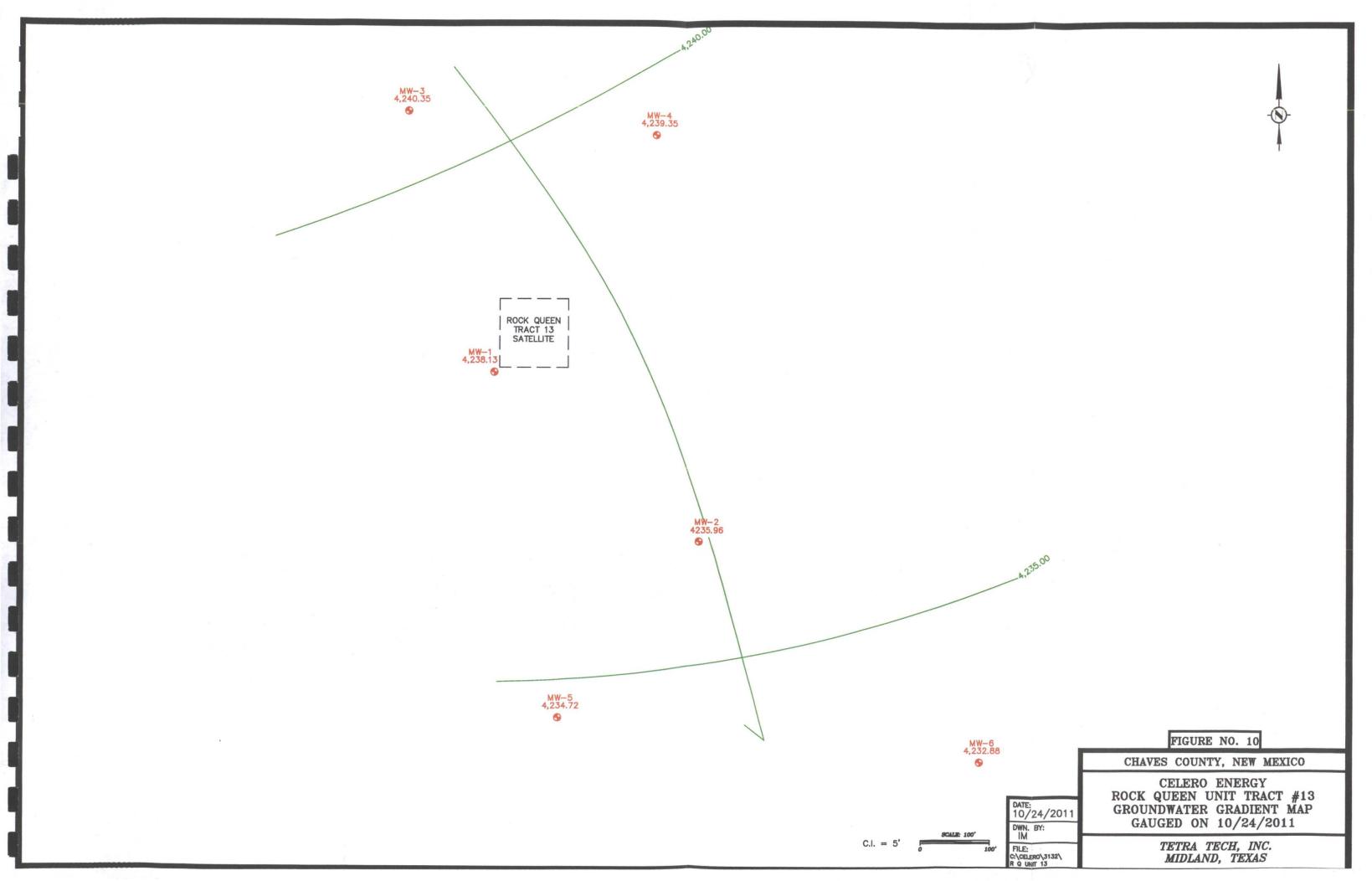
CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
GROUNDWATER GRADIENT MAP
GAUGED ON 10/11/2010

TETRA TECH, INC. MIDLAND, TEXAS









MW−3 58.4

MW-4 58.2 ●

ROCK QUEEN | TRACT 13 | SATELLITE |

MW-2 2,250 **⊕**

RESULTS IN mg/L SCALE: 100'

DATE: 4/06/2010

DWN. BY: IM FILE: C:\CELERO\3132\ R Q UNIT 13 FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC. MIDLAND, TEXAS MW-3 83.6

MW-4 147.0 •

ROCK QUEEN TRACT 13 SATELLITE MW-1 38.8

MW-2 9,870

SCALE: 150'

DATE: 7/12/2010 DWN. BY:

CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP SAMPLED ON 7/12/2010 FILE: C:\CELERO\3132\ R Q UNIT 13

TETRA TECH, INC. MIDLAND, TEXAS

FIGURE NO. 12 CHAVES COUNTY, NEW MEXICO

RESILTS IN mg/L

MW−3 170

MW−4 163 •

ROCK QUEEN | TRACT 13 | SATELLITE |

MW-2 7,750 **●**

RESULTS IN mg/L

DATE: 10/11/2010 DWN. BY: IM 100' FILE: C:\CELERO\3132\ R Q UNIT 13

CHAVES COUNTY, NEW MEXICO
CELERO ENERGY

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

FIGURE NO. 13

TETRA TECH, INC. MIDLAND, TEXAS MW-3 133 **⊕**

MW-4 210 **⊕**

ROCK QUEEN TRACT 13 SATELLITE

MW-2 9,070 **⊕**

MW--6 2,880 •

DATE: 1/20/11

FIGURE NO. 14

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC. MIDLAND, TEXAS

RESULTS IN mg/L

DWN. BY: FILE: C:\CELERO\3132\ R Q UNIT 13 MW−3 148 •

MW-4 174 **●**

ROCK QUEEN TRACT 13 SATELLITE

MW-6 3,010 **⊕**

FIGURE NO. 15

CHAVES COUNTY, NEW MEXICO

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

TETRA TECH, INC. MIDLAND. TEXAS

RESULTS IN mg/L

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

MW-3 166 **⊕**

MW-4 224 **●**

ROCK QUEEN TRACT 13 SATELLITE

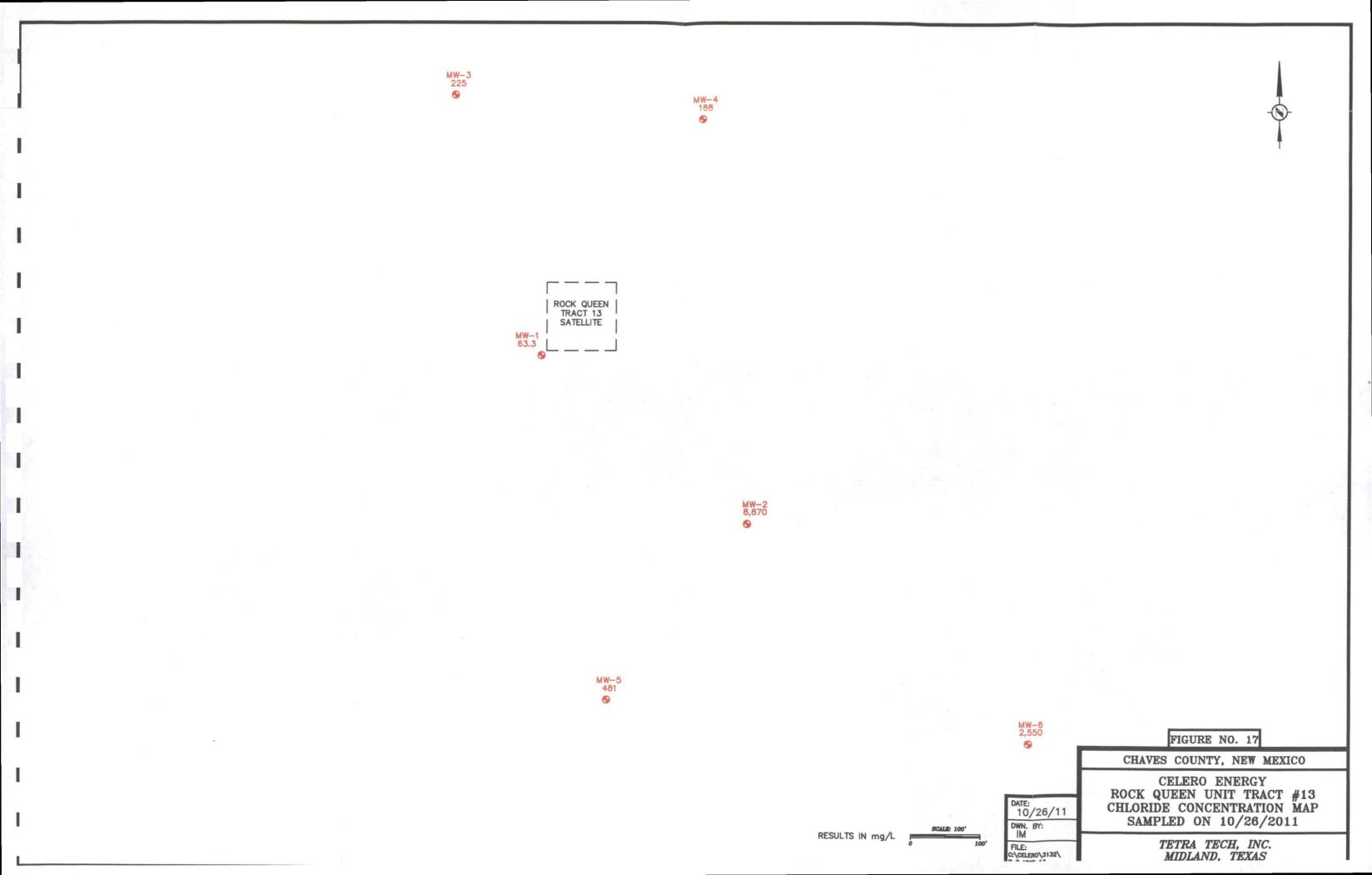
MW-2 8,450

MW-5 2,800 **⊕**

MW-6 2,130 FIGURE NO. 16 CHAVES COUNTY, NEW MEXICO CELERO ENERGY
ROCK QUEEN UNIT TRACT #13
CHLORIDE CONCENTRATION MAP
SAMPLED ON 08/01/2011 DATE: 8/01/11 DWN. BY: IM FILE: C:\CELERO\3132\

RESULTS IN mg/L

TETRA TECH, INC. MIDLAND, TEXAS



TABLES

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

| Monitor Well | Date | of Well | : Elevation | Depth of Well | Depth to Groundwater | Elevation |
|--|----------|--------------|-------------|---------------|----------------------|-----------|
| AND THE PROPERTY OF THE PROPER | Gauged | Installation | (ft) | (bgs in ft). | (ft) | (ft) |
| MW-1 | 05/30/07 | 05/25/07 | 4,388.74 | 161.50 | 117.52 | 4,271.22 |
| | 05/31/07 | | | | 127.74 | 4,261.00 |
| | 02/05/08 | | | | 150.41 | 4,238.33 |
| | 04/06/10 | | | | 150.36 | 4,238.38 |
| • | 07/12/10 | | | | 150.42 | 4,238.32 |
| 1 . | 10/11/10 | | | | 150.43 | 4,238.31 |
| | 01/17/11 | | | | 150. <u>4</u> 0 | 4,238.34 |
| 1 | 04/12/11 | | | | 150.46 | 4,238.28 |
| | 07/28/11 | | | | 151.32 | 4,237.42 |
| | 10/24/11 | | | | 150.61 | 4,238.13 |
| MW-2 | 04/06/10 | 03/30/10 | 4,386.04 | 161.60 | 147.98 | 4,238.06 |
| | 07/12/10 | | | | 150.00 | 4,236.04 |
| | 10/11/10 | | | | 149.80 | 4,236.24 |
| | 01/17/11 | | | | 149.96 | 4,236.08 |
| | 04/12/11 | | | | 149.98 | 4,236.06 |
| · · | 07/28/11 | | | | 150.91 | 4,235.13 |
| | 10/24/11 | | | | 150.08 | 4,235.96 |
| MW-3 | 04/06/10 | 03/31/10 | 4,388.48 | 161.90 | 147.78 | 4,240.70 |
| i | 07/12/10 | | | | 147.79 | 4,240.69 |
| 1 | 10/11/10 | | | | 147.89 | 4,240.59 |
| | 01/17/11 | | | | 147.89 | 4,240.59 |
| | 07/28/11 | | | | 148.87 | 4,239.61 |
| | 10/24/11 | | | | 148.13 | 4,240.35 |
| MW-4 | 04/06/10 | 03/31/10 | 4,388.12 | 161.85 | 148.59 | 4,239.53 |
| | 07/12/10 | | | | 148.62 | 4,239.50 |
| | 10/11/10 | | | | 148.63 | 4,239.49 |
| | 01/17/11 | | | | 148.56 | 4,239.56 |
| | 04/12/11 | | | | 148.63 | 4,239.49 |
| | 07/28/11 | | | | 149.59 | 4,238.53 |
| | 10/24/11 | | | | 148.77 | 4,239.35 |

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

| Monitor Well | Date Gauged | of Well Installation | Elevation (ft) | Depth of Well (bgs in ft) | Depth to Groundwater (ft) | Elevation (ft) |
|-----------------|--|-------------------------|-------------------|------------------------------|--------------------------------------|--|
| MW-5 | 01/17/11 04/12/11 07/28/11 10/24/11 | 12/02/10 | 4,383.81 | 177.60 | 148.91 148.98 149.90 149.09 | 4,234.90 4,234.83 4,233.91 4,234.72 |
| MW-6 | 01/17/11 04/12/11 07/28/11 10/24/11 | 12/03/10 | 4,387.81 | 169.65 | 154.88 154.86 155.79 154.93 | 4,232.93 4,232.95 4,232.02 4,232.88 |

Table 2
Celero Energy II, LP
Groundwater Analytical Results

Rock Queen Unit Tract 13 Tank Battery

Chaves County, New Mexico

| Monitor Well | Date Sampled | Dissolved (| Dissolved (Magnesium | Dissolved Sodium | Dissolved 2. Potassium | Hydroxide Alkalinity | Carbonate Alkalinity | Bicarbonate Alkalinity | Total Alkalinity | Sulfate (mg/L) | Chloride (mg/L) | TDS (mg/L) | Hardness (mg/L) | PΗ |
|-----------------|-----------------|-------------|-----------------------|---------------------|---------------------------|-------------------------|-------------------------|---------------------------|------------------|-------------------|--------------------|------------|--------------------|------|
| | | . (mg/L) | (mg/L) | (mg/L) | (mg/L) | "(mg/L)" | (mg/L) | . (mg/L) | (mg/L) | | | | | |
| MW-1 | 06/01/07 | 282 | 24.4 | 2,020 | 20.1 | <1.00 | 8.00 | 652 | 660 | 91.1 | 3,270 | 7,245 | 804 | 7.02 |
| | 04/06/10 | 130 | 7.61 | 11.40 | 5.96 | <1.00 | <1.00 | 226 | 226 | 42.7 | 43.6 | 699 | 356 | 8.28 |
| | 07/12/10 | - | - | - | - | - | - | - | - | 37.2 | 38.8 | 1,130 | - | - |
| | 10/11/10 | - | - | - | - | - | - | | - | 49.6 | 52.3 | 445 | • | - |
| | 01/20/11 | - | - | - | - | - | - | - | - | 48.8 | 44.5 | 447 | - | - |
| | 04/13/11 | - | - | - | • | - | • | - | - | 52.4 | 52.7 | 481 | ٠ - | - |
| | 08/01/11 | - | - | - | - | - | - | - | - | 68.4 | 64.1 | 465 | - | - |
| | 10/26/11 | - | - | · <u>-</u> | - | | - | <u>-</u> - | - | 55.4 | 63.3 | 492 | - | - |
| MW-2 | 04/06/10 | 520 | 73.0 | 925 | 15.5 | <1.00 | <1.00 | 125 | 125 | 133.0 | 2,250 | 5,890 | 1,600 | 7.70 |
| | 07/12/10 | - | - | - | | - | - | <u>.</u> | - | 189.0 | 9,870 | 27,200 | • | - |
| | 10/11/10 | - | - | - | - | - | - | - | - | 203.0 | 7,750 | 15,300 | - | - |
| | 01/20/11 | - | - | - | - | - | - | - | - | 202.0 | 9,070 | 15,200 | - | - |
| | 04/13/11 | - | - | - | - | - | - | - | - | 193.0 | 9,380 | 16,900 | - | - |
| | 08/01/11 | - | - | - | - | - | - | - | - | 148.0 | 8,450 | 9,760 | | - 1 |
| | 10/26/11 | - | • | - | - | - | - | - | - | <292 | 8,870 | 18,700 | - | |
| MW-3 | 04/06/10 | 76.1 | 10.3 | 78.7 | 4.33 | <1.00 | <1.00 | 183 | 183 | 116.0 | 58.4 | 696 | 232 | 8.26 |
| | 07/12/10 | - | | - | • | - | - | - | - | 64.0 | 83.6 | 562 | - | - |
| | 10/11/10 | - | - | - | | - | - | - | - | 84.5 | 170.0 | 608 | | - 1 |
| | 01/20/11 | - | - | - | - | - | - | - | - | 62.0 | 133.0 | 535 | - | - 1 |
| | 04/13/11 | - | - | - | - | - | - | - | - | 84.1 | 148.0 | 630 | | - |
| | 08/01/11 | - | - | - | - | - | | - | - | 61.5 | 166.0 | 812 | - | - |
| | 10/26/11 | - | | - | - | - | - | | - | 65.5 | 225 | 1,110 | - | - |
| MW-4 | 04/06/10 | 89.5 | 11.5 | 40.5 | 3.34 | <1.00 | <1.00 | 145 | 145 | 116.0 | 58.2 | 506 | 270 | 8.35 |
| | 07/12/10 | - | - | - | - | - | - | - | - | 48.5 | 147.0 | 630 | | |
| | 10/11/10 | | - | - | - | - | - | - | - | 56.4 | 163.0 | 616 | | - 1 |
| | 01/20/11 | - | - | - | - | - | - | - | - | 50.8 | 210.0 | 534 | - | - |
| | 04/13/11 | | - | - | - | - | - | | - | 49.4 | 174.0 | 604 | - |] |

Table 2

Celero Energy II, LP

Groundwater Analytical Results

Rock Queen Unit Tract 13 Tank Battery

Chaves County, New Mexico

| Monitor Well | Date Sampled | Dissolved Calcium (mg/L) | 3717 | Sodium | Potassium | A STATE OF THE SECOND | Carbonate Alkalinity (mg/L) | F-864 - A** - 782 (54) | Total Alkalinity (mg/L) | Sulfate : (mg/L) | Chloride (mg/L) | TDS (mg/L) | Hardness (mg/L) | PH |
|-----------------|-----------------|--------------------------------|------|--------|-----------|-----------------------|-----------------------------------|------------------------|-------------------------------|---------------------|--------------------|------------|--------------------|-----|
| MW-4 | 08/01/11 | - | • | - | - | - | - | - | - | 48.7 | 224 | 690 | | - |
| I | 10/26/11 | - | - | • | | | - | - | - | 50.2 | 188 | 626 | - | - |
| MW-5 | 01/20/11 | - | • | - | • | - | - | - | - | 128.0 | 5,690 | 7,890 | - | - |
| | 04/13/11 | - | - | • | • | - | - | - | | 336.0 | 17,700 | 27,000 | - | . [|
| | 08/01/11 | - | - | - | - | - | <u>-</u> | - | - | 77.2 | 2,800 | 4,140 | - | - |
| 8 | 10/26/11 | - | - | - | • | - | - | - | | 63.0 | 481 | 1,220 | - | - |
| MW-6 | 01/20/11 | - | - | - | • | - | - | - | - | <250 | 2,880 | 4,690 | - | - |
| l | 04/13/11 | | - | - | - | - | - | - | ļ - | 85.2 | 3,010 | 4,890 | - | - |
| 1 | 08/01/11 | - | - | - | - : | - ' | 1 | - | - | 59.3 | 2,130 | 2,930 | - | - |
| | 10/26/11 | - | | - | - | _ | - | - | _ | 68.0 | 2,550 | 4,940 | - | - |

NS - Not sampled

(-) Not Analyzed

APPENDIX A BORING LOGS

Boring/Well

MW-1

GPS

N33.146819° W103.775642°

Project Number

115-6403132A

Client:

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter K, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed:

05/25/07

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION |
|------------|-----|--|
| 0-5 | ~~ | Buff to tan sandy limestone |
| 5-10 | | Buff to tan sandy limestone |
| 10-15 | | Buff to tan sandy limestone with chert |
| 15-20 | | Buff sandy limestone with chert |
| 20-25 | | Buff to tan calcareous sand |
| 25-30 | | Buff to tan calcareous sand |
| 30-35 | | Buff to tan calcareous sand |
| 35-40 | | Buff to tan calcareous sand |
| 40-45 | | Buff to tan calcareous sand |
| 45-50 | •• | Tan fine sand - v.f. sand |
| 50-55 | | Tan fine sand - v.f. sand |
| 55-60 | | Tan fine sand - v.f. sand |
| 63-65 | | Tan fine sand - v.f. sand |
| 68-70 | | Tan fine sand - v.f. sand |
| 73-75 | | Tan fine sand - v.f. sand |
| 78-80 | •• | Tan fine sand - v.f. sand |
| 83-85 | | Tan fine sand - v.f. sand |
| 88-90 | | Tan fine sand - v.f. sand |
| 93-95 | | Tan fine sand - v.f. sand |
| 98-100 | | Tan fine sand - v.f. sand |
| 103-105 | | Tan fine sand - v.f. sand |
| 108-110 | N 2 | Tan fine sand - v.f. sand |
| 113-115 | | Tan fine sand - v.f. sand |

Boring/Well

MW-1

GPS

N33.146819° W103.775642°

Project Number

115-6403132A

Client:

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter K, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed:

05/25/07

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

Total Depth:

160'

Groundwater encountered at 117 feet

Boring/Well

MW-2

GPS

N33.146136° W103.774672°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter J, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/30/10

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

Boring/Well

MW-2

GPS

N33.146136° W103.774672°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter J, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/30/10

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

Total Depth:

160'

Boring/Well

MW-3

GPS

N33.147867° W103.776047°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter F, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/31/10

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

Boring/Well

MW-3

GPS

N33.147867° W103.776047°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter F, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/31/10

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

Total Depth:

160'

Boring/Well

MW-4

GPS

N33.147867° W103.776047°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter G, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/31/10

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

Boring/Well

MW-4

GPS

N33.147867° W103.776047°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Tract 13 Tank Battery

Site Location

Chaves County, New Mexico

Letter G, Section 36, Township 13 South, Range 31 East

Total Depth

160

Date Installed

03/31/10

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

Total Depth:

160'

Boring/ Well

MW-5

GPS

N33.14564°

W103.77608°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #13 Tank Battery

Site Location

Chaves, New Mexico

Letter K, Section 36, Township 13 South, Range 31 East

Total Depth

180'

Date Installed

12/02/10

| Depth (Ft) | OVM | Sample Description |
|------------|-----------|---|
| 5-6' | | Caliche and 15% Chert |
| 10-11' | | Caliche and 30% Chert |
| 15-16' | | Caliche and 50% Chert |
| 20-21' | | Caliche and 30% Chert . |
| 25-26' | | Buff Tan Fine Grained Well Sorted Sand |
| 30-31' | | Buff Tan Fine Grained Well Sorted Sand |
| 35-36' | | Buff Tan Fine Grained Well Sorted Sand |
| 40-41' | | Buff Tan Fine Grained Well Sorted Sand |
| 45-46' | | Buff Tan Fine Grained Well Sorted Sand |
| 50-51' | | Light Brown Fine Grain Well Sorted Sand |
| 55-56' | . | Light Brown Fine Grain Well Sorted Sand |
| 60-61' | | Light Brown Fine Grain Well Sorted Sand |
| 65-66' | | Light Brown Fine Grain Well Sorted Sand |
| 70-71' | | Light Brown Fine Grain Well Sorted Sand |
| 75-76' | | Light Brown Fine Grain Well Sorted Sand |
| 80-81' | | Light Brown Fine Grain Well Sorted Sand |
| 85-86' | | Light Brown Fine Grain Well Sorted Sand |
| 90-91' | · | Light Brown Fine Grain Well Sorted Sand |
| 95-96' | | Light Brown Fine Grain Well Sorted Sand with 40% White Clay |
| 100-101' | | Light Brown Fine Grain Well Sorted Sand with 40% White Clay |
| 105-106' | | Light Brown Fine Grain Well Sorted Sand with 30% White Clay |
| 110-111' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 115-116' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 120-121' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 125-126' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 130-131' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 135-136' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |

W103.77608°

Boring/Well

MW-5

GPS

N33.14564°

Project Number

115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #13 Tank Battery

Site Location

Chaves, New Mexico

Letter K, Section 36, Township 13 South, Range 31 East

Total Depth

180'

Date Installed

12/02/10

| 140-141' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
|----------|----|---|
| 145-146' | | Light Brown Fine Grain Well Sorted Sand with Buff Sandstone |
| 150-151' | | Buff Tan Fine Grained Sandstone |
| 155-156' | | Buff Tan Fine Grained Sandstone |
| 160-161' | | Buff Tan Fine Grained Sandstone |
| 165-166' | •• | Buff Tan Fine Grained Sandstone |
| 170-171' | ** | Buff Tan Sandstone with 35% Brown Clay |
| 175-176' | | Brown Clay with 20% Red Bed |
| 180' | •• | Brown Clay with 40% Red Bed |

Total Depth:

180'

Ground water depth not encountered while drilling.

Boring/ Well

MW-6

GPS

N33.14564°

W103.77608°

Project Number: 115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #13 Tank Battery

Site Location

Chaves, New Mexico

Letter J, Section 36, Township 13 South, Range 31 East

Total Depth

165'

Date Installed

12/03/10

| Depth (Ft) | OVM | Sample Description |
|------------|-----|---|
| 5-6' | | Caliche and 15% Chert |
| 10-11' | | Caliche and 20% Chert |
| 15-16' | | Caliche and 10% Chert |
| 20-21' | | Caliche and 5% Chert |
| 25-26' | | Buff Tan Fine Grained Well Sorted Sand |
| 30-31' | | Buff Tan Fine Grained Well Sorted Sand |
| 35-36' | | Buff Tan Fine Grained Well Sorted Sand |
| 40-41' | | Buff Tan Fine Grained Well Sorted Sand |
| 45-46' | | Buff Tan Fine Grained Well Sorted Sand |
| 50-51' | | Light Brown Fine Grain Well Sorted Sand |
| 55-56' | | Light Brown Fine Grain Well Sorted Sand |
| 60-61' | | Light Brown Fine Grain Well Sorted Sand |
| 65-66' | | Light Brown Fine Grain Well Sorted Sand |
| 70-71' | | Light Brown Fine Grain Well Sorted Sand |
| 75-76' | | Light Brown Fine Grain Well Sorted Sand |
| 80-81' | | Light Brown Fine Grain Well Sorted Sand |
| 85-86' | | Light Brown Fine Grain Well Sorted Sand |
| 90-91' | | Light Brown Fine Grain Well Sorted Sand |
| 95-96' | | Light Brown Fine Grain Well Sorted Sand |
| 100-101' | | Light Brown Fine Grain Well Sorted Sand |
| 105-106' | | Light Brown Fine Grain Well Sorted Sand |
| 110-111' | | Light Brown Fine Grain Well Sorted Sand |
| 115-116' | | Light Brown Fine Grain Well Sorted Sand |
| 120-121' | | Light Brown Fine Grain Well Sorted Sand with 40% Buff Sandstone |
| 125-126' | | Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone |
| 130-131' | | Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone |
| 135-136' | | Light Brown Fine Grain Well Sorted Sand with 20% Buff Sandstone |

Boring/ Well

MW-6

GPS

N33.14564° W103.77608°

Project Number: 115-6403132A

Client

Celero Energy II, LP

Site Name

Rock Queen Unit Tract #13 Tank Battery

Site Location

Chaves, New Mexico

Letter J, Section 36, Township 13 South, Range 31 East

Total Depth

165'

Date Installed

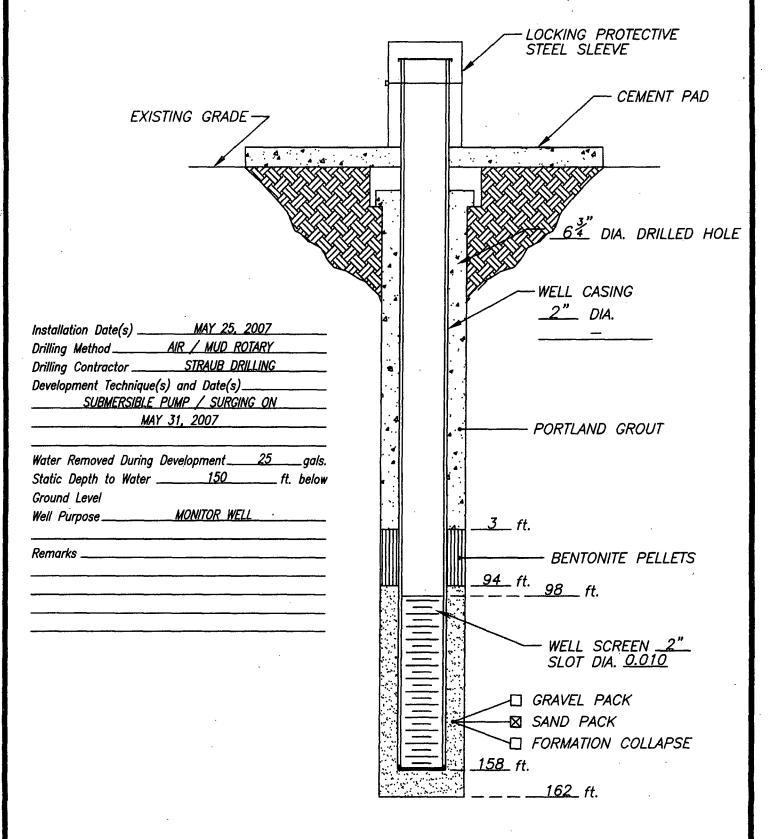
12/03/10

| 140-141' | Light Brown Fine Grain Well Sorted Sand with 15% Buff Sandstone |
|----------|---|
| 145-146' | Light Brown Fine Grain Well Sorted Sand with 15% Buff Sandstone |
| 150-151' | Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone |
| 155-156' | Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone |
| 160-161' | Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone |
| 165' | Light Brown Fine Grain Well Sorted Sand with 10% Buff Sandstone |

Total Depth:

165'

Ground water depth not encountered while drilling.



DATE: 5/25/07

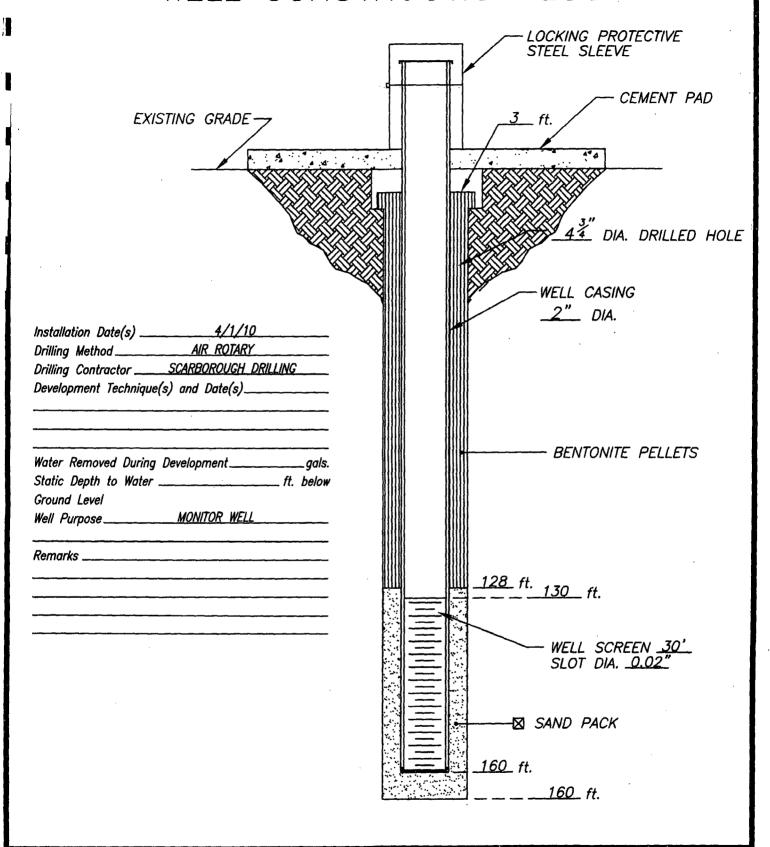
TETRA TECH, INC.
MIDLAND, TEXAS

CLIENT: CELERO ENERGY II, LP

PROJECT: ROCK QUEEN UNIT TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.



DATE: 4/1/10

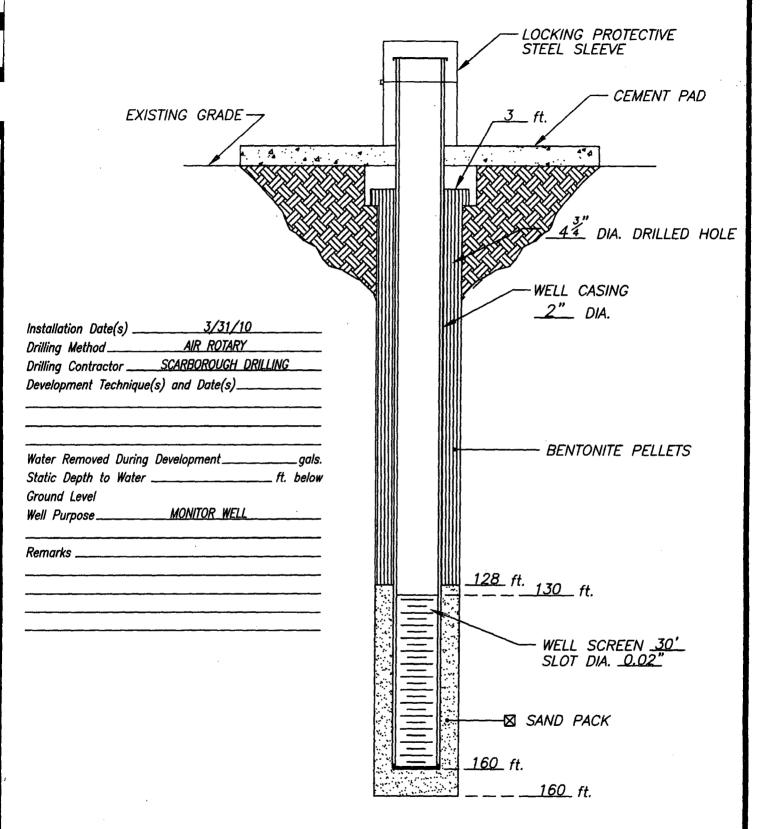
TETRA TECH INC. MIDLAND, TEXAS

CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.



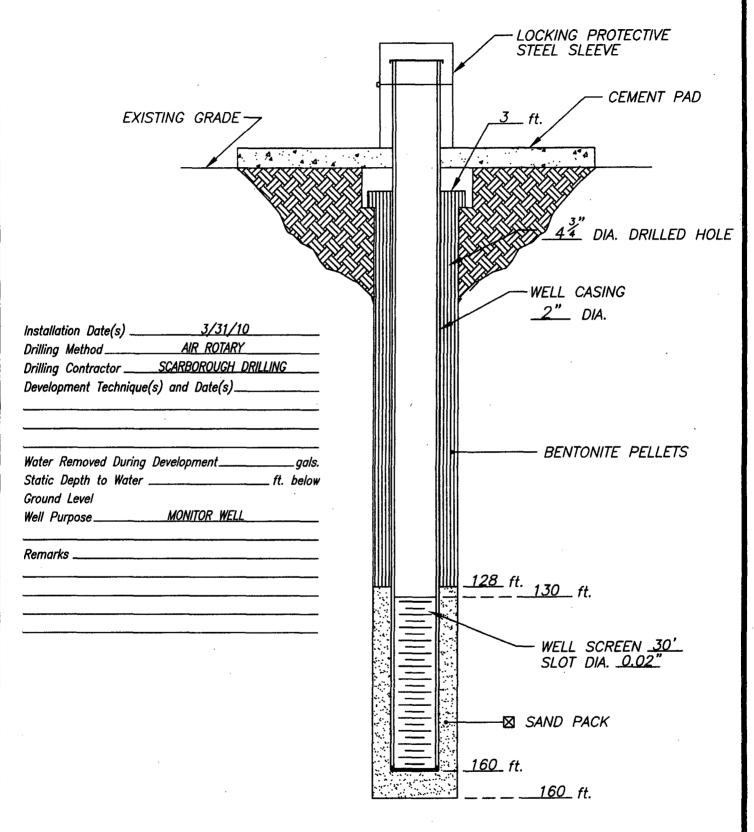
DATE: 4/1/10

TETRA TECH INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.



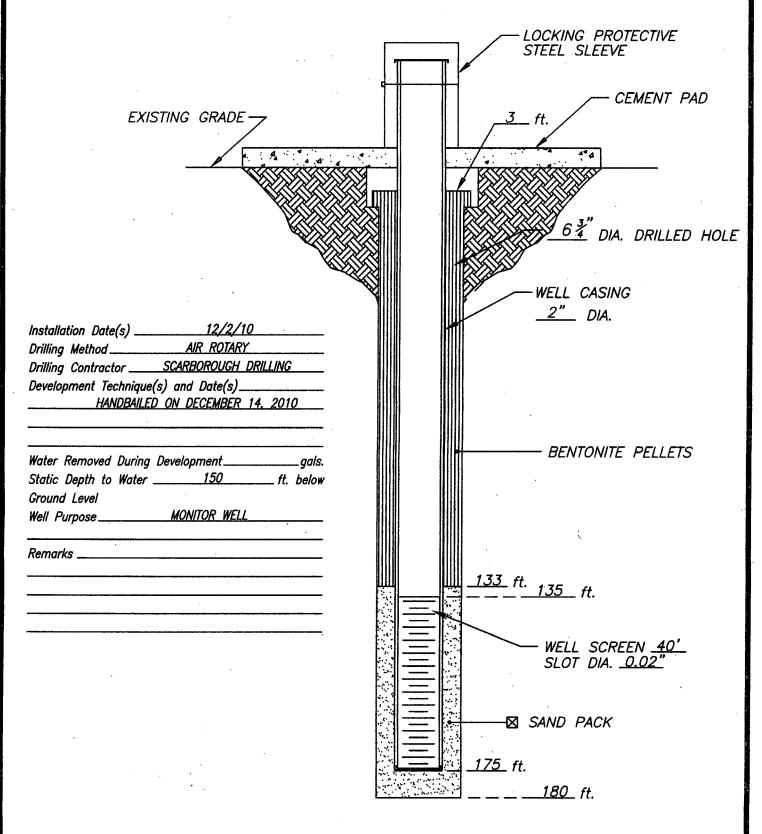
DATE: 4/1/10

TETRA TECH INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II LLC

PROJECT: ROCK QUEEN TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.



DATE: 12/2/10

TETRA TECH INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II, LLC

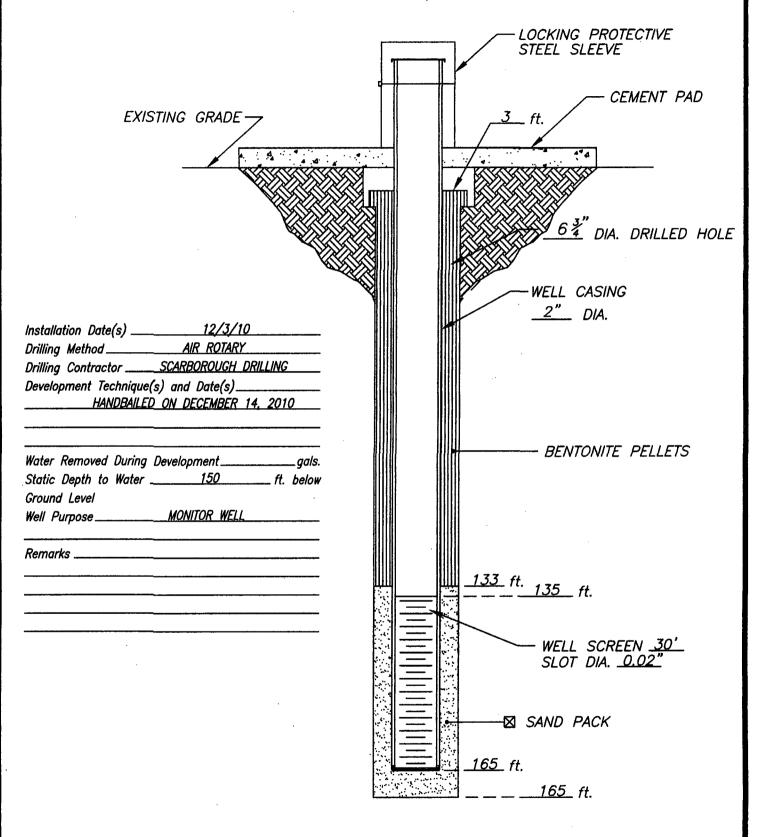
PROJECT: ROCK QUEEN TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-5

115-8403132A



DATE: 12/3/10

TETRA TECH INC. MIDLAND, TEXAS CLIENT: CELERO ENERGY II, LLC

PROJECT: ROCK QUEEN TRACT 13 TB

LOCATION: CHAVES COUNTY, NM

WELL NO.

MW-6

115-6403132A

APPENDIX C LABORATORY ANALYSIS



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

El Paso, Texas 79922 Midland, Texas 79703

800 • 378 • 1296 888 • 588 • 3443 806 • 794 • 1296 915 • 585 • 3443

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

432 • 689 • 6301

817 • 201 • 5260

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

Analytical and Quality Control Report

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

Report Date: June 15, 2007

Work Order: 7060508

Project Location: Chaves Co. NM

Project Name: Celero Energy-Rock Queen ESA

Project Number: 2972

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

| | • | | Date | Time | Date |
|--------|-------------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 126448 | RQU Tract 11 MW-1 | water | 2007-05-31 | 16:45 | 2007-06-04 |
| 126449 | RQU Tract 13 MW-1 | water | 2007-06-01 | 14:30 | 2007-06-04 |

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

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

Dr. Blair Leftwich, Director

Standard Flags

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

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 2 of 16 Chaves Co. NM

Analytical Report

Sample: 126448 - RQU Tract 11 MW-1

Analysis: Alkalinity QC Batch: 38159 Prep Batch: 33038

Analytical Method: SM 2320B Date Analyzed: 2007-06-14 Sample Preparation: 2007-06-14

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

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

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch:

Prep Batch:

Parameter

Dissolved Calcium

Ca, Dissolved 38113

32823

Analytical Method: Date Analyzed: Sample Preparation:

1300

S 6010B 2007-06-13 2007-06-06 Prep Method: S 3005A Analyzed By: TP Prepared By:

RLFlag Result Dilution Units RL

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch:

Parameter

Chloride

Chloride (IC)

38153 33031 Prep Batch:

Analytical Method:

E 300.0 2007-06-13

mg/L

Prep Method: N/A Analyzed By: $\mathbf{E}\mathbf{R}$

Prepared By:

0.500

ER

Date Analyzed: Sample Preparation: 2007-06-13

RLResult Units Dilution RL37800 5000 0.500 mg/L

Sample: 126448 - RQU Tract 11 MW-1

Flag

Analysis: QC Batch: Prep Batch:

Hardness 38113 32823

Analytical Method: Date Analyzed:

Sample Preparation:

S 6010B 2007-06-13 2007-06-06 Prep Method: N/A Analyzed By: TP TS Prepared By:

RLParameter Flag Result Units Dilution RLHardness (by ICP) 7570 mg eq CaCO3/L 0.00

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 3 of 16 Chaves Co. NM

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Prep Batch: K, Dissolved 38113

32823

Analytical Method: Date Analyzed:

S 6010B 2007-06-13 2007-06-06 Prep Method: S 3005A Analyzed By:

TPPrepared By: TS

RL

Sample Preparation:

Flag Parameter Result Units Dilution RLDissolved Potassium 416 20 0.500 mg/L

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Mg, Dissolved

Analytical Method: 38113 Date Analyzed:

S 6010B 2007-06-13 Prep Method: S 3005A Analyzed By: TP

Prep Batch:

32823

Sample Preparation: 2007-06-06 Prepared By: TS

RL

Flag Parameter Result Dilution RLUnits Dissolved Magnesium 1050 0.500 mg/L20

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Na, Dissolved

38113

Analytical Method:

S 6010B 2007-06-13 Prep Method: S 3005A

TP

Prep Batch: 32823

Date Analyzed: Sample Preparation: 2007-06-06

Analyzed By: Prepared By: TS

RL

Dilution Parameter Flag Result Units RLDissolved Sodium 19400 0.500 mg/L 200

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: pН 37918 a Analytical Method:

SM 4500-H+

Prep Method: N/A Analyzed By: JS

Prep Batch:

32839

Date Analyzed: Sample Preparation:

2007-06-05 2007-06-05

Prepared By: JS

asamples were ran in the lab

RL

Flag Units Parameter Result Dilution RLpH 7.06 0.00 s.u.

Sample: 126448 - RQU Tract 11 MW-1

Analysis: QC Batch: Prep Batch:

SO4 (IC) 38153 33031

Analytical Method: Date Analyzed:

E 300.0 2007-06-13 Sample Preparation: 2007-06-13 Prep Method: N/A Analyzed By: ER. Prepared By: ER

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 4 of 16 Chaves Co. NM

| | | m RL | | | | |
|-----------|------|--------|-------|----------|-------|--|
| Parameter | Flag | Result | Units | Dilution | RL | |
| Sulfate | | 1080 | mg/L | 50 | 0.500 | |

Sample: 126448 - RQU Tract 11 MW-1

| Analysis: | TDS |
|-------------|-------|
| QC Batch: | 38061 |
| Prep Batch: | 32957 |

Analytical Method: SM 2540C Date Analyzed: 2007-06-11 Sample Preparation: 2007-06-06 Prep Method: N/A Analyzed By: ER Prepared By: ER

| ramatar | Floor | Domit |
|---------|-------|-------|
| | | RL |

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

Sample: 126449 - RQU Tract 13 MW-1

| Analysis: | Alkalinity |
|-------------|------------|
| QC Batch: | 38159 |
| Prep Batch: | 33038 |

Analytical Method: SM 2320B Date Analyzed: 2007-06-14 Sample Preparation: 2007-06-14

Prep Method: N/A Analyzed By: JŚ Prepared By: JS

| | | $_{ m RL}$ | | | |
|------------------------|------|------------|---------------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | 8.00 | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | 652 | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | 660 | mg/L as CaCo3 | 1 | 4.00 |

Sample: 126449 - RQU Tract 13 MW-1

| Analysis: | Ca, Dissolved |
|-------------|---------------|
| QC Batch: | 38113 |
| Prep Batch: | 32823 |

Analytical Method: Date Analyzed:

S 6010B 2007-06-13 Sample Preparation: 2007-06-06

Prep Method: S 3005A Analyzed By: TP Prepared By:

| | | m RL | | | |
|-------------------|------|--------|-------|----------|-------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Dissolved Calcium | | 282 | mg/L | 5 | 0.500 |

Sample: 126449 - RQU Tract 13 MW-1

| Analysis: | Chloride (IC) |
|-------------|---------------|
| QC Batch: | 38153 |
| Prep Batch: | 33031 |
| | |

Analytical Method: E 300.0 Date Analyzed: 2007-06-13 Sample Preparation: 2007-06-13

Prep Method: N/A Analyzed By: ER Prepared By: ER.

| | | RL | |
|---------|------|--------|--|
| rameter | Flag | Result | |

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

Report Date: June 15, 2007 Work Order: 7060508 Page Number: 5 of 16
2972 Celero Energy-Rock Queen ESA Chaves Co. NM

Sample: 126449 - RQU Tract 13 MW-1

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

R.L

Sample: 126449 - RQU Tract 13 MW-1

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

Sample: 126449 - RQU Tract 13 MW-1

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

Sample: 126449 - RQU Tract 13 MW-1

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

Sample: 126449 - RQU Tract 13 MW-1

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

asamples were ran in the lab

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 6 of 16 Chaves Co. NM

| | | RL | | | |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| pН | | 7.02 | s.u. | 1 | 0.00 |
| | | | L | | |

Sample: 126449 - RQU Tract 13 MW-1

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

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

Sample: 126449 - RQU Tract 13 MW-1

Analysis: TDS QC Batch: 38061 Prep Batch: 32957 Analytical Method: SM 2540C - Date Analyzed: 2007-06-11 Sample Preparation: 2007-06-06

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

Method Blank (1) QC Batch: 38061

QC Batch: 38061 Prep Batch: 32957

Date Analyzed: 2007-06-11 QC Preparation: 2007-06-06

Analyzed By: ER Prepared By: ER

Method Blank (1) QC Batch: 38113

QC Batch: 38113 Prep Batch: 32823 Date Analyzed: 20 QC Preparation: 20

2007-06-13 2007-06-06 Analyzed By: TP Prepared By: TS

Method Blank (1) QC Batch: 38113

QC Batch: 38113 Prep Batch: 32823 Date Analyzed: 2007-06-13 QC Preparation: 2007-06-06

Analyzed By: TP Prepared By: TS

Prep Batch: 33038

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 7 of 16 Chaves Co. NM

Prepared By:

MDL Parameter Flag Result Units RLDissolved Potassium < 0.307mg/L 0.5 Method Blank (1) QC Batch: 38113 QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP Prep Batch: 32823 QC Preparation: 2007-06-06 Prepared By: TS MDL Parameter Flag Result Units RLDissolved Magnesium < 0.0740 mg/L 0.5 Method Blank (1) QC Batch: 38113 QC Batch: 38113 Date Analyzed: 2007-06-13 Analyzed By: TP Prep Batch: 32823 QC Preparation: 2007-06-06 Prepared By: TS MDL Parameter Flag Result Units RLDissolved Sodium < 0.529 mg/L 0.5 Method Blank (1) QC Batch: 38153 QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ER QC Preparation: Prep Batch: 33031 Prepared By: ER 2007-06-13 MDL Parameter Flag Result Units RLChloride < 0.172mg/L 0.5 Method Blank (1) QC Batch: 38153 QC Batch: 38153 Date Analyzed: 2007-06-13 Analyzed By: ERPrep Batch: 33031 2007-06-13 ERQC Preparation: Prepared By: MDL Parameter Flag Result Units RLSulfate < 0.777mg/L 0.5Method Blank (1) QC Batch: 38159 QC Batch: 38159 Date Analyzed: 2007-06-14 Analyzed By: JS

QC Preparation: 2007-06-14

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 8 of 16 Chaves Co. NM

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

Method Blank (1)

QC Batch: 38204

QC Batch: Prep Batch: 38204 33077 Date Analyzed: QC Preparation: 2007-06-15

2007-06-14

Analyzed By: ER Prepared By:

MDL Flag Result

Parameter Units RLSulfate < 0.777 mg/L 0.5

Duplicates (1)

QC Batch:

37918 Prep Batch: 32839 Date Analyzed: QC Preparation:

2007-06-05 2007-06-05

JS Analyzed By:

Prepared By: JS

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

Duplicates (1)

QC Batch:

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

Analyzed By: ER Prepared By: ER

RPD Duplicate Sample **RPD** Param Result Result Units Dilution Limit Total Dissolved Solids 596.0 582.0 mg/L $\overline{2}$ 2 17.2

Duplicates (1)

QC Batch: Prep Batch:

38159 33038 Date Analyzed: QC Preparation:

2007-06-14 2007-06-14 Analyzed By: JS Prepared By: JS

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

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 9 of 16 Chaves Co. NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 32823

38113

Date Analyzed:

2007-06-13 QC Preparation: 2007-06-06 Analyzed By: TP

Prepared By: TS

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP Prepared By:

Prep Batch: 32823

QC Preparation: 2007-06-06

| | LCS | | • | Spike | Matrix | | . Rec. |
|---------------------|--------|-------------|------|--------|-----------------------|------|------------|
| Param | Result | Units | Dil. | Amount | $\mathbf{Result}^{!}$ | Rec. | Limit |
| Dissolved Potassium | 51.4 | ${ m mg/L}$ | 1 | 50.0 | < 0.307 | 103 | 78.8 - 114 |

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP Prepared By: TS

Prep Batch:

32823

QC Preparation: 2007-06-06

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

38113

Date Analyzed:

2007-06-13

Analyzed By: TP Prepared By: TS

Prep Batch: 32823

QC Preparation:

2007-06-06

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 10 of 16 Chaves Co. NM

| | LCS | | | Spike | Matrix | _ , | Rec. |
|------------------|--------|-------------|------|--------|---------|------|------------|
| Param | Result | ${f Units}$ | Dil. | Amount | Result | Rec. | Limit |
| Dissolved Sodium | 53.1 | mg/L | . 1 | 50.0 | < 0.529 | 106 | 79.4 - 123 |

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 38153 Prep Batch: 33031

Date Analyzed: 2007-06-13 QC Preparation: 2007-06-13

Analyzed By: ER Prepared By: ER

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

38153

Date Analyzed:

2007-06-13

Analyzed By: ER Prepared By: ER

Prep Batch: 33031 QC Preparation: 2007-06-13

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 33077

38204

Date Analyzed: QC Preparation:

2007-06-15 2007-06-14 Analyzed By: ER Prepared By:

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

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

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 11 of 16 Chaves Co. NM

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

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

Matrix Spike (MS-1)

Spiked Sample: 126448

QC Batch: Prep Batch: 32823

38113

Date Analyzed: QC Preparation:

2007-06-13

2007-06-06

Analyzed By: TP

Prepared By: TS

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 126448

QC Batch: Prep Batch: 38113

32823

Date Analyzed: QC Preparation:

2007-06-13 2007-06-06 Analyzed By: TP

Prepared By:

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 126448

QC Batch:

38113

Date Analyzed:

2007-06-13

Analyzed By:

Prep Batch: 32823

QC Preparation:

2007-06-06

Prepared By:

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

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

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

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

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

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA

Chaves Co. NM

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

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

Matrix Spike (MS-1)

Spiked Sample: 126448

QC Batch:

38113

Date Analyzed:

2007-06-13

Analyzed By:

TP

Prep Batch:

32823

QC Preparation:

2007-06-06

Prepared By:

Page Number: 12 of 16

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 126147

QC Batch:

38153

Date Analyzed:

2007-06-13

Analyzed By: ER

Prep Batch:

33031

QC Preparation:

2007-06-13

Prepared By: ER

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 126147

QC Batch:

38153

Date Analyzed:

2007-06-13

Analyzed By: ER

Prep Batch:

33031

QC Preparation:

2007-06-13

Prepared By: ER

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

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

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

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

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

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 13 of 16 Chaves Co. NM

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|------|--------|--------|------|------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | 670 | mg/L | 50 | 625 | <38.8 | 107 | 83.1 - 114 | 0 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 126449

QC Batch: Prep Batch: 33077

38204

Date Analyzed:

2007-06-15

QC Preparation: 2007-06-14

Analyzed By: ER

Prepared By: ER

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

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

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

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

Standard (ICV-1)

QC Batch: 37918

Date Analyzed: 2007-06-05

Analyzed By: JS

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

Standard (CCV-1)

QC Batch: 37918

Date Analyzed: 2007-06-05

Analyzed By: JS

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

Standard (ICV-1)

QC Batch: 38061

Date Analyzed: 2007-06-11

Analyzed By: ER

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

Standard (CCV-1)

QC Batch: 38061

Date Analyzed: 2007-06-11

Analyzed By: ER

Report Date: June 15, 2007 2972

Work Order: 7060508 Celero Energy-Rock Queen ESA

Page Number: 14 of 16 Chaves Co. NM

| | | | - CCVs | CCVs | CCVs | Percent | |
|-------------------------------|------|-------|-------------------|------------|----------|----------|----------------|
| _ | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | | Conc. | Recovery | Limits | Analyzed |
| Total Dissolved Solids | | mg/I | ے 1000 | 981.0 | 98 | 90 - 110 | 2007-06-11 |
| a (*a** .) | • | ٠. | | | | | |
| Standard (ICV-1) | | | | | | | |
| QC Batch: 38113 | | | Date Analyzed: | 2007-06-13 | | Anal | yzed By: TP |
| • | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Dissolved Calcium | - 0 | mg/L | 50.0 | 49.5 | 99 | 90 - 110 | 2007-06-13 |
| | | | | | | | |
| Standard (ICV-1) | | | | | | | |
| QC Batch: 38113 | | | Date Analyzed: | 2007-06-13 | | Anal | yzed By: TP |
| | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Dissolved Potassium | | mg/L | 50.0 | 49.9 | 100 | 90 - 110 | 2007-06-13 |
| | | | | | | | _ |
| Standard (ICV-1) | | | | | | | |
| QC Batch: 38113 | | | Date Analyzed: | 2007-06-13 | | Analy | zed By: TP |
| 4 0 2 400 00119 | | | Duce III.a., zoa. | | | 11101 | , 200 Dj. 11 |
| | | | ICVs | ICVs | ICVs | Percent | |
| _ | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | | Conc. | Recovery | Limits | Analyzed |
| Dissolved Magnesium | | mg/L | 50.0 | 49.3 | 99 | 90 - 110 | 2007-06-13 |
| Ct J J (TCT/ 1) | | | | | | | |
| Standard (ICV-1) | | | ě | | | | |
| QC Batch: 38113 | | | Date Analyzed: | 2007-06-13 | | Analy | zed By: TP |
| | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Dissolved Sodium | | mg/L | 50.0 | 51.5 | 103 | 90 - 110 | 2007-06-13 |
| | | • | | | | | _ _ |
| Standard (CCV-1) | | • | | | | | |
| QC Batch: 38113 | | | Date Analyzed: | 2007-06-13 | | Analy | zed By: TP |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Dissolved Calcium | | mg/L | 50.0 | 51.6 | 103 | 90 - 110 | 2007-06-13 |
| | | | | | | | |

2972

Work Order: 7060508 Celero Energy-Rock Queen ESA Page Number: 15 of 16 Chaves Co. NM

| Ct. | | .a / | ~ | ~~ | r | 11 | |
|-----|------|------|---|------------|-----|----|---|
| Sta | nuai | u į | v | \smile 1 | / - | l, | , |

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

| | | • | $rac{	ext{CCVs}}{	ext{True}}$ | CCVs Found | CCVs Percent | Percent Recovery | Date |
|---------------------|------|-------|--------------------------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Dissolved Potassium | | mg/L | 50.0 | 52.8 | 106 | 90 - 110 | 2007-06-13 |

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

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

Standard (CCV-1)

QC Batch: 38113

Date Analyzed: 2007-06-13

Analyzed By: TP

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

Standard (ICV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

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

Standard (ICV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER.

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

Standard (CCV-1)

QC Batch: 38153

Date Analyzed: 2007-06-13

Analyzed By: ER

Work Order: 7060508

Page Number: 16 of 16 Celero Energy-Rock Queen ESA Chaves Co. NM

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | Ĭ | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------------|---------|-------------------------|-----------------------|--------------------------------|------------------------|------------------------------------|---|--------------------------------|
| Chloride | 2 100 | mg/L | 12.5 | 12.3 | | 98 | 90 - 110 | 2007-06-13 |
| Standard | (CCV-1) | | | | | | | |
| QC Batch: | 38153 | | Date | Analyzed: 20 | 07-06-13 | | Analy | zed By: ER |
| Param Sulfate | Flag | Units mg/L | CCVs True Conc. 12.5 | CCVs Found Conc. 12.6 | | CCVs Percent Recovery 101 | Percent Recovery Limits 90 - 110 | Date Analyzed 2007-06-13 |
| | (101/4) | | | | | , | | |
| Standard QC Batch: | ` | | Date | Analyzed: 20 | 007-06-14 | - | Anal | yzed By: JS |
| Param | Flag | · T I | nits | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| Total Alkal | | | s CaCo3 | 250 | 242 | 97 | 90 - 110 | 2007-06-14 |
| QC Batch: | 38159 | | Date | · · | 007-06-14 | CCV- | | yzed By: JS |
| | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
| Param | Flag | | nits | Conc. | Conc. | Recovery | Limits | Analyzed |
| Total Alkal | inity | mg/L a | s CaCo3 | 250 | 240 | 96 | 90 - 110 | 2007-06-14 |
| Standard | (ICV-1) | , | | | | | | |
| QC Batch: | 38204 | | | • | 07-06-15 | | • | zed By: ER |
| Danam | Floor | Ilnito | ICVs True | ICVs Found | _ | ICVs Percent | Percent Recovery Limits | Date Analyzed |
| Param Sulfate | Flag | Units mg/L | Conc. 12.5 | · Conc. | | lecovery 93 | 90 - 110 | 2007-06-15 |
| Standard QC Batch: | , | 6/ 2 | | Analyzed: 20 | 07-06-15 | | | zed By: ER |
| | | | CCVs True | CCVs Found | | CCVs Percent | Percent Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | F | lecovery | Limits | Analyzed |
| Culfata | | mæ/T | 19.5 | 11 2 | | on . | 00 110 | 2007.06.15 |

11.3

90

90 - 110

2007-06-15

mg/L

12.5

Sulfate

| | | | | | | | | | i. | | 7 | \equiv |) EZ | 10 | # | [/{ | \mathcal{H} | € | | | 6 | | , | 70 | X | 20 | 5 | 0 | 8 | | | |
|---------------------------|----------|------------|--------|-------|-----------|--------------------------------|----------------|------------------------------------|-----------------------------------|------------|------------|------------|---------------|-------------|-------------|-----------------|---------------|------------|-----------|----------------|-------------|---------------------|----------|--------------------------|------------------|---------------|---------------|--------------|------------------------------------|-------|----------|---|
| Anal | lysis | s Re | eq. | u | es | st and Cha | ain | of C | usto | dy | I | Rе | co | r | i | | | | | | | | PAG | | FOT | JEST | , | 0 | F: | _/ | <u>/</u> | |
| ~ | | ·· - ····· | | | | | | | | | | | | | | - | | | (| Circ | | | | | | etho | | lo.) | | | | |
| | 682- | | /V. | 1 | 9 | R ENVIRO | ring | St. | AL Fax | | | | | 394 | 6 | | | 70005 | 20 40 | Cr Pd Hg Se | | | | | 0 | | de | | | | | |
| CLIENT NAM | | | | | | SITE MANAG | | | | INERS | | P | | SRV. THO | ATIVE OD | | | 8015 MOD | Ğ | As Bo Cd (| | | | 880/834 | 02/0/20 | | Chlaride | | | 205 | | *************************************** |
| PROJECT NO 297 | 0.: | , | PI | ROJ) | ECT | T NAME: Rock Queen Chave | <u></u> | ESA | | CONTAINERS | (W/W) | | | | | 808 | 1 1 | | 4.0 | A Ag As | . 8 | Valetile | | 8240/8 | | 308 | H. TDB. | 36. | (Allr) | Z | | |
| NUMBER | DATE | TIME | MATRIX | COMP. | CKAD | SAMPLE II | ENTIFIC | CATTON | | NUMBER OF | FILTERED (| HCL | HNOS | ICE | NONE | BTEX 8020/802 | 26 | тън 418.1 | PAH 8270 | TCLP Metals Ag | TCLP Voleti | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8280/824 | GC.MS Semi. Vol. | Pest. 808/808 | BOD, TSB, pH. | Garama Spec. | Alpha Beta (dir) PLM (Asbestos) | Major | > | |
| 1264485 | 5-31-07 | 4:45 | u | / | ۲ | RQ4 Tract | - // | mw- | | 1 | | | | X | | | | | | | | | | | | | | 1 | | X | | |
| 4496 | 01-07 | 2.30 | | , | 5 6 | RQU Tract | 13 | mw | / | 1 | | | | x | | | | | | | | | | | - | | | _ | - | X | | <u></u> |
| | | · | | | + | | | | | + | | | | | | - | | + | - | + | - | | | - | - | + | | + | - | H | - | - |
| | | | | _ | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | 1 | 1 | | | |
| | | | | _ - | - | | | نئې سىدەن دەسەم مەسىمىيى بىرىي | | - | | | | | | - | | - | - | - | - | | | \dashv | | + | | + | - | | + | - |
| | | | | | | | | | | | | | | | | | | | | | - | | | _ | - | | | | | | | - |
| | | | | - | - | | | | | - | | | | | | | | + | - | - | | | | | - | + | | _ | - | | _ | - |
| REMOTEURINE | BY: (Sig | nature) | | | | Date: 6 - 4-0 7 Time: 4 5 7 | RECEIV | FD BY: YSIE | TOU | | <u> </u> | Tin | 10: _L | 3. | | | S | AMP | LED | BY: | (Pr | int | A SI | gn) | | | | ate: me: | <u></u> | | <u></u> | <u>L</u> - |
| STATE ON THE STATES | 0-16Kg | 1000 N | | | | Date: 17-4-07 Time: 17/30 | PECETY | D BY View | Vor. | | | Tin | 16: | Œ. | 38 | <u>_</u> | g F | amp Ede | LE 5 X | HIP. | PED | BY: | (Cir | elo) BU: | ; } | | | | / | | | _ |
| PELINQUISHED | | | | ··· | | Pate: | <u> </u> | ED BY: (Sign | <u> </u> | | | Dei Tin | | | | | 7= | | | LIVE | | • | r PE | UPS | | | OTH | | uita b | | | =- |
| RECEIVING LAB ADDRESS: | | | CATE. | · | <i>72</i> | K. 20P: | RECEIVEI DATE: |) RY: (Signa | ture) | TIME | | | | | · | | | | te- | | | | عير ك | | | - | | | horin | | No. | |
| Sample Condi | | | VRD: | | | MATRIX | iter> | A-Air SL-Sludge riginal copy | SD-Solid Q-Other to Highles | <u></u> | | | EMAR entel | 00 | al tre | roje | te Li | 4 | ts. | - | 上 | لد | JU NA | ه و ارم | le | 4 cour | ting | rec | eives | | V | |

MA (< Paugaya)-1



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

Lubbock, Texas 79424 El Paso, Texas 79922 Midland: Texas 79703 800 • 378 • 1296 888 • 588 • 3443 806•7,94•1296 915•585•3443 432•689•6301 FAX 806 • 794 • 1298 FAX 915 • 585 • 4944

Ft. Worth, Texas 76132

817 • 201 • 5260

FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB:

1752439743100-86536

DBE: V

: VN 20657

NELAP Certifications

NCTRCA WFWB38444Y0909

Lubbock:

T104704219-08-TX

El Paso:

T104704221-08-TX

Midland:

T104704392-08-TX

LELAP-02003 Kansas E-10317 LELAP-02002

Analytical and Quality Control Report

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

Report Date:

April 26, 2010

Work Order: 10040809

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen Tract #13 TB

Project Number:

115-6403132A

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

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

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

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

Michael april

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

Standard Flags

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

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2010-04-07 and assigned to work order 10040809. Samples for work order 10040809 were received intact without headspace and at a temperature of 3.3 C.

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

| | | Prep | Prep | \mathbf{QC} | Analysis |
|---------------|------------|-------|---------------------|---------------|---------------------|
| Test · | Method | Batch | Date | Batch | Date |
| Alkalinity | SM 2320B | 59015 | 2010-04-09 at 09:08 | 68950 | 2010-04-09 at 11:08 |
| BTEX | S 8021B | 59064 | 2010-04-11 at 15:00 | 69005 | 2010-04-09 at 17:06 |
| Ca, Dissolved | S 6010B | 59090 | 2010-04-13 at 07:57 | 69039 | 2010-04-13 at 11:01 |
| Chloride (IC) | E 300.0 | 58994 | 2010-04-08 at 11:46 | 68948 | 2010-04-09 at 10:23 |
| Hardness | S 6010B | 59090 | 2010-04-13 at 07:57 | 69039 | 2010-04-13 at 11:01 |
| K, Dissolved | S 6010B | 59090 | 2010-04-13 at 07:57 | 69039 | 2010-04-13 at 11:01 |
| Mg, Dissolved | S 6010B | 59090 | 2010-04-13 at 07:57 | 69039 | 2010-04-13 at 11:01 |
| Na, Dissolved | S 6010B | 59090 | 2010-04-13 at 07:57 | 69039 | 2010-04-13 at 11:01 |
| pН | SM 4500-H+ | 58993 | 2010-04-08 at 10:34 | 68931 | 2010-04-08 at 12:36 |
| SO4 (IC) | E 300.0 | 58994 | 2010-04-08 at 11:46 | 68948 | 2010-04-09 at 10:23 |
| TDS | SM 2540C | 59010 | 2010-04-09 at 09:18 | 69374 | 2010-04-23 at 13:21 |

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10040809 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 4 of 22 Chavez County, NM

Analytical Report

Sample: 227830 - MW-1

Laboratory: Midland

Analysis: Alkalinity QC Batch: 68950 Prep Batch: 59015

Analytical Method: SM 2320B Date Analyzed: 2010-04-09 Sample Preparation: 2010-04-09

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

рī

| | | RL | | | |
|------------------------|------|------------|---------------|----------|------|
| Parameter | Flag | Result | ${f Units}$ | Dilution | RL |
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | < 1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | 226 | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | 226 | mg/L as CaCo3 | 1 | 4.00 |

Sample: 227830 - MW-1

Laboratory:

Midland

Analysis: BTEX QC Batch: 69005 Prep Batch: 59064

Analytical Method: S 8021B Date Analyzed: 2010-04-09 Sample Preparation: 2010-04-11 Prep Method: S 5030B Analyzed By: AG Prepared By: \mathbf{AG}

RL

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

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0909 | mg/L | 1 | 0.100 | 91 | 65.2 - 130.3 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0742 | mg/L | 1 | 0.100 | 74 | 51.1 - 121.7 |

Sample: 227830 - MW-1

Laboratory: Lubbock

Cations Analysis: QC Batch: 69039 Prep Batch: 59090

Analytical Method: Date Analyzed:

S 6010B 2010-04-13 Sample Preparation: 2010-04-13

S 3005A Prep Method: Analyzed By: RR Prepared By: KV

RL

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

continued ...

Report Date: April 26, 2010 115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 5 of 22 Chavez County, NM

| sample 227830 continue | sample | 227830 | continued | | |
|------------------------|--------|--------|-----------|--|--|
|------------------------|--------|--------|-----------|--|--|

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

Sample: 227830 - MW-1

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 68948 Prep Batch: 58994 Analytical Method: E 300.0
Date Analyzed: 2010-04-09
Sample Preparation: 2010-04-08

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

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

Sample: 227830 - MW-1

Laboratory: Lubbock

Analysis: Hardness QC Batch: 69039 Prep Batch: 59090 Analytical Method: S 6010B Date Analyzed: 2010-04-13 Sample Preparation: 2010-04-13

Prep Method: N/A Analyzed By: RR Prepared By: KV

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

Sample: 227830 - MW-1

Laboratory: Midland

Analysis: pH QC Batch: 68931 Prep Batch: 58993 Analytical Method: SM 4500-H+
Date Analyzed: 2010-04-08
Sample Preparation: 2010-04-08

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

| | | RL | | | |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| pН | • | 8.28 | s.u. | 1 | 0.00 |

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 6 of 22 Chavez County, NM

Sample: 227830 - MW-1

Laboratory: Midland

Prep Batch:

Analysis: SO4 (IC) QC Batch: 68948

58994

Analytical Method: Date Analyzed:

E 300.0 2010-04-09 Sample Preparation: 2010-04-08 Prep Method: N/A

Analyzed By: AR Prepared By: AR

RL

Parameter Result RLFlag Units Dilution Sulfate 42.7 0.500 mg/L 5

Sample: 227830 - MW-1

Laboratory:

Midland

Analysis: TDS QC Batch: 69374 Prep Batch: 59010 Analytical Method: SM 2540C Date Analyzed:

Sample Preparation:

2010-04-23 2010-04-09 Prep Method: N/A

Analyzed By: AR Prepared By: AR

RL

RLParameter Flag Result Units Dilution Total Dissolved Solids 699 mg/L 10.0

Sample: 227831 - MW-2

Laboratory:

Midland

Analysis: Alkalinity QC Batch: 68950 Prep Batch: 59015

Analytical Method: Date Analyzed:

Sample Preparation:

SM 2320B 2010-04-09 2010-04-09 Prep Method: N/A Analyzed By:

AR. Prepared By: AR

RL

Parameter Flag Result Units Dilution RLHydroxide Alkalinity <1.00 mg/L as CaCo3 1.00 1 Carbonate Alkalinity < 1.00 mg/L as CaCo3 1 1.00 Bicarbonate Alkalinity mg/L as CaCo3 4.00 125 1 Total Alkalinity 125 1 4.00 mg/L as CaCo3

Sample: 227831 - MW-2

Laboratory:

Midland

BTEX Analysis: QC Batch: 69005 Prep Batch: 59064

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2010-04-09 2010-04-11

S 5030B Prep Method: Analyzed By: AG

Prepared By: AG

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 7 of 22 Chavez County, NM

| | | RL | | | |
|--------------|-----------------------|-----------|-------|----------|---------|
| Parameter | Flag | 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 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|--------|----------|--------|----------|--------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0872 | _mg/L | 1 | 0.100 | 87 | 65.2 - 130.3 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0672 | m mg/L | 1 | 0.100 | 67 | 51.1 - 121.7 |

Sample: 227831 - MW-2

Laboratory: Lubbock

Analysis: Cations QC Batch: 69039 Prep Batch: 59090

Analytical Method: Date Analyzed:

S 6010B 2010-04-13 2010-04-13

Prep Method: S 3005A Analyzed By: RRPrepared By: KV

Sample Preparation:

| · | | m RL | | | |
|---------------------|------|--------|--------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Dissolved Calcium | | 520 | mg/L | 10 | 1.00 |
| Dissolved Potassium | , | 15.5 | mg/L | 1 | 1.00 |
| Dissolved Magnesium | | 73.0 | m mg/L | 1 | 1.00 |
| Dissolved Sodium | | 925 | mg/L | 10 | 1.00 |

Sample: 227831 - MW-2

Laboratory:

Midland

Chloride (IC) Analysis: QC Batch: 68948 Prep Batch: 58994

Analytical Method: Date Analyzed:

E 300.0 2010-04-09 Sample Preparation: 2010-04-08 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

| | | 1 (11) | | | • |
|-----------|------|--------|-------|----------|-------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Chloride | | 2250 | mg/L | 500 | 0.500 |

Sample: 227831 - MW-2

Laboratory: Lubbock

Analysis: Hardness QC Batch: 69039 59090 Prep Batch:

Analytical Method: S 6010B Date Analyzed: 2010-04-13 Sample Preparation: 2010-04-13

Prep Method: N/A Analyzed By: RRPrepared By: KV

115-6403132A

Laboratory:

Analysis:

QC Batch:

Prep Batch:

Midland

68950

59015

Alkalinity

Work Order: 10040809 Celero/Rock Queen Tract #13 TB

Page Number: 8 of 22 Chavez County, NM

Prep Method: N/A

AR

AR

Analyzed By:

Prepared By:

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---------------------|-------|---------------------|---------------|--------------|-------|
| Hardness (by ICP) | 1 lag | 1600 | mg eq CaCO3/L | 1 | 0.00 |
| mardness (by 101) | | 1000 | mg eq CaCO3/L | 1 | 0.00 |
| Sample: 227831 - MV | W-2 | | i | | |
| Laboratory: Midland | | | | | |
| Analysis: pH | | Analytical Method: | SM 4500-H+ | Prep Method: | N/A |
| QC Batch: 68931 | | Date Analyzed: | 2010-04-08 | Analyzed By: | AR |
| Prep Batch: 58993 | | Sample Preparation: | 2010-04-08 | Prepared By: | AR |
| | | RL | • | | |
| Parameter | Flag | Result | Units | Dilution | RL |
| pН | | 7.70 | s.u. | 1 | 0.00 |
| | | | , | | * |
| Sample: 227831 - MV | W-2 | | • | • | |
| Laboratory: Midland | | | | | |
| Analysis: SO4 (IC) | | Analytical Method: | E 300.0 | Prep Method: | N/A |
| QC Batch: 68948 | • | Date Analyzed: | 2010-04-09 | Analyzed By: | AR |
| Prep Batch: 58994 | | Sample Preparation: | 2010-04-08 | Prepared By: | AR |
| | | RL | t. | | |
| Parameter | Flag | Result | Units | Dilution | RL |
| Sulfate | 41 | 133 | mg/L | 5 | 0.500 |
| | | | T. | | |
| Sample: 227831 - MV | V-2 | | | · | |
| Laboratory: Midland | | | | | |
| Analysis: TDS | | Analytical Method: | SM 2540C | Prep Method: | N/A |
| QC Batch: 69374 | | Date Analyzed: | 2010-04-23 | Analyzed By: | AR |
| Prep Batch: 59010 | | Sample Preparation: | 2010-04-29 | Prepared By: | AR |
| rep Baten. 55010 | | | 2010-01-03 | Tropared By. | 7116 |
| Parameter | Flag | RL Result | Units | Dilution | RL |
| | | 5890 | mg/L | 5 | 10.0 |

Analytical Method:

Sample Preparation:

Date Analyzed:

SM 2320B

2010-04-09

2010-04-09

Report Date: April 26, 2010 115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 9 of 22 Chavez County, NM

| | | RL | | | |
|------------------------|------|--------|---------------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Hydroxide Alkalinity | | < 1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | < 1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | 183 | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | 183 | mg/L as CaCo3 | . 1 | 4.00 |

Sample: 227832 - MW-3

Laboratory: Midland

Analysis: BTEX QC Batch: 69005 Prep Batch: 59064

Analytical Method: S 8021B Date Analyzed: 2010-04-09

Prep Method: S 5030B Analyzed By: \mathbf{AG} Sample Preparation: 2010-04-11 Prepared By: AG

| | | m RL | | | |
|--------------|------|-----------|-----------------|----------|---------|
| Parameter | Flag | 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 | $\mathrm{mg/L}$ | 1 | 0.00100 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|--------------|----------|--------|----------|--------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0929 | mg/L | 1 | 0.100 | 93 | 65.2 - 130.3 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0729 | $_{ m mg/L}$ | 1 | 0.100 | 73 | 51.1 - 121.7 |

Sample: 227832 - MW-3

Laboratory: Lubbock

Analysis: Cations QC Batch: 69039 Prep Batch: 59090

Analytical Method: S 6010BDate Analyzed: 2010-04-13 Sample Preparation: 2010-04-13 Prep Method: S 3005A Analyzed By: RRPrepared By:

| • | | RL | | | |
|---------------------|------|---------------------|-------------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Dissolved Calcium | | 76.1 | mg/L | 1 | 1.00 |
| Dissolved Potassium | | 4.33 | · mg/L | 1 | 1.00 |
| Dissolved Magnesium | | 10.3 | mg/L | 1 | 1.00 |
| Dissolved Sodium | | 78.7 | ${ m mg/L}$ | . 1 | 1.00 |

Work Order: 10040809 Report Date: April 26, 2010 Page Number: 10 of 22 115-6403132A Chavez County, NM Celero/Rock Queen Tract #13 TB Sample: 227832 - MW-3 Laboratory: Midland Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 68948 Date Analyzed: 2010-04-09 Analyzed By: AR Prep Batch: 58994 Sample Preparation: 2010-04-08 Prepared By: AR RLParameter RLFlag Result Units Dilution Chloride 58.4 0.500 mg/L 5 Sample: 227832 - MW-3 Laboratory: Lubbock Analysis: Hardness Analytical Method: S 6010B Prep Method: N/A QC Batch: 69039 Date Analyzed: 2010-04-13 Analyzed By: RRPrep Batch: 59090 Sample Preparation: 2010-04-13 Prepared By: KV RLParameter Flag Result Dilution RLUnits Hardness (by ICP) 232 mg eq CaCO3/L 0.00 Sample: 227832 - MW-3 Laboratory: Midland Analysis: pН Analytical Method: SM 4500-H+ Prep Method: N/A 68931 QC Batch: Date Analyzed: 2010-04-08 Analyzed By: ARPrep Batch: 58993 Sample Preparation: 2010-04-08 Prepared By: ARRLParameter Result Units Dilution RLFlag 8.26 0.00 рH s.u. 1 Sample: 227832 - MW-3 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 68948 Date Analyzed: 2010-04-09 Analyzed By: AR Prep Batch: 58994 Sample Preparation: 2010-04-08 Prepared By: AR

RL

116

Units

mg/L

Dilution

RL

0.500

Result

Flag

Parameter

Sulfate

Report Date: April 26, 2010 115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 11 of 22 Chavez County, NM

| Sample: 2 | 27832 - | MW-3 |
|-----------|---------|------|
|-----------|---------|------|

| La | bor | atory: | Midland |
|----|-----|--------|---------|
| | | | CO CO |

Analysis: TDS QC Batch: 69374 Prep Batch: 59010

Analytical Method: SM 2540C Date Analyzed: 2010-04-23 Sample Preparation: 2010-04-09

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

RL

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

Sample: 227833 - MW-4

Laboratory:

Midland

Analysis: Alkalinity QC Batch: 68950 Prep Batch: 59015

Analytical Method: Date Analyzed:

SM 2320B 2010-04-09 Sample Preparation: 2010-04-09 Prep Method: N/A Analyzed By:

ARPrepared By: AR

| | | m RL | | | |
|------------------------|------|--------|---------------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | < 1.00 | mg/L as CaCo3 | . 1 | 1.00 |
| Bicarbonate Alkalinity | | 145 | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | 145 | mg/L as CaCo3 | 1 | 4.00 |

Sample: 227833 - MW-4

Laboratory: Midland

Analysis: BTEX QC Batch: 69005 Prep Batch: 59064

Analytical Method: Date Analyzed:

S 8021B 2010-04-09 Sample Preparation: 2010-04-11

Prep Method: S 5030B Analyzed By: AG

AG

Prepared By:

RL

| Parameter | Flag | Result | Units | Dilution | · RL |
|--------------|------|-----------|--------|----------|---------|
| Benzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | • | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | m mg/L | 1 | 0.00100 |
| Xylene | | < 0.00100 | mg/L | 1 | 0.00100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | 0.0909 | mg/L | 1 | 0.100 | 91 | 65.2 - 130.3 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0696 | mg/L | 1 | 0.100 | 70 | 51.1 - 121.7 |

Report Date: April 26, 2010 115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB

Page Number: 12 of 22 Chavez County, NM

Sample: 227833 - MW-4

| Laboratory: | Lubbock |
|-------------|---------|
| Analysis: | Cations |
| QC Batch: | 69039 |
| Prep Batch: | 59090 |

Analytical Method: S 6010B
Date Analyzed: 2010-04-13
Sample Preparation: 2010-04-13

Prep Method: S 3005A Analyzed By: RR Prepared By: KV

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

Sample: 227833 - MW-4

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 68948 Prep Batch: 58994 Analytical Method: E 300.0 Date Analyzed: 2010-04-09 Sample Preparation: 2010-04-08

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

Sample: 227833 - MW-4

Laboratory: Analysis:

Lubbock

Analysis: Hardness QC Batch: 69039 Prep Batch: 59090 Analytical Method: S 6010B
Date Analyzed: 2010-04-13
Sample Preparation: 2010-04-13

Prep Method: N/A Analyzed By: RR Prepared By: KV

Sample: 227833 - MW-4

Laboratory: Midland

Analysis: pH QC Batch: 68931 Prep Batch: 58993 Analytical Method: SM 4500-H+
Date Analyzed: 2010-04-08
Sample Preparation: 2010-04-08

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

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 13 of 22 Chavez County, NM

| | | RL | | | |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| рН | | 8.35 | s.u. | 1 | 0.00 |

Sample: 227833 - MW-4

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 68948 Prep Batch: 58994 Analytical Method: E 300.0 Date Analyzed: 2010-04-09

 Date Analyzed:
 2010-04-09

 Sample Preparation:
 2010-04-08

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

Sample: 227833 - MW-4

Laboratory: Midland

Analysis: TDS QC Batch: 69374 Prep Batch: 59010 Analytical Method: SM 2540C Date Analyzed: 2010-04-23 Sample Preparation: 2010-04-09

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

Method Blank (1) QC Batch: 68948

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

Method Blank (1) QC Batch: 68948

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

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 14 of 22 Chavez County, NM

| | | MDL | | |
|-----------|------|---------|-------------|-----|
| Parameter | Flag | Result | Units | RL |
| Sulfate | | < 0.217 | ${ m mg/L}$ | 0.5 |

Method Blank (1)

QC Batch: 68950

QC Batch:

68950

Date Analyzed:

2010-04-09

Analyzed By: AR

Prep Batch: 59015

QC Preparation: 2010-04-09

Prepared By: AR

| | | MDL | | |
|------------------------|-----------------|----------------------|---------------|----|
| Parameter | \mathbf{Flag} | Result | Units | RL |
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 |
| Carbonate Alkalinity | | < 1.00 | mg/L as CaCo3 | 1 |
| Bicarbonate Alkalinity | | <4.00 | mg/L as CaCo3 | 4 |
| Total Alkalinity | , | <4.00 | mg/L as CaCo3 | 4 |

Method Blank (1)

QC Batch: 69005

QC Batch: Prep Batch: 59064

69005

Date Analyzed:

2010-04-09

Analyzed By: AG

Prepared By: AG

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

QC Preparation: 2010-04-11

| | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------|--------|-------------|----------|--------|----------|--------------|
| Surrogate | \mathbf{Flag} | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0924 | mg/L | 1 | 0.100 | 92 | 73.6 - 126.6 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0803 | ${ m mg/L}$ | 1 | 0.100 | 80 | 62.6 - 117.5 |

Method Blank (1)

QC Batch: 69039

QC Batch:

69039

Date Analyzed:

2010-04-13

Analyzed By: RR

Prep Batch: 59090

QC Preparation:

2010-04-13

Prepared By: KV

MDL

Parameter Dissolved Calcium

Flag

Result < 0.117 Units mg/L RL

continued ...

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 15 of 22 Chavez County, NM

| HECHEUR DERHEN COHERENCE | $thod\ blank\ continue$ | Ŀ. | | | |
|--------------------------|-------------------------|----|--|--|--|
|--------------------------|-------------------------|----|--|--|--|

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

Method Blank (1)

QC Batch: 69374

QC Batch: 69374 Date Analyzed: 2010-04-23

Analyzed By: AR

Prep Batch: 59010

QC Preparation: 2010-04-09

Prepared By: AR

| | • | MDL |
|----------|------|--------|
| arameter | Flag | Result |

Units RLResult Total Dissolved Solids < 9.75 mg/L 10

Duplicates (1) Duplicated Sample: 227833

QC Batch: Prep Batch: 58993

68931

Date Analyzed:

2010-04-08 QC Preparation: 2010-04-08

Analyzed By: AR

Prepared By: AR

| | Duplicate | Sample | | | | RPD |
|-------|-----------|--------|-------|----------|-----|-------|
| Param | Result | Result | Units | Dilution | RPD | Limit |
| Ha | 8.33 | 8.35 | S.31. | 1 | 0 | 1.5 |

Duplicated Sample: 227833 Duplicates (1)

QC Batch:

68950

Date Analyzed:

2010-04-09

Analyzed By: AR

Prep Batch:

59015

QC Preparation: 2010-04-09

Prepared By: AR

| Param | $egin{array}{c} 	ext{Duplicate} \ 	ext{Result} \end{array}$ | Sample , Result | Units | Dilution | RPD | RPD Limit |
|------------------------|---|--------------------|---------------|----------|-----|--------------|
| Hydroxide Alkalinity | < 1.00 | <1.00 | mg/L as CaCo3 | 1 | 0 | 20 |
| Carbonate Alkalinity | < 1.00 | < 1.00 | mg/L as CaCo3 | 1 | . 0 | 20 |
| Bicarbonate Alkalinity | 144 | 145 | mg/L as CaCo3 | 1 | 1 | 20 |
| Total Alkalinity | 144 | 145 | mg/L as CaCo3 | 1 | 1 | 20 |

Duplicates (1) Duplicated Sample: 227831

QC Batch:

69374

Date Analyzed:

2010-04-23

Analyzed By: AR

Prep Batch: 59010

QC Preparation:

2010-04-09

Prepared By: AR

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 16 of 22 Chavez County, NM

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

Laboratory Control Spike (LCS-1)

QC Batch:

68948

Prep Batch: 58994

Date Analyzed:

2010-04-09

QC Preparation: 2010-04-08

Analyzed By: AR

Prepared By: AR

| | LCS | | | Spike | Matrix | | Rec. |
|----------|--------|-------|------|--------|---------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | 25.8 | mg/L | 1 | 25.0 | < 0.475 | 103 | 90 - 110 |

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

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 25.9 | mg/L | 1 | 25.0 | < 0.475 | 104 | 90 - 110 | 0 | |

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 58994

68948

Date Analyzed:

2010-04-09 QC Preparation: 2010-04-08 Analyzed By: AR

Prepared By: AR

| • | LCS | | | Spike | Matrix | | Rec. |
|---------|--------|-------|----------------|--------|---------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | 24.4 | mg/L | $\overline{1}$ | 25.0 | < 0.217 | 98 | 90 - 110 |

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

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | 24.4 | mg/L | 1 | 25.0 | < 0.217 | 98 | 90 - 110 | 0 | |

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 59064

69005

Date Analyzed:

2010-04-09

QC Preparation: 2010-04-11

Analyzed By: AG

Prepared By: AG

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

continued ...

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 17 of 22 Chavez County, NM

control spikes continued ...

| | LCS | | | Spike | Matrix | | Rec. |
|--------------|--------|-----------------|------|--------|------------|------|--------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Ethylbenzene | 0.0926 | mg/L | 1 | 0.100 | < 0.000200 | 93 | 73.8 - 113.1 |
| Xylene | 0.279 | $\mathrm{mg/L}$ | 1 | 0.300 | < 0.000900 | 93 | 73.9 - 113.6 |

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

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------|-------|------|--------|------------|------|--------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | 0.0955 | mg/L | 1 | 0.100 | < 0.000300 | 96 | 79.4 - 112.4 | 0 | 20 |
| Toluene | 0.0942 | mg/L | 1 | 0.100 | < 0.000200 | 94 | 79.3 - 110 | 0 | 20 |
| Ethylbenzene | 0.0925 | mg/L | 1 | 0.100 | < 0.000200 | 92 | 73.8 - 113.1 | 0 | 20 |
| Xylene | 0.281 | mg/L | 1 | 0.300 | < 0.000900 | 94 | 73.9 - 113.6 | 1 | 20 |

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

| | LCS | LCSD | | | Spike | LCS · | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|-------|------|--------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 0.0920 | 0.0870 | mg/L | 1 | 0.100 | 92 | 87 | 73.2 - 129.6 |
| 4-Bromofluorobenzene (4-BFB) | 0.0977 | 0.0933 | mg/L | 1 | 0.100 | 98 | 93 | 77.9 - 119.8 |

Laboratory Control Spike (LCS-1)

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

| | LCS | | | Spike | Matrix | | Rec. |
|---------------------|--------|-------|------|--------|----------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Dissolved Calcium | 50.3 | mg/L | 1 | 50.0 | < 0.117 | 101 | 85 - 115 |
| Dissolved Potassium | 49.0 | mg/L | 1 | 50.0 | < 0.172 | 98 | 85 - 115 |
| Dissolved Magnesium | 50.2 | mg/L | 1 | 50.0 | < 0.160 | 100 | 85 - 115 |
| Dissolved Sodium | 47.6 | mg/L | 1 | 50.0 | < 0.0500 | 95 | 85 - 115 |

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

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------------------|--------|-------|------|--------|----------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Dissolved Calcium | 51.3 | mg/L | 1 | 50.0 | < 0.117 | 103 | 85 - 115 | 2 | 20 |
| Dissolved Potassium | 49.7 | mg/L | 1 | 50.0 | < 0.172 | 99 | 85 - 115 | 1 | 20 |
| Dissolved Magnesium | 51.4 | mg/L | 1 | 50.0 | < 0.160 | 103 | 85 - 115 | 2 | 20 |
| Dissolved Sodium | 48.9 | mg/L | 1 | 50.0 | < 0.0500 | 98 | 85 - 115 | 3 | 20 |

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

Laboratory Control Spike (LCS-1)

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

Analyzed By: AR Prepared By: AR

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 18 of 22 Chavez County, NM

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 227831

QC Batch: 68948 Date Analyzed:

2010-04-09

Analyzed By: AR

Prep Batch: 58994

QC Preparation: 2010-04-08

Prepared By:

| | MS | | | Spike | Matrix | | Rec. |
|----------|--------|-------|------|--------|--------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | 3890 | mg/L | 50 | 1380 | 2470 | 103 | 90 - 110 |

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

| | MSD | | • | Spike | Matrix | | Rec. | | RPD |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 3890 | mg/L | 50 | 1380 | 2470 | 103 | 90 - 110 | 0 | |

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

Matrix Spike (MS-1)

Spiked Sample: 227831

QC Batch:

68948

Date Analyzed:

2010-04-09

Analyzed By: AR

Prep Batch: 58994

QC Preparation: 2010-04-08

Prepared By: AR

| | • | MS |) | | Spike | Matrix | | Rec. |
|---------|---|--------|-------|------|--------|--------|------|----------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | | 1490 | mg/L | 50 | 1380 | 197 | 94 | 90 - 110 |

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

| | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | • | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1500 | mg/L | 50 | 1380 | 197 | 95 | 90 - 110 | 1 | |

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

Matrix Spike (MS-1)

Spiked Sample: 227833

QC Batch:

Date Analyzed: 2010-04-09 Analyzed By: AG

Prep Batch: 59064

QC Preparation: 2010-04-11

Prepared By: AG

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 19 of 22 Chavez County, NM

| Param | $rac{	ext{MS}}{	ext{Result}}$ | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|--------------|--------------------------------|-------|------|-----------------|------------------|------|---------------|
| Benzene | 0.0952 | mg/L | 1 - | 0.100 | < 0.000300 | 95 | 77.3 - 117.4 |
| Toluene | 0.0933 | mg/L | 1 | 0.100 | < 0.000200 | 93 | 75 - 111.8 |
| Ethylbenzene | 0.0923 | mg/L | 1 | 0.100 | < 0.000200 | 92 | 78.8 - 106.6 |
| Xylene | 0.278 | mg/L | 1 | 0.300 | < 0.000900 | 93 | 68.9 - 114 |

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

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------|-------------|------|--------|------------|------|--------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | 0.0966 | mg/L | 1 | 0.100 | < 0.000300 | 97 | 77.3 - 117.4 | 1 | 20 |
| Toluene | 0.0954 | ${ m mg/L}$ | 1 | 0.100 | < 0.000200 | 95 | 75 - 111.8 | 2 | 20 |
| Ethylbenzene | 0.0930 | mg/L | 1 | 0.100 | < 0.000200 | 93 | 78.8 - 106.6 | 1 | 20 |
| Xylene | 0.282 | mg/L | 1 | 0.300 | < 0.000900 | 94 | 68.9 - 114 | 1 | 20 |

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

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

Matrix Spike (MS-1) Spiked Sample: 227830

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

| | MS | | | Spike | Matrix | | Rec. |
|---------------------|--------|-------|------|--------|--------|------|-----------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Dissolved Calcium | 178 | mg/L | 1 | 50.0 | 130 | 96 | 75 - 125 |
| Dissolved Potassium | 48.0 | mg/L | 1 | 50.0 | 5.96 | 84 | 75 - 125 |
| Dissolved Magnesium | 58.0 | mg/L | 1 | 50.0 | 7.61 | 101 | 75 - 125 |
| Dissolved Sodium | 52.7 | mg/L | 1 | 50.0 | 11.4 | 83 | 75 - 125 |

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

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Dissolved Calcium | 177 | mg/L | 1 | 50.0 | 130 | 94 | 75 - 125 | 1 | 20 |
| Dissolved Potassium | 47.0 | mg/L | 1 | 50.0 | 5.96 | 82 | 75 - 125 | 2 | 20 |
| Dissolved Magnesium | 58.4 | mg/L | 1 | 50.0 | 7.61 | 102 | 75 - 125 | 1 | 20 |
| Dissolved Sodium | 55.0 | mg/L | 1 | 50.0 | 11.4 | 87 | 75 - 125 | 4 | 20 |

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

Standard (ICV-1)

QC Batch: 68931

Date Analyzed: 2010-04-08

Analyzed By: AR

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 20 of 22 Chavez County, NM

| | | | • | • | " | | 0, |
|-----------------|----------|----------|---------|----------------|----------|----------|--------------|
| | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| pH | тав | S.U. | 7.00 | 6.92 | 99 | 98 - 102 | 2010-04-08 |
| PII | | p.u. | 7.00 | | | 00 102 | 2010 01 00 |
| Standard | (CCV-1) | | | | | | |
| QC Batch: | 68931 | | Date An | alyzed: 2010-0 | 4-08 | Ana | lyzed By: AR |
| | • | | CCVs | CCVs | CCVs | Percent | |
| | • | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| pН | | s.u. | 7.00 | 6.88 | 98 | 98 - 102 | 2010-04-08 |
| • | | <u> </u> | | | | | |
| Standard | (ICV-1) | | | | | | |
| QC Batch: 68948 | | | Date An | alyzed: 2010-0 | 4-09 | Ana | lyzed By: AR |
| | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | mg/L | 25.0 | 23.7 | 95 | 90 - 110 | 2010-04-09 |
| Standard | (ICV-1) | | | | | | |
| QC Batch: | 68948 | ٦ | Date An | alyzed: 2010-0 | 4-09 | Anal | yzed By: AR |
| | | | ICVs | ICVs | ICVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 24.9 | 100 | 90 - 110 | 2010-04-09 |
| ~ | (6677.4) | | | | | | |
| Standard | (CCV-1) | | | | | | |
| QC Batch: 68948 | | | Date An | alyzed: 2010-0 | 4-09 | Anal | yzed By: AR |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | _ | mg/L | 25.0 | 23.8 | 95 | 90 - 110 | 2010-04-09 |

Standard (CCV-1)

QC Batch: 68948

Date Analyzed: 2010-04-09

Analyzed By: AR

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 21 of 22 Chavez County, NM

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Sulfate | | mg/L | 25.0 | 24.7 | 99 | 90 - 110 | 2010-04-09 |

Standard (ICV-1)

QC Batch: 68950

Date Analyzed: 2010-04-09

Analyzed By: AR

| | | | ICVs | ICVs | ICVs | Percent | |
|------------------------|------|---------------|-------|-------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Hydroxide Alkalinity | | mg/L as CaCo3 | 0.00 | <1.00 | | 0 - 200 | 2010-04-09 |
| Carbonate Alkalinity | | mg/L as CaCo3 | 0.00 | 210 | | 0 - 200 | 2010-04-09 |
| Bicarbonate Alkalinity | | mg/L as CaCo3 | 0.00 | 38.0 | | 0 - 200 | 2010-04-09 |
| Total Alkalinity | | mg/L as CaCo3 | 250 | 248 | 99 | 90 - 110 | 2010-04-09 |

Standard (CCV-1)

QC Batch: 68950

Date Analyzed: 2010-04-09

Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|------------------------|------|---------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Hydroxide Alkalinity | | mg/L as CaCo3 | 0.00 | <1.00 | | 0 - 200 | 2010-04-09 |
| Carbonate Alkalinity | | mg/L as CaCo3 | 0.00 | 220 | | 0 - 200 | 2010-04-09 |
| Bicarbonate Alkalinity | | mg/L as CaCo3 | 0.00 | 25.0 | | 0 - 200 | 2010-04-09 |
| Total Alkalinity | | mg/L as CaCo3 | 250 | 245 | 98 | 90 - 110 | 2010-04-09 |

Standard (CCV-2)

QC Batch: 69005

Date Analyzed: 2010-04-09

Analyzed By: AG

| | | | CCVs | CCVs | CCVs | Percent | |
|--------------|------|--------------|-------|--------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Benzene | | mg/L | 0.100 | 0.0892 | 89 | 80 - 120 | 2010-04-09 |
| Toluene | | m mg/L | 0.100 | 0.0874 | 87 | 80 - 120 | 2010-04-09 |
| Ethylbenzene | | mg/L | 0.100 | 0.0861 | 86 | 80 - 120 | 2010-04-09 |
| Xylene | | ${\sf mg/L}$ | 0.300 | 0.259 | 86 | 80 - 120 | 2010-04-09 |

Standard (CCV-3)

QC Batch: 69005

Date Analyzed: 2010-04-09

Analyzed By: AG

115-6403132A

Work Order: 10040809 Celero/Rock Queen Tract #13 TB Page Number: 22 of 22 Chavez County, NM

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene | - | mg/L | 0.100 | 0.0933 | 93 | 80 - 120 | 2010-04-09 |
| Toluene | | mg/L | 0.100 | 0.0917 | 92 | 80 - 120 | 2010-04-09 |
| Ethylbenzene | | mg/L | 0.100 | 0.0895 | 90 | 80 - 120 | 2010-04-09 |
| Xylene | | mg/L | 0.300 | 0.272 | 91 | 80 - 120 | 2010-04-09 |

Standard (ICV-1)

QC Batch: 69039

Date Analyzed: 2010-04-13

Analyzed By: RR

ICVs ICVs**ICVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Dissolved Calcium mg/L 51.0 51.6 90 - 110 2010-04-13 101 Dissolved Potassium 55.0102 90 - 110 mg/L 55.92010-04-13 Dissolved Magnesium 90 - 110 mg/L 51.0 52.8 104 2010-04-13 Dissolved Sodium mg/L 51.0 52.5 103 90 - 110 2010-04-13

Standard (CCV-1)

QC Batch: 69039

Date Analyzed: 2010-04-13

Analyzed By: RR

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

| , | $\mathcal{N}\mathcal{O}$ | 77 | | ان | UU4UNU9 | | | | | | ion Cu | | | | | منيميسي | | | | _ | | | | | | ابدائدالور | - | - |
|--------------------|---|--------------|-----------------|-------------|--|--------------------------|---|--------------|--------------|----------------|--------|-------|--------------|-------------------------|----------|----------------------------------|----------------|----------------------|---------------------------------|------------|--------------------|---------------|-----------------------|------------------|-------------------------|---------------|---------------|----|
| An | Analysis Request of Chain of Custody Record | | | | | | | | | | | | | | GE: | | | | OF | <u>:</u> | | | | | | | | |
| | | | | | | • | | | | | | | \dashv | | | | { | | ANA le or | | | | thod | No. |) | | | |
| | | | | | Midland, Texa | pring St. | | | | | | | | 15 (Ext. to C35) | | Cd Vr Pd Hg Se | | | | | | | | | 1 | TOS | | |
| CLIENT NAN | | | | | SITE MANAGER | | NE RES | 2 | F | PRES ME | ERV. | | E | TX1005 |] | 8 8 | | | 60/624 | 270/625 | | | | | | ns, pH, | | |
| PROJECT N | 0.: | | | | NAME: | <i>f</i> | NTATA | | | П | П | T | | MOD. | | A As | , | atiles | 0/83 | ol. 8; | | | Ì | | | ation | | Ì |
| 115-640 | 3132A | | CE | اود د | / Rock Queen To Chares Co, Non | act 13 TB | | 3 8 | | | | İ | | ريا ∑ | | als A | iles | Vol | 824 | , E | 09/0 | 8 | , ; | 18 | stos | ris/C | | |
| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX COMP. | GRAB | | EIDENTIFICATION | NI IMARER OF CONTAMPERS | CHITCORD WAN | HOL | HNO3 | ICE | NONE | -BTEX 8021B | TPH 8015 | PAH 8270 | HCHA Metals Ag TCLP Metals Ag | TCLP Volatiles | TCLP Serni Volatiles | RCI GC MS Vol. 8240/8260/624 | GC.MS Se | PCB's 8080/608 | Pest. 808/608 | Chloride Camina Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/ | | |
| 227830 | 4/4 | 1450 | W | Х | Mw-l | | ٤ | + , | J3 | | X | i |) | | | | | | | | | | X | | | X | | |
| . 831 | | 1425 | | | MW-Z | | | | \mathbb{I} | | | | | | | | | | | | | | \coprod | | | 4 | | _ |
| 832 |) | 1500 | | | MW-3 | | | | | | | | | | | | | | | | | | \prod | | | \prod | | |
| 833 | 4 | 1435 | ▼ | V | MW-41 | | | 7 | 7 | | * | 4 | _ | 1 | \ | 1 | | | \perp | _ | | , | 1 | L | <u> </u> | 4 | | 1 |
| | | | | | | ···· | | 1 | _ | | | 1 | _ | _ | | | | | 1 | - | | _ | \downarrow | _ | | \downarrow | $\perp \perp$ | 1 |
| | | | | | · · · · · · · · · · · · · · · · · · · | | | 1 | 1 | | | _ | _ | $oldsymbol{\downarrow}$ | | 1 | | | 1 | 1 | | _ | _ | _ | \coprod | 1 | 44 | 1 |
| | | | | - | | | | 1 | _ | | | _ | _ | - | | _ | | | 4 | 1 | | 4 | 1 | _ | - | \downarrow | 44 | + |
| | | | - | - | | | | 1 | _ | | _ | _ | \bot | 1 | - | _ | - | | 4 | 1 | - | 4 | _ | - | \sqcup | \downarrow | $+\!+$ | - |
| | | | - | - | | · | | 1 | \perp | | _ | | _ | _ | | _ | _ | | \perp | _ | | 4 | \downarrow | - | $\downarrow \downarrow$ | 4 | + | 4 |
| | | | | | | | | | | | | Ì | | | | | | | | | | | | | | | | |
| RELINQUISHER | BY: (Signatu | re). | | 2 | Date: 4/7//0 Time: 1650 | RECEIVED BY (Signature) | | | | Date: Time: | 4 | 77, | 1/3 | <u> </u> | SAA | APLEC | BY: (| Print | & Initi | 1) | 7/1 | F | | | late: Ime: | -7/ | 410 | |
| RELINQUISHEE | BY: (Signatu | re) | | | Date: 4/8/19 Time: 17:00 | RECEIVED BY (Signature) | البيرين المتراوي المتراكد المتراك المتراك المتراك | | | Date: Time: | | | | | | APLE S | SHIPP | ED A | Y: (Cir | cie) US | oli ne. | بستنبري | | AIR | BILL # | * : | | |
| RELINCUISHED | BY: 48 gnatu | re) | | | Date: | RECEIVED BY: (Signature) | | | | Date: | | | | | H | AND D | | | | | NI- | | | OT | TER: | ults b | | |
| RECEIVING LAE | 1, 1 | Trees | | > | A STATE OF THE SALE OF THE SAL | ECEIVED BY: (Signature) | and Fox | | | Time: | | | | 5,1 | 70 | اع | if | 1. | nd | j | | | | | | | harges ed: | |
| CONTACT: | land | STATE: | | PHON | | ATE: 4-9-10 | | TIME | 9 | 1:40 | 2 1 | -JW | 7 | 5.5 | | | | | | | | | | | | Yes | | Vo |
| 3.3°C | ITION WHEN | 1 | 1 | | REMARKS: | Blex cintor | idera | IJ | 22 L | Y) S | (ل، د | H | \mathbb{D} | <u>S</u> | | | با از ا | 10 | <u>_</u> - | (| (H | î | \sim | نمسسا | | | D | Ĉ |
| | Please | fill out all | copie | s - l | aboratory retains Yellow | copy - Return Orginal | copy to Tetra | Tec | h - | Proje | act! N | Aanta | iger r | etair | s Pi | nk c | эру | - A | CCOL | intin | g re | ceiv | es G | old | cop | y | | • |



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland Texas 79703

800 • 378 • 1296 888 • 588 • 3443

915 • 585 • 3443 432 • 689 • 6301

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 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

El Paso:

T104704221-08-TX

Midland:

T104704392-08-TX

LELAP-02003 Kansas E-10317 LELAP-02002

Analytical and Quality Control Report

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

Report Date: July 27, 2010

Work Order:

10071414

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen #13 TB

Project Number:

115-6403122

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

| | | | Date | 1 me | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 237458 | MW-1 | water | 2010-07-12 | 16:40 | 2010-07-14 |
| 237459 | MW-2 | water | 2010-07-12 | 16:30 | 2010-07-14 |
| 237460 | MW-3 | water | 2010-07-12 | 17:00 | 2010-07-14 |
| 237461 | MW-4 | water | 2010-07-12 | 16:50 | 2010-07-14 |

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

This report consists of a total of 14 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

 $\begin{array}{c} \textbf{Standard Flags} \\ \textbf{B} \text{ - The sample contains less than ten times the concentration found in the method blank.} \end{array}$

Case Narrative

Samples for project Celero/Rock Queen #13 TB were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071414. Samples for work order 10071414 were received intact without headspace and at a temperature of 3.9 C.

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

| | | Prep | Prep | QC | Analysis |
|---------------|-------------|-------|---------------------|-------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| BTEX | S 8021B | 61451 | 2010-07-14 at 16:00 | 71724 | 2010-07-14 at 16:42 |
| Chloride (IC) | $\to 300.0$ | 61482 | 2010-07-15 at 09:54 | 71929 | 2010-07-16 at 03:27 |
| SO4 (IC) | E 300.0 | 61482 | 2010-07-15 at 09:54 | 71929 | 2010-07-16 at 03:27 |
| TDS | SM 2540C | 61516 | 2010-07-15 at 10:29 | 72039 | 2010-07-26 at 12:30 |

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10071414 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB

Analytical Report

Sample: 237458 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 71724 Prep Batch: 61451

Analytical Method: Date Analyzed:

S 8021B 2010-07-14 Sample Preparation: 2010-07-14 Prep Method: S 5030B Analyzed By: AG

Prepared By:

Page Number: 4 of 14

Chavez County, NM

RT.

| Parameter | Flag | Result | Units | Dilution | RL |
|--------------|------|-----------|-------|----------|---------|
| Benzene | 1145 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | • | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Xylene | | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.102 | mg/L | 1 | 0.100 | 102 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0852 | mg/L | 1 | 0.100 | 85 | 51.1 - 128 |

Sample: 237458 - MW-1

Laboratory:

Midland

Analysis: Chloride (IC) QC Batch: 71929 Prep Batch: 61482

Analytical Method: Date Analyzed:

E 300.0 2010-07-16 Sample Preparation: 2010-07-15 Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

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

Sample: 237458 - MW-1

Midland Laboratory:

Analysis: SO4 (IC) QC Batch: 71929 Prep Batch: 61482

Analytical Method: E 300.0 Date Analyzed: 2010-07-16 Sample Preparation: 2010-07-15

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

RL

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

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 5 of 14 Chavez County, NM

Sample: 237458 - MW-1

Laboratory: Analysis:

Midland TDS 72039

Analytical Method:

SM 2540C 2010-07-26 Prep Method: N/A Analyzed By: AR

AR

QC Batch: Prep Batch:

61516

Date Analyzed: Sample Preparation: 2010-07-16

Prepared By:

RL

Dilution RLResult Units Parameter Flag Total Dissolved Solids 1130 mg/L 10.0

Sample: 237459 - MW-2

Laboratory:

Midland

Analysis: QC Batch:

BTEX 71724

Analytical Method: Date Analyzed:

S 8021B 2010-07-14 Prep Method: S 5030B Analyzed By: \mathbf{AG}

Prep Batch: 61451

Sample Preparation: 2010-07-14 Prepared By:

RL

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

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0987 | mg/L | 1 | 0.100 | 99 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0818 | mg/L | 1 | 0.100 | 82 | 51.1 - 128 |

Sample: 237459 - MW-2

Laboratory:

Midland

Analysis:

Chloride (IC)

Analytical Method: Date Analyzed:

E 300.0

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch:

71929 61482

Sample Preparation:

2010-07-16 2010-07-15

Prepared By: AR

RL

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

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 6 of 14 Chavez County, NM

Sample: 237459 - MW-2

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 71929 Prep Batch: 61482

Analytical Method: Date Analyzed:

Sample Preparation:

 $\to 300.0$ 2010-07-16 2010-07-15 Prep Method: N/A Analyzed By: ARPrepared By: AR

RLDilution Parameter Flag Result Units RLSulfate 2.50 189 mg/L

Sample: 237459 - MW-2

Laboratory:

Midland

Analysis: TDS QC Batch: 72039 Prep Batch: 61516

Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C 2010-07-26 2010-07-16 Prep Method: N/A Analyzed By: ARAR

Prepared By:

RL

Parameter Flag Result Units Dilution RLTotal Dissolved Solids 27200 mg/L100 10.0

Sample: 237460 - MW-3

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 71724 Prep Batch: 61451

Analytical Method: Date Analyzed:

S 8021B 2010-07-14 2010 - 07 - 14

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

RL

Sample Preparation:

| | | | | | • |
|--------------|------|-----------|----------------------------|----------|---------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Benzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | $\overline{\mathrm{mg/L}}$ | 1 | 0.00100 |
| Xylene | | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|--------------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0948 | mg/L | 1 | 0.100 | 95 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0768 | $_{ m mg/L}$ | 1 | 0.100 | 77 | 51.1 - 128 |

| 115-6403122 | : July 27, 2010 | | Work Order: Celero/Rock Qu | | Page Number: 7 of 1- Chavez County, NM | | | |
|---|---|------|---|--|---|-------------------------------|--|--|
| Sample: 23 | 7460 - MW-3 | | | | | | | |
| Laboratory: | Midland | | | | | | | |
| Analysis: | Chloride (IC) | | Analytical Metho | d: E 300.0 | Prep Method: | N/A | | |
| QC Batch: | 71929 | | Date Analyzed: | 2010-07-16 | Analyzed By: | AR | | |
| Prep Batch: | 61482 | | Sample Preparati | on: 2010-07-15 | Prepared By: | AR | | |
| | | | RL | | | | | |
| Parameter | \mathbf{F} | lag | Result | Units | Dilution | RL | | |
| Chloride | | | 83.6 | mg/L | 5 | 2.50 | | |
| Sample: 23 | 7460 - MW-3 | | | | | | | |
| Laboratory: | Midland | | | | | | | |
| Analysis: | SO4 (IC) | | Analytical Method: | $\to 300.0$ | Prep Method: | , | | |
| QC Batch: | 71929 | | Date Analyzed: | 2010-07-16 | Analyzed By: | AR | | |
| Prep Batch: | 61482 | | Sample Preparation | : 2010-07-15 | Prepared By: | AR | | |
| | | • | RL | | | | | |
| Parameter | · F | lag | Result | Units | Dilution | RI | | |
| | | | | | | | | |
| Sulfate | | | 64.0 | mg/L | 5 | 2.50 | | |
| Sample: 23 Laboratory: Analysis: QC Batch: | 7460 - MW-3 Midland TDS 72039 61516 | | 64.0 Analytical Method: Date Analyzed: Sample Preparation: | SM 2540C 2010-07-26 | 5 Prep Method: Analyzed By: Prepared By: | | | |
| | Midland TDS 72039 | | Analytical Method: Date Analyzed: Sample Preparation: RL | SM 2540C 2010-07-26 2010-07-16 | Prep Method: Analyzed By: Prepared By: | AR | | |
| Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter | Midland TDS 72039 61516 | Flag | Analytical Method: Date Analyzed: Sample Preparation: | SM 2540C 2010-07-26 | Prep Method: Analyzed By: | N/A AR AR | | |
| Sample: 23' Laboratory: Analysis: QC Batch: | Midland TDS 72039 61516 | | Analytical Method: Date Analyzed: Sample Preparation: RL | SM 2540C 2010-07-26 2010-07-16 | Prep Method: Analyzed By: Prepared By: | N/A AR AR | | |
| Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch: | Midland TDS 72039 61516 red Solids 7461 - MW-4 Midland BTEX 71724 | | Analytical Method: Date Analyzed: Sample Preparation: RL Result 562 Analytical Method: Date Analyzed: | SM 2540C 2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 | Prep Method: Analyzed By: Prepared By: Dilution 2 Prep Method: S Analyzed By: A | N/A AR AR RI 10.0 | | |
| Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissoly | Midland TDS 72039 61516 red Solids 7461 - MW-4 Midland BTEX | | Analytical Method: Date Analyzed: Sample Preparation: RL Result 562 Analytical Method: Date Analyzed: Sample Preparation: | SM 2540C 2010-07-26 2010-07-16 Units mg/L | Prep Method: Analyzed By: Prepared By: Dilution 2 Prep Method: S | N/A AR AR RL 10.0 | | |
| Sample: 23' Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23' Laboratory: Analysis: QC Batch: Prep Batch: | Midland TDS 72039 61516 red Solids 7461 - MW-4 Midland BTEX 71724 61451 | Flag | Analytical Method: Date Analyzed: Sample Preparation: RL Result 562 Analytical Method: Date Analyzed: Sample Preparation: RL | SM 2540C 2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 | Prep Method: Analyzed By: Prepared By: Dilution 2 Prep Method: S Analyzed By: A Prepared By: A | N/A AR AR 10.0 | | |
| Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch: | Midland TDS 72039 61516 red Solids 7461 - MW-4 Midland BTEX 71724 61451 | | Analytical Method: Date Analyzed: Sample Preparation: RL Result 562 Analytical Method: Date Analyzed: Sample Preparation: | SM 2540C 2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 | Prep Method: Analyzed By: Prepared By: Dilution 2 Prep Method: S Analyzed By: A Prepared By: A Dilution | N/A AR AR RI 10.0 | | |

continued ...

Report Date: July 27, 2010 115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 8 of 14 Chavez County, NM

| sample | 237461 | continued | | |
|--------|--------|-----------|--|--|
|--------|--------|-----------|--|--|

| sample 23 140 | or commuea | | | | | | | | |
|--------------------------|--------------------------|------|------------|---------------------------------------|--------------|--------|----------|-------|---------|
| . | T) | | RL | | TT | D:1 | | | DT |
| Parameter | Flag | | Result | | Units | Dil | ution | | RL |
| Ethylbenzene | е | | < 0.00100 | | mg/L | | 1 | | .00100 |
| Xylene | | | < 0.00100 | 1 | mg/L | | 1 | | .00100 |
| | | | | | | Spike | Percent | Rec | covery |
| Surrogate | | Flag | Result | Units | Dilution | Amount | Recovery | Li | mits |
| Trifluorotolu | ene (TFT) | | 0.115 | mg/L | 1 | 0.100 | 115 | 67.8 | 3 - 126 |
| | robenzene (4-BFB) | | 0.0945 | mg/L | 1 | 0.100 | 94 | 51.1 | - 128 |
| Sample: 23 | 7461 - MW-4 | | | | ` | | | | |
| Laboratory: Analysis: | Midland Chloride (IC) | | • | al Method: | E 300.0 | , | Prep Me | | N/A |
| QC Batch: | 71929 | | Date An | alyzed: | 2010-07-16 | | Analyze | d By: | AR |
| Prep Batch: | 61482 | | Sample 1 | Preparation | : 2010-07-15 | | Prepare | d By: | AR |
| | | | RL | | | | | | |
| Parameter | Flag | • | Result | | Units | D | ilution | | RL |
| Chloride | | | 147 | · · · · · · · · · · · · · · · · · · · | mg/L | | 5 | | 2.50 |
| | | • | | | | | | | |
| Sample: 23 | 7461 - MW-4 | | | | | | | | |
| Laboratory: | Midland | | | | | | | | |
| Analysis: | SO4 (IC) | | Analytical | | E 300.0 | | Prep Me | | N/A |
| QC Batch: | 71929 | | Date Analy | | 2010-07-16 | | Analyze | • | AR |
| Prep Batch: | 61482 | | Sample Pro | eparation: | 2010-07-15 | | Prepare | d By: | AR |

Sample: 237461 - MW-4

Parameter

Sulfate

Flag

| Laboratory: | Midland | |
|-------------|---------|---|
| Analysis: | TDS | |
| QC Batch: | 72039 | 1 |
| Pren Ratch | 61516 | |

Analytical Method: SM 2540C Date Analyzed: 2010-07-26 Sample Preparation: 2010-07-16

Units

mg/L

RL

Result

48.5

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

RL

2.50

Dilution

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 9 of 14 Chavez County, NM

Method Blank (1)

QC Batch: 71724

QC Batch: Prep Batch: 61451

71724

Date Analyzed:

2010-07-14

QC Preparation: 2010-07-14

Analyzed By: AG

Prepared By: AG

| | MDL |
|---------|-----|
| T21 | D11 |

| Parameter | Flag | Result | \mathbf{Units} | m RL |
|--------------|-----------------------|------------|------------------|-------|
| Benzene | | < 0.000600 | mg/L | 0.001 |
| Toluene | | < 0.000600 | ${ m mg/L}$ | 0.001 |
| Ethylbenzene | | < 0.000800 | ${ m mg/L}$ | 0.001 |
| Xylene | | < 0.000767 | mg/L_ | 0.001 |

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

Method Blank (1)

QC Batch: 71929

QC Batch:

71929 Prep Batch: 61482 Date Analyzed:

2010-07-16

Analyzed By: AR Prepared By: AR

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

QC Preparation: 2010-07-15

Method Blank (1)

QC Batch: 71929

QC Batch: Prep Batch: 61482

71929

Date Analyzed: QC Preparation:

2010-07-16 2010-07-15

Analyzed By: AR

Prepared By: AR

MDL Parameter Flag Result Units RLSulfate < 0.177 mg/L 2.5

Method Blank (1)

QC Batch: 72039

QC Batch:

72039

Date Analyzed:

2010-07-26

Analyzed By: AR

Prep Batch: 61516

QC Preparation:

2010-07-15

Prepared By:

MDL

Result Units RLParameter Flag Total Dissolved Solids 10.0 mg/L 10

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 10 of 14 Chavez County, NM

Duplicated Sample: 237468 Duplicates (2)

QC Batch: Prep Batch: 61516

72039

Date Analyzed:

2010-07-26

QC Preparation: 2010-07-15

Analyzed By: Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch:

71724 Prep Batch: 61451 Date Analyzed: QC Preparation: 2010-07-14

2010-07-14

Analyzed By: AG Prepared By:

| Param | $egin{array}{c} 	ext{LCS} \ 	ext{Result} \end{array}$ | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|--------------|---|-------|------|-----------------|------------------|------|---------------|
| Benzene | 0.100 | mg/L | 1 | 0.100 | < 0.000600 | 100 | 82.9 - 108 |
| Toluene | 0.0992 | mg/L | 1 | 0.100 | < 0.000600 | 99 | 82.7 - 107 |
| Ethylbenzene | 0.0949 | mg/L | 1 | 0.100 | < 0.000800 | 95 | 78.8 - 106 |
| Xvlene | 0.287 | mg/L | 1 | 0.300 | < 0.000767 | 96 | 79.3 - 106 |

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

71929

Prep Batch: 61482

Date Analyzed:

2010-07-16

QC Preparation: 2010-07-15 Analyzed By: AR Prepared By: AR

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

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 11 of 14 Chavez County, NM

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

71929

Date Analyzed:

2010-07-16

Analyzed By: AR

Prep Batch: 61482

QC Preparation:

2010-07-15

Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-2)

QC Batch:

72039

Date Analyzed:

2010-07-26

Analyzed By: AR

Prep Batch: 61516

QC Preparation:

2010-07-15

Prepared By: AR

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 237430

QC Batch:

71724

Prep Batch: 61451

Date Analyzed:

2010-07-14

QC Preparation: 2010-07-14 Analyzed By: AG

Prepared By:

115-6403122

Work Order: 10071414 -Celero/Rock Queen #13 TB Page Number: 12 of 14 Chavez County, NM

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

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

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

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

| | | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|-----|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 6 7 | 0.0434 | 0.0551 | mg/L | 1 | 0.1 | 43 | 55 | 68.3 - 107 |
| 4-Bromofluorobenzene (4-BFB) | 8 9 | 0.0418 | 0.0525 | mg/L | 1 | 0.1 | 42 | 52 | 60.1 - 135 |

Matrix Spike (MS-1)

Spiked Sample: 237459

QC Batch:

71929

Date Analyzed:

2010-07-16

Analyzed By: AR

Prep Batch: 61482

QC Preparation: 2010-07-15

Prepared By: AR

| | | MS | | | Spike | Matrix | • | Rec. |
|----------|----|--------|-------|------|--------|--------|--------|----------|
| Param | | Result | Units | Dil. | Amount | Result | . Rec. | Limit |
| Chloride | 10 | 15500 | mg/L | 100 | 2750 | 12350 | 114 | 90 - 110 |

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

| | | MSD | | | Spike | Matrix | | Rec. | • | RPD |
|----------|----|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 11 | 15500 | mg/L | 100 | 2750 | 12350 | 114 | 90 - 110 | 0 | 20 |

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

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

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

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

⁴MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly. ⁵MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occurred properly.

⁶Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

⁷Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

⁸Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.

⁹Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.

¹⁰ Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

¹¹MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 13 of 14 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 237459

QC Batch: Prep Batch: 61482

71929

Date Analyzed:

2010-07-16

QC Preparation: 2010-07-15

Analyzed By: AR Prepared By:

| | | MS | | | Spike | Matrix | | Rec. |
|---------|----|--------|-------|------|--------|--------|------|----------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | 12 | 2500 | mg/L | 100 | 2750 | 181 | 84 | 90 - 110 |

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

| | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|----|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | 13 | 2500 | mg/L | 100 | 2750 | 181 | 84 | 90 - 110 | 0 | 20 |

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

Standard (CCV-1)

QC Batch: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

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

Standard (CCV-2)

QC Batch: 71724

Date Analyzed: 2010-07-14

Analyzed By: AG

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

Standard (ICV-1)

QC Batch: 71929

Date Analyzed: 2010-07-16

Analyzed By: AR

¹²Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

¹³MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occurred properly.

115-6403122

Work Order: 10071414 Celero/Rock Queen #13 TB Page Number: 14 of 14 Chavez County, NM

| | | | ICVs True | ICVs Found | ${f ICVs} \ {f Percent}$ | Percent Recovery | Date |
|----------|-----------------------|-------|--------------|---------------|--------------------------|---------------------|------------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | mg/L | 25.0 | 27.3 | 109 | 90 - 110 | 2010-07-16 |

Standard (ICV-1)

QC Batch: 71929

Date Analyzed: 2010-07-16

Analyzed By: AR

| | | | ICVs | ICVs | ICVs | Percent | |
|---------|------|-------|-------|-------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 23.9 | 96 | 90 - 110 | 2010-07-16 |

Standard (CCV-1)

QC Batch: 71929

Date Analyzed: 2010-07-16

Analyzed By: AR

| | | | CCVs True | CCVs Found | ${ m CCVs} \ { m Percent}$ | Percent Recovery | Date |
|----------|-----------------------|-------|--------------|---------------|----------------------------|---------------------|------------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | mg/L | 25.0 | 26.9 | 108 | 90 - 110 | 2010-07-16 |

Standard (CCV-1)

QC Batch: 71929

Date Analyzed: 2010-07-16

Analyzed By: AR

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

Ordu #: 10071414 **Analysis Request of Chain of Custody Record** PAGE: **ANALYSIS REQUEST** (Circle or Specify Method No.) **TETRA TECH** (Ext. to C35) 1910 N. Big Spring St. 乎 Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 TX1005 SITE MANAGER: CLIENT NAME: PRESERVATIVE Celero Jeff Kindley **METHOD** 8015 MOD. PROJECT NAME; PROJECT NO .: Celero Rock Queen # 13 TB 115-6403122 Charez Co, NM LAB I.D. MATRIX COMP. GRAB NONE DATE TIME SAMPLE IDENTIFICATION HNO3 NUMBER 237458 7/12/10 1640 nu - 1 459 7/2/10 1030 MW-Z 460 7/2/10 1700 mw-3 4/1/7/12/10/1650 MU-4 SAMPLED BY: (Print & Initial) RELINQUISHED BY: (Signature) Date: 7/11/2016 Time: Time: SAMPLE SHIPPED BY: (Circle) RELINQUISHED BY: (Signature) Date: AIRBILL #: Time: Time: HAND DELIVERED OTHER: RELINQUISHED BY: (Signature) RECEIVED BY: (Signature) Date: Results by: Time: RECEIVED BY: (Signature) RECEIVING LABORATORY: Jeff Kindley **RUSH Charges** ZIP: SAMPLE CONDITION WHEN RECEIVED:

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



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

817 • 201 • 5260

FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB:

1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock:

T104704219-08-TX

LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX

LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Jeff Kindley Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Report Date: November 10, 2010

10101403

Work Order:

Project Location: Chavez County, NM

Project Name:

Celero/Rock Queen Tract #13 TB

Project Number:

115-6403132A

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

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 247493 | MW-1 | water | 2010-10-12 | 15:40 | 2010-10-13 |
| 247494 | MW-2 | water | 2010-10-12 | 15:20 | 2010-10-13 |
| 247495 | MW-3 | water | 2010-10-12 | 15:50 | 2010-10-13 |
| 247496 | MW-4 | water | 2010-10-12 | 15:30 | 2010-10-13 |

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

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

Standard Flags

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

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101403. Samples for work order 10101403 were received intact without headspace and at a temperature of 3.5 C.

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

| | | Prep | Prep | QC | Analysis |
|---------------|----------|-------|---------------------|-------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| BTEX | S 8021B | 63840 | 2010-10-14 at 13:40 | 74557 | 2010-10-14 at 18:04 |
| Chloride (IC) | E 300.0 | 64180 | 2010-10-26 at 14:38 | 74818 | 2010-10-26 at 17:25 |
| SO4 (IC) | E 300.0 | 64180 | 2010-10-26 at 14:38 | 74818 | 2010-10-26 at 17:25 |
| SO4 (IC) | E 300.0 | 64528 | 2010-11-09 at 10:35 | 75227 | 2010-11-09 at 18:09 |
| TDS | SM 2540C | 63873 | 2010-10-15 at 10:25 | 74622 | 2010-10-21 at 14:52 |

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10101403 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: November 10, 2010 115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 4 of 15 Chavez County, NM

Analytical Report

Sample: 247493 - MW-1

Laboratory: Midland

Prep Batch: 63840

Analysis: QC Batch: BTEX 74557

Analytical Method: Date Analyzed:

S 8021B

2010-10-14 2010-10-14 Prep Method: S 5030B Analyzed By:

 \mathbf{AG} Prepared By: AG

RL

Sample Preparation:

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

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0939 | mg/L | 1 | 0.100 | 94 | 66.2 - 107 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0849 | mg/L | 1 | 0.100 | 85 | 39 - 138 |

Sample: 247493 - MW-1

Laboratory: Lubbock

Analysis: QC Batch: Chloride (IC)

74818 Prep Batch: 64180 Analytical Method: Date Analyzed:

E 300.0 2010-10-26 Prep Method: N/A Analyzed By: PG

Sample Preparation:

2010-10-26

Prepared By: SS

RL

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

Sample: 247493 - MW-1

Laboratory:

Lubbock SO4 (IC)

Analysis: QC Batch: 74818 Prep Batch: 64180

Analytical Method: Date Analyzed:

E 300.0 2010-10-26 Sample Preparation: 2010-10-26

Prep Method: N/A Analyzed By:

Prepared By:

PG

RL

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

Report Date: November 10, 2010

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 5 of 15 Chavez County, NM

Sample: 247493 - MW-1

Laboratory: Midland

Analysis: TDS QC Batch: 74622 Prep Batch: 63873 Analytical Method: SM 2540C Date Analyzed: 2010-10-21 Sample Preparation: 2010-10-15

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

RL

Sample: 247494 - MW-2

Laboratory: Midland

Analysis: BTEX QC Batch: 74557 Prep Batch: 63840 Analytical Method: S 8021B
Date Analyzed: 2010-10-14
Sample Preparation: 2010-10-14

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

RLParameter Units Dilution Flag Result RLBenzene 0.00100 < 0.00100 mg/L Toluene < 0.00100 mg/L 1 0.00100Ethylbenzene < 0.00100 mg/L 1 0.00100 Xylene < 0.00100 mg/L 1 0.00100

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | 0.0916 | mg/L | 1 | 0.100 | 92 | 66.2 - 107 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0849 | mg/L | 1 | 0.100 | 85 | 39 - 138 |

Sample: 247494 - MW-2

Laboratory: Lubbock

Chloride

Analysis: Chloride (IC)
QC Batch: 74818
Prep Batch: 64180

Analytical Method: E 300.0
Date Analyzed: 2010-10-26
Sample Preparation: 2010-10-26

Prep Method: N/A Analyzed By: PG Prepared By: SS

Parameter Flag R

 RL
 Units
 Dilution

 7750
 mg/L
 1000

 $\frac{\mathrm{RL}}{2.50}$

Report Date: November 10, 2010

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 6 of 15 Chavez County, NM

Sample: 247494 - MW-2

Laboratory: Lubbock

SO4 (IC) Analysis: QC Batch: 75227 Prep Batch: 64528

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2010-11-09 2010-11-09

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

RL

Parameter Flag Result Units Dilution RLSulfate 203 2.50 mg/L

Sample: 247494 - MW-2

Laboratory: Midland

TDS Analysis: QC Batch: 74622 Analytical Method:

SM 2540C 2010-10-21 Prep Method: N/A Analyzed By: AR

Prep Batch:

63873

Date Analyzed: Sample Preparation:

2010-10-15

Prepared By: AR

RL

Flag Dilution RLParameter Result Units Total Dissolved Solids 15300 mg/L 100 10.0

Sample: 247495 - MW-3

Laboratory:

Midland BTEX

Analysis: QC Batch: 74557 Prep Batch: 63840

Analytical Method: Date Analyzed:

S 8021B 2010-10-14 2010-10-14 Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RL

Sample Preparation:

| Parameter | Flag | Result | Units | Dilution | RL |
|--------------|------|-----------|-----------------|----------|---------|
| Benzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | $\mathrm{mg/L}$ | 1 | 0.00100 |
| Xylene | | < 0.00100 | mg/L | 1 | 0.00100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | 0.0926 | mg/L | 1 | 0.100 | 93 | 66.2 - 107 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0826 | mg/L | 1 | 0.100 | 83 | 39 - 138 |

| Report Date: November 10, 2010 115-6403132A | | | er: 10101403 een Tract #13 TB | Page Number: 7 of 18 Chavez County, NM | | |
|--|---|------|---|---|--|---------|
| Sample: 24 | 7495 - MW- | 3 | | | | |
| Laboratory: | Lubbock | | | | | |
| Analysis: | Chloride (IC |) | Analytical Method | | Prep Method | , |
| QC Batch: | 74818 | · | Date Analyzed: | 2010-10-26 | Analyzed By | |
| Prep Batch: | 64180 | | Sample Preparation | on: 2010-10-26 | Prepared By | : SS |
| | | | RL | | | |
| Parameter | | Flag | Result | Units | Dilution | RL |
| Chloride | | | 170 | mg/L | 50 | 2.50 |
| Sample: 24 | 7495 - MW- | 3 | | | | |
| Laboratory: | Lubbock | | • | | | |
| Analysis: | SO4 (IC) | | Analytical Method: | E 300.0 | Prep Method | : N/A |
| QC Batch: | 75227 | | Date Analyzed: | 2010-11-09 | Analyzed By | |
| Prep Batch: | 64528 | | Sample Preparation: | | Prepared By | |
| | | | RL | | • | |
| Parameter | | Flag | Result | Units | Dilution | RL |
| Sulfate | | | 84.5 | mg/L | 5 | 2.50 |
| Sample: 24 Laboratory: Analysis: QC Batch: Prep Batch: | 7495 - MW- Midland TDS 74622 63873 | 3 | Analytical Method: Date Analyzed: Sample Preparation: | SM 2540C 2010-10-21 2010-10-15 | Prep Method Analyzed By Prepared By: | AR |
| | | | m RL | | | |
| Parameter | | Flag | Result | Units | Dilution | RL |
| Total Dissolv | ed Solids | | 608 | mg/L | 2 | 10.0 |
| Sample: 24 | 7496 - MW- | 4 | | | | |
| Laboratory: | Midland | | | | | |
| Analysis: | BTEX | | Analytical Method: | S 8021B | Prep Method: S | 5030B |
| QC Batch: | 74557 | | · · | 2010-10-14 | • | \G |
| Prep Batch: | 63840 | | | 2010-10-14 | | \G |
| | | | $^{-}$ RL | | • | |
| Parameter | | Flag | Result | Units | Dilution | RL |
| Benzene | | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | | < 0.00100 | . mg/L | 1 | 0.00100 |

continued ...

Report Date: November 10, 2010 115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 8 of 15 Chavez County, NM

| sample 247496 continued |
|-------------------------|
|-------------------------|

| Parameter | Flag | RI Resul | | Units | Dil | ution | RL |
|----------------------------|------|-------------|------------------|----------|--------|----------|------------|
| Ethylbenzene | • | < 0.0010 | 0 | mg/L | | 1 | 0.00100 |
| Xylene | J | < 0.0010 | 0 | mg/L | | 1 | 0.00100 |
| | | | | | Spike | Percent | Recovery |
| Surrogate | Flag | Result | \mathbf{Units} | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.0933 | mg/L | 1 | 0.100 | 93 | 66.2 - 107 |
| 4-Bromofluorobenzene (4-BI | FB) | 0.0828 | mg/L | 11 | 0.100 | 83 | 39 - 138 |

Sample: 247496 - MW-4

| Laboratory: | Lubbock |
|-------------|----------|
| A malusia. | Chlorida |

| Analysis: | Chloride (IC) |
|-------------|---------------|
| QC Batch: | 74818 |
| Prep Batch: | 64180 |

Analytical Method: E 300.0 Date Analyzed: 2010-10-26 Sample Preparation: 2010-10-26

Prep Method: N/A
Analyzed By: PG
Prepared By: SS

| • | | m RL | | | |
|-----------|------|--------|-------|----------|-------------------|
| Parameter | Flag | Result | Units | Dilution | RL_{-} |
| Chloride | | 163 | mg/L | 10 | 2.50 |

Sample: 247496 - MW-4

| Laboratory: | Lubbock |
|-------------|----------|
| Analysis: | SO4 (IC) |
| QC Batch: | 74818 |
| Prep Batch: | 64180 |

Analytical Method: E 300.0 Date Analyzed: 2010-10-26 Sample Preparation: 2010-10-26

Prep Method: N/A Analyzed By: PG Prepared By: SS

| | | m RL | | | |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Sulfate | | 56.4 | mg/L | 10 | 2.50 |

Sample: 247496 - MW-4

| La | bor | atory: | Midland |
|----|-----|--------|---------|
| | | | CD C |

| | 2.2200000 |
|-------------|-----------|
| Analysis: | TDS |
| QC Batch: \ | 74622 |
| Prep Batch: | 63873 |
| | |

Analytical Method: SM 2540C Date Analyzed: 2010-10-21 Sample Preparation: 2010-10-15

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

| | | RL | | | |
|------------------------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Total Dissolved Solids | | 616 | mg/L | 2 | 10.0 |

Report Date: November 10, 2010 115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 9 of 15 Chavez County, NM

Method Blank (1)

QC Batch: 74557

QC Batch: Prep Batch: 63840

74557

Date Analyzed:

2010-10-14

QC Preparation: 2010-10-14

Analyzed By: AG

Prepared By: AG

MDL

| Parameter | Flag | Result | Units | RL |
|--------------|-----------------------|------------|-------------|-------|
| Benzene | | < 0.000400 | mg/L | 0.001 |
| Toluene | | < 0.000800 | mg/L | 0.001 |
| Ethylbenzene | | < 0.000400 | ${ m mg/L}$ | 0.001 |
| Xylene | | < 0.000400 | mg/L | 0.001 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | 1100 | 0.0893 | mg/L | 1 | 0.100 | 89 | 61.8 - 106 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0784 | mg/L | 1 | 0.100 | 78 | 48.5 - 129 |

Method Blank (1)

QC Batch: 74622

QC Batch: Prep Batch: 63873

74622

Date Analyzed:

2010-10-21 QC Preparation: 2010-10-15 Analyzed By: AR

Prepared By: AR

MDL

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

Method Blank (1)

QC Batch: 74818

QC Batch:

74818 Prep Batch: 64180 Date Analyzed:

2010-10-26 QC Preparation: 2010-10-26

Analyzed By: PG

Prepared By: PG

MDI

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

Method Blank (1)

QC Batch: 74818

QC Batch: Prep Batch: 64180

74818

Date Analyzed: QC Preparation: 2010-10-26

2010-10-26

Analyzed By: PG

Prepared By: PG

MDL

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

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 10 of 15 Chavez County, NM

Method Blank (1)

QC Batch: 75227

QC Batch:

75227

Date Analyzed: 2010-11-09

Analyzed By: PG

RL

2.5

Prep Batch: 64528

QC Preparation: 2010-11-09

Prepared By: PG

MDL

Parameter Flag Result Units Sulfate < 0.596 mg/L

Duplicates (2)

Duplicated Sample: 247533

QC Batch:

74622

Date Analyzed:

2010-10-21

Analyzed By: AR

Prepared By: AR

Prep Batch: 63873

QC Preparation: 2010-10-15

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

Laboratory Control Spike (LCS-1)

QC Batch:

74557

Date Analyzed:

2010-10-14

Analyzed By: AG

Prep Batch:

63840

QC Preparation: 2010-10-14

Prepared By: AG

| | LCS | | | Spike | Matrix | | Rec. |
|--------------|--------|-------|------|--------|------------|------|------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Benzene 4 | 0.0939 | mg/L | 1 | 0.100 | < 0.000400 | 94 | 80.7 - 117 |
| Toluene | 0.0947 | mg/L | 1 | 0.100 | < 0.000800 | 95 | 80.5 - 117 |
| Ethylbenzene | 0.0947 | mg/L | 1 | 0.100 | < 0.000400 | 95 | 79.2 - 117 |
| Xylene | 0.277 | mg/L | 1 | 0.300 | < 0.000400 | 92 | 74.1 - 120 |

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

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

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

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 11 of 15 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

74622 Prep Batch: 63873 Date Analyzed:

2010-10-21

QC Preparation: 2010-10-15 Analyzed By: AR

Prepared By: AR

LCS Spike Matrix Rec. Dil. Result Param Result Units Amount Rec. Limit Total Dissolved Solids < 9.75 98 90 - 110 979 1000 mg/L

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

74818

Date Analyzed:

2010-10-26

Analyzed By: PG Prepared By: PG

Prep Batch: 64180

QC Preparation: 2010-10-26

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

74818

Date Analyzed:

2010-10-26

Analyzed By: PG

Prep Batch:

64180

QC Preparation: 2010-10-26

Prepared By:

PG

| | LCS | | | Spike | Matrix | | Rec. |
|---------|--------|-------|------|--------|---------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | 24.5 | mg/L | 1 | 25.0 | < 0.596 | 98 | 90 - 110 |

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

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

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 12 of 15 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

75227 Prep Batch: 64528 Date Analyzed:

2010-11-09

QC Preparation: 2010-11-09

Analyzed By: PG

Prepared By: PG

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 247532

QC Batch:

74557 Prep Batch: 63840 Date Analyzed:

2010-10-14

QC Preparation: 2010-10-14

Analyzed By: AG

Prepared By: AG

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

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

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

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

¹MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

 $^{^2 \}mathrm{MS/MSD}$ RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

³MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

⁴ High surrogate recovery due to peak interference.

⁵High surrogate recovery due to peak interference.

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 13 of 15 Chavez County, NM

Matrix Spike (MS-1)

Prep Batch: 64180

Spiked Sample: 247502

QC Batch:

74818

Date Analyzed:

2010-10-26

QC Preparation:

2010-10-26

Analyzed By: Prepared By:

PGPG

MS

Units Dil. Matrix

Param Chloride

Result 244000

mg/L 10000 Result 16700

92

Rec. 91

Limit 90 - 110

Rec.

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

Param Chloride

MSD Result Units 248000 mg/L

Spike Dil. Amount 10000 250000

Matrix Result Rec.

16700

Spike

Amount

250000

Rec. Limit

RPD RPD

Limit 90 - 110 20

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

Matrix Spike (MS-1)

Spiked Sample: 247502

QC Batch:

74818

Date Analyzed:

2010-10-26

Analyzed By:

PG

Prep Batch:

64180

QC Preparation:

2010-10-26

10000

Spike

Prepared By: PG

Param

MS Result

Spike

Matrix

Rec.

Sulfate

244000

Dil. Units

Amount 250000

Spike

Amount

Result <5960

Matrix

Result

Limit Rec.

90 - 110

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

| Param | |
|---------|--|
| Sulfate | |

MSD Result 244000

Units Dil. 10000 mg/L

mg/L

Amount 250000 <5960

Matrix Result Rec. 98

Rec. Limit

90 - 110

RPD **RPD**

Limit 20

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

Matrix Spike (MS-1)

Spiked Sample: 247504

QC Batch:

75227

Date Analyzed:

2010-11-09

Analyzed By:

Prep Batch:

64528

 $continued \dots$

QC Preparation:

Prepared By:

PG

Rec.

Limit

90 - 110

Units

2010-11-09

Dil.

Rec.

394

Param Sulfate

493 mg/L 5 $\overline{125}$ < 2.98Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

MS

Result

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

115-6403132A

Work Order: 10101403 Celero/Rock Queen Tract #13 TB Page Number: 14 of 15 Chavez County, NM

| matrix | spikes | continued | • | • |
|--------|--------|-----------|---|---|
| | | | | |

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

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

Standard (CCV-1)

QC Batch: 74557

Date Analyzed: 2010-10-14

Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene | | mg/L | 0.100 | 0.0953 | 95 | 80 - 120 | 2010-10-14 |
| Toluene | | mg/L | 0.100 | 0.0980 | 98 | 80 - 120 | 2010-10-14 |
| Ethylbenzene | | mg/L | 0.100 | 0.0945 | 94 | 80 - 120 | 2010-10-14 |
| Xylene | | mg/L | 0.300 | 0.280 | 93 | 80 - 120 | 2010-10-14 |

Standard (CCV-2)

QC Batch: 74557

Date Analyzed: 2010-10-14

Analyzed By: AG

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

Standard (CCV-1)

QC Batch: 74818

Date Analyzed: 2010-10-26

Analyzed By: PG

| | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-------|-------|-------|-----------------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | .mg/L | 25.0 | 24.2 | 97 | 90 - 110 | 2010-10-26 |

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

| Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-20 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed | Report Date 115-6403132 | e: November 2A | 10, 2010 | | Work Order: 10 Nock Queen | | | umber: 15 of 15 vez County, NM |
|--|----------------------------|-------------------|---------------|----------|------------------------------|----------|----------|-----------------------------------|
| CCVs CCVs CCVs Percent Recovery Date | Standard (| CCV-1) | | | • | | | |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed | QC Batch: | 74818 | | Date An | alyzed: 2010-1 | 0-26 | Ana | lyzed By: PG |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.6 98 90 - 110 2010-10-20 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-2 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date CCVs CCVs <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> | | | | | | | | |
| Sulfate | 5 0 | Di | T T */ | | | | • | |
| Date Analyzed: 2010-10-26 Analyzed By: PG | | riag | | | | | | |
| QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-2 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc.< | | | | | | | | |
| CCVs CCVs Percent Recovery Date | Standard (| CCV-2) | | | | | | |
| Param Flag Units Conc. Conc. Conc. Recovery Recovery Limits Analyzed Analyzed Analyzed Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-20 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed By: PG Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed By: PG CVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed | QC Batch: | 74818 | | Date An | alyzed: 2010-1 | 0-26 | Ana | lyzed By: PG |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-26 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-05 Standard (CCV-2) | | | | CCVs | CCVs | CCVs | Percent | |
| Chloride mg/L 25.0 23.6 94 90 - 110 2010-10-20 Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-05 Standard (CCV-2) Standard (CCV-2) Percent Recovery Limits Analyzed | | | | | | | | Date |
| Standard (CCV-2) QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG | Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| QC Batch: 74818 Date Analyzed: 2010-10-26 Analyzed By: PG CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) CCV-2) CCVs CCVs <td< td=""><td>Chloride</td><td></td><td>mg/L</td><td>25.0</td><td>23.6</td><td>94</td><td>90 - 110</td><td>2010-10-26</td></td<> | Chloride | | mg/L | 25.0 | 23.6 | 94 | 90 - 110 | 2010-10-26 |
| CCVs | Standard (| CCV-2) | | | | | | |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | QC Batch: | 74818 | | Date An | alyzed: 2010-1 | 0-26 | Ana | lyzed By: PG |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-20 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | | | | CCVs | CCVs | CCVs | Percent | |
| Sulfate mg/L 25.0 24.4 98 90 - 110 2010-10-26 Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 Analyzed By: PG CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | | | | | • | | | ' Date |
| Standard (CCV-1) QC Batch: 75227 Date Analyzed: 2010-11-09 CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| QC Batch: 75227 Date Analyzed: 2010-11-09 CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate Standard (CCV-2) | Sulfate | • | mg/L | 25.0 | 24.4 | .98 | 90 - 110 | 2010-10-26 |
| QC Batch: 75227 Date Analyzed: 2010-11-09 CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate Standard (CCV-2) | Standard (| CCV-1) | | | | • | | |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | · | ŕ | • | Date Ana | alyzed: 2010-1 | 1-09 | Ana | yzed By: PG |
| Param Flag Units Conc. Conc. Recovery Limits Analyzed Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | | | | CCVs | CCVs | CCVs | Percent | |
| Sulfate mg/L 25.0 24.9 100 90 - 110 2010-11-09 Standard (CCV-2) | | | | | | Percent | Recovery | |
| Standard (CCV-2) | | Flag | | | | | | |
| | Sulfate | | mg/L | 25.0 | 24.9 | 100 | 90 - 110 | 2010-11-09 |
| | Standard (| CCV-2) | | | | | | |
| | | | | Date Ana | alvzed: 2010-1 | 1-09 | Anal | vzed Bv: PG |

CCVs

Found

Conc.

23.7

CCVs

Percent

Recovery

95

Percent

Recovery Limits

90 - 110

Date Analyzed 2010-11-09

CCVs

True

Conc.

25.0

Units

mg/L

Flag

Param

Sulfate

| | 6 | 101 |) : | # | - 1 | 10101403 | | | | : | | | | . : | | - | | | | . دره : | | | 1, -3,14 | tes <u>t</u> | | | |) | | |
|---|---|----------------------------|--------|------|------------|---|--|---|----------------------|-------------------|-----------|---------------|--------------|---------------|-------------|--|----------------|----------------|----------------|-----------|--------------------------|---------------------------|--------------|--------------|--------------|------------------|----------------|-----------------------------------|------------|---------|
| An | alys | sis F | łе | q | u | est of Cha | in of Cu | stody | F | le | C | or | d | , i | | | -, . | *- | | | NAL | | GE: | ·OU | <u> </u> | | OF. | · · · | <u>J</u> | |
| , | | | | | | 7 | | | | *** *** | | | | | 5° 1000 | <u> </u> | 1411 | | ,(0 | | | | | | hod | No.) |) · | | بيسني | |
| | | | l | | t | 1910 N. Big S Midland, Text (432) 682-4559 | Spring St. | | | | | | | | | 75 (EAL to C33) | Cr Pb Hg | d Vr Pd Hg Se | | | | , | | | | um () | (See | 200 | | |
| CLIENT NAM | AE: | | | | | SITE MANAGER | | ę | EHS | | | | RVATÍ HOD | VΕ | | 200 | As Ba C | B3 C8 | | | 30/624 | 70/625 | | | | | 170 | | | |
| PROJECT N | | | PH (| el- | ECT | NAME: / Rock Queen "1. | | | CONTAINERS | (NX) | T | | | | 8 | 6013 MOD. | | its Ag As | Sal | | 8240/82 | nt. Vol. 82 | 7,608 | 8 | 96 | (Air) | stos) | | | |
| LAB I.D. NUMBER | DATE | TIME | MATHIX | COMP | GRAB | Chare C. AM SAMPLE | EIDENTIFICATION | - | NUMBER OF | FILTERED (YAN) | TOT ST | SONIE | NONE | | (BTEX 8021B | 15 | RCRA Metals Ag | TCLP Metals Ag | TCLP Volatiles | בים מפונו | GC.MS Vol. 8240/8260/624 | GC:MS Semi. Vol. 8270/625 | PCB's 8080 | Post Board | Gamma Spoc. | Alpha Beta (Air) | PLM (Asbostos) | 1/1/1/ Y | | |
| 247 49 3 | 10/12 | 1540 | W | ŀ | X | Mm-1 | | | 4 | 2 | 3 | 7 | | | X | | | | | - | \$1 P. W. C | | |) | · l | | , | (X | \prod | |
| 494 | | 1520 | | | | 2 - سبر | and the second s | | 1 | | | | | | I | | | t nad | | | | | | | | | | | | |
| 495 | | 0.50 | | | | ды-3 | | ` | | | | | | | | a an ann | | | | | W . | | | | | | | | | |
| 496 | Ø | 1530 | A | | 7 | Hw H | 1,14.6 | | ₩. | V | 4 | 1 | 4 | | 6 | | | | | | | | | | b | | V | • | | |
| | | 20 1 1 1 2 2 2 3 4 4 | | ì | | · | and the state of t | | 12 Hz | | | 5 - | | | | | | | | | | | | | | | 14.50% | 1 | | |
| | | | | | | | | اد سده د د دسر <u>د د د د د د د د د د د د د د د د د د د</u> | 1 | | , | | | | | | | | | | | | ; i | | | | | | \coprod | |
| | | | | | | | e de la companya de l | | | | i | : : : = | | | | | | | | | 1,1 | | | | Ì | | | | | |
| ı | | | | | | and the same of | en egy van der verker van de | | | f Lymnic const | | ! | | | | | | | | | | | | | | | | | | |
| | | | | | | | or a magazini a distribution di anticolori | | and allowed the sign | | | : : : | | | | | | | | | | | | | | | | | | Ŀ |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ا ا | | | | |
| RELINGUISHED | ra raya n an r Kalimatan ya j | 11/1/ | 19 | > | | Date: 18/15/16 Time: 12/15 Date: 1/1/16 | RECEIVED BY (Signature) | | | | Tin | 18: | (a) (b) | <u>ء 'وا.</u> | 12_ | | | | | | Initia | 71/ | 10 | | | | те: | 707.1 | E] 100 | |
| RELINGUISHE | ۸ | | | · | | Time: 15'52 | RECEIVED BY: (Signature) | xottau | <u>.</u> | | T)n Da | 10: 18: | _9 | .50 | Ar | 2 | FED! | D DDE | ÚVEF | D | BL UP | is 'S | 12 | | | ОТН | ER: | 42. 53. | | |
| RECEIVING LAI ADDRESS: CITY: Aprillai CONTACT: | - | STATE | | | HON | E ZP: | RECEIVED BY: (Signature) | | TIA | ΔĒ. | Tin | 16: _ | | | | The second secon | | | IC. | | T PE | | ý. | | 81 22 | <u>~</u> 1 | RUS Auth | lts by: H Cna Orized 'es | rges l: | No: |
| 3,5 C | · | nta (| + | oies | - 3 - I | REMARKS: + Midla Laboratory retains Yellow | MA-BTEX | al copy to Tetr | a Te | | | ر rojec | J: r | age | reta | lins | Pink | Cor | <u>ς λ.</u> | Ac | | | <u>() ()</u> | | | old (| ; copy | | · بـــب | <u></u> |

31/30 28



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E

5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Lubbock, Texas 79424

800 • 378 • 1296 888 • 588 • 3443 915 • 585 • 3443

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944

El Paso, Texas 79922 Midland, Texas 79703 Ft. Worth, Texas 76132

432 • 689 • 6301 817 • 201 • 5260 FAX 432 • 689 • 6313

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:

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen #13 TB

Project Number:

115-6403132

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

| | | · | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 255897 | MW-1 | water | 2011-01-21 | 10:55 | 2011-01-21 |
| 255898 | . MW-2 | water | 2011-01-21 | 10:37 | 2011-01-21 |
| 255899 | MW-3 | water | 2011-01-21 | 11:05 | 2011-01-21 |
| 255900 | MW-4 | water | 2011-01-21 | 10:46 | 2011-01-21 |
| 255901 | MW-5 | water | 2011-01-21 | 10:25 | 2011-01-21 |
| 255902 | MW-6 | water | 2011-01-21 | 10:10 | 2011-01-21 |

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

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

Michael april

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

Standard Flags

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

Samples for project Celero/Rock Queen #13 TB were received by TraceAnalysis, Inc. on 2011-01-21 and assigned to work order 11012128. Samples for work order 11012128 were received intact without headspace and at a temperature of 12.5 C.

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

| | | Prep | \mathbf{Prep} | QC | Analysis |
|---------------|----------|-------|---------------------|-------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| BTEX | S 8021B | 66157 | 2011-01-24 at 11:00 | 77124 | 2011-01-24 at 13:17 |
| Chloride (IC) | E 300.0 | 66272 | 2011-01-30 at 10:00 | 77264 | 2011-01-30 at 12:27 |
| Chloride (IC) | E 300.0 | 66273 | 2011-01-30 at 10:00 | 77266 | 2011-01-30 at 17:14 |
| SO4 (IC) | E 300.0 | 66272 | 2011-01-30 at 10:00 | 77264 | 2011-01-30 at 12:27 |
| SO4 (IC) | E 300.0 | 66273 | 2011-01-30 at 10:00 | 77266 | 2011-01-30 at 17:14 |
| SO4 (IC) | E 300.0 | 66364 | 2011-02-01 at 10:33 | 77367 | 2011-02-01 at 12:49 |
| TDS | SM 2540C | 66128 | 2011-01-24 at 11:48 | 77161 | 2011-01-26 at 15:20 |

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11012128 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 4 of 21 Chavez County, NM

Analytical Report

Sample: 255897 - MW-1

Laboratory: Midland

Analysis: BTEX QC Batch: 77124 Prep Batch: 66157

Analytical Method: Date Analyzed:

S 8021B 2011-01-24 Sample Preparation: 2011-01-24 Prep Method: S 5030B Analyzed By: AGPrepared By: AG

RL

| | | 1044 | | | |
|--------------|------|-----------|-------|----------|---------|
| Parameter | Flag | 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 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|--------------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.119 | $_{ m mg/L}$ | 1 | 0.100 | 119 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.112 | mg/L | 1 | 0.100 | 112 | 51.1 - 128 |

Sample: 255897 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77264 Prep Batch: 66272

Analytical Method: Date Analyzed:

E 300.0 2011-01-30 Sample Preparation: 2011-01-30 Prep Method: N/A Analyzed By: PGPrepared By: PG

RL

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

Sample: 255897 - MW-1

Laboratory:

Lubbock

Analysis: SO4 (IC) QC Batch: 77264 Prep Batch: 66272

Analytical Method: Date Analyzed:

E 300.0 2011-01-30 Sample Preparation: 2011-01-30 Prep Method: N/A Analyzed By: PG

Prepared By:

RT.

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 5 of 21 Chavez County, NM

Sample: 255897 - MW-1

Laboratory: Analysis:

Midland TDS

QC Batch: 77161 Prep Batch: 66128 Analytical Method:

SM 2540C

Date Analyzed: 2011-01-26 Sample Preparation: 2011-01-24 Prep Method: N/A

Analyzed By: AR

Prepared By: AR

RL

| Parameter | Flag | Result | Units | Dilution | RL |
|------------------------|------|--------|-------|----------|------|
| Total Dissolved Solids | | 447 | mg/L | `1 | 10.0 |

Sample: 255898 - MW-2

Laboratory:

Midland

Analysis: **BTEX** QC Batch: 77124 Prep Batch: 66157

Analytical Method: Date Analyzed:

S 8021B

2011-01-24 2011-01-24 Prep Method: S 5030B

Analyzed By: AGPrepared By:

RL

Sample Preparation:

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

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.110 | mg/L | 1 | 0.100 | 110 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.103 | mg/L | 1 | 0.100 | 103 | 51.1 - 128 |

Sample: 255898 - MW-2

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77264

Prep Batch: 66272 Analytical Method: Date Analyzed:

E 300.0 2011-01-30 Sample Preparation: 2011-01-30 Prep Method: N/A Analyzed By:

PGPrepared By: PG

RL

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 6 of 21 Chavez County, NM

Sample: 255898 - MW-2

Laboratory:

Lubbock

Analysis: QC Batch: Prep Batch: SO4 (IC) 77367 66364

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-02-01 2011-02-01 Prep Method: N/A Analyzed By:

PG Prepared By: PG

RL

202

Parameter Sulfate

Flag

Flag

Result Units

Dilution

5

RL

2.50

Sample: 255898 - MW-2

Laboratory:

Midland

Analysis: QC Batch:

TDS 77161 Prep Batch: 66128 Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C 2011-01-26 2011-01-24

mg/L

Prep Method: N/A Analyzed By: AR

Prepared By:

RL

Parameter Total Dissolved Solids

Result 15200

Units mg/L Dilution

100

ARRL

10.0

Sample: 255899 - MW-3

Laboratory: Midland

Analysis: QC Batch:

Prep Batch:

BTEX

77124 66157

Analytical Method: Date Analyzed:

S 8021B

2011-01-24 2011-01-24

Prep Method:

S 5030B

Analyzed By: AG Prepared By: AG

RL

Sample Preparation:

| | | ILL | | | |
|--------------|------|-----------|-----------------|----------|---------|
| Parameter | Flag | Result | Units | Dilution | · RL |
| Benzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | < 0.00100 | $\mathrm{mg/L}$ | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | $\mathrm{mg/L}$ | 1 | 0.00100 |
| Xylene | | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.111 | mg/L | 1 | 0.100 | 111 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.104 | mg/L | 1 | 0.100 | 104 | 51.1 - 128 |

| Report Date 115-6403132 | : February 3, 2011 | | Work Order Celero/Rock Q | | Page Number: Chavez Coun | | |
|----------------------------|-------------------------------|------|---------------------------------------|--------------------------|------------------------------|--------------------------|--|
| Sample: 25 | 5899 - MW-3 | | | | · | | |
| Laboratory: | Lubbock | | | | | | |
| Analysis: | Chloride (IC) | | Analytical Method | | Prep Method: | | |
| QC Batch: | 77264 | | Date Analyzed: | 2011-01-30 | Analyzed By: | PG | |
| Prep Batch: | 66272 | | Sample Preparation | n: 2011-01-30 | Prepared By: | PG | |
| | | | RL | | | | |
| Parameter | Flag | S | Result | Units | Dilution | RL | |
| Chloride | | | 133 | mg/L | 5 | 2.50 | |
| | | | | | | | |
| Sample: 25 | 5899 - MW-3 | | • | | | | |
| Laboratory: | Lubbock | | | _ | | | |
| Analysis: | SO4 (IC) | | Analytical Method: | E 300.0 | Prep Method: | N/A | |
| QC Batch: | 77264 | | Date Analyzed: | 2011-01-30 | Analyzed By: | PG | |
| Prep Batch: | 66272 | | Sample Preparation: | 2011-01-30 | Prepared By: | PG | |
| D | Til | _ | RL Parado | , * T ** | Dil et | DI | |
| Parameter Sulfate | Flag | | Result 62.0 | Units mg/L | Dilution 5 | $\frac{\text{RL}}{2.50}$ | |
| Laboratory: | 5899 - MW-3 Midland | | Analytical Mathad | CM 9540C | Duan Mathada | NI / A | |
| Analysis: QC Batch: | TDS 77161 | | Analytical Method: | SM 2540C | Prep Method: | • | |
| Prep Batch: | 66128 | | Date Analyzed: Sample Preparation: | 2011-01-26 2011-01-24 | Analyzed By: Prepared By: | AR AR | |
| | | | RL | | , | | |
| Parameter | | Flag | Result | Units | Dilution | RL | |
| Total Dissolv | ed Solids | | 535 | mg/L | 1 | 10.0 | |
| Laboratory: | 5900 - MW-4 Midland | | | | | | |
| Analysis: | BTEX | | · · | 8 8021B | <u> </u> | 5030B | |
| QC Batch: | 77124 | | | 011-01-24 | Analyzed By: A | | |
| Prep Batch: | 66157 | | Sample Preparation: 2 | 011-01-24 | Prepared By: A | G | |
| _ | | | RL | | | | |
| Parameter | Fla | g | Result | Units | Dilution | RL | |
| Benzene | | | < 0.00100 | mg/L | | .00100 | |
| Toluene | | | < 0.00100 | mg/L | 1 0 | .00100 | |

continued ...

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 8 of 21 Chavez County, NM

| sample 255900 c | ontinued . | | |
|-----------------|------------|--|--|
|-----------------|------------|--|--|

| | | RI | | | | | |
|------|------|-----------|-------------|---|---|---|---|
| Flag | | Result | t | Units | Dil | ution | RL |
| | | < 0.00100 |) | mg/L | | 1 | 0.00100 |
| | | < 0.00100 |) | mg/L | | 1 | 0.00100 |
| | | | | | Spike | Percent | Recovery |
| | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| | | 0.113 | mg/L | 1 | 0.100 | 113 | 67.8 - 126 |
| 3FB) | | 0.104 | mg/L | 1 | 0.100 | 104 | 51.1 - 128 |
| | | Flag | Flag Result | <0.00100 <0.00100 Flag Result Units 0.113 mg/L | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |

Sample: 255900 - MW-4

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77266 Prep Batch: 66273

Analytical Method: E 300.0 Date Analyzed: Sample Preparation:

2011-01-30 2011-01-30 Prep Method: N/A Analyzed By: PG

PG

Prepared By:

RLParameter Result Flag Units Dilution RLChloride 210 mg/L 2.50

Sample: 255900 - MW-4

Laboratory:

Lubbock

Analysis: SO4 (IC) QC Batch: 77266 Prep Batch: 66273

Analytical Method: Date Analyzed:

, Sample Preparation:

E 300.0 2011-01-30 2011-01-30 Prep Method: N/A Analyzed By: PG Prepared By: PG

RLParameter Flag Result Units Dilution RLSulfate 50.8 mg/L 5 2.50

Sample: 255900 - MW-4

Laboratory:

Prep Batch:

Midland Analysis: TDS QC Batch: 77161

66128

Analytical Method: Date Analyzed:

SM 2540C 2011-01-26 Sample Preparation: 2011-01-24 Prep Method: N/A Analyzed By: ARPrepared By: AR

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 9 of 21 Chavez County, NM

Sample: 255901 - MW-5

Laboratory: Midland

BTEX Analysis: QC Batch: 77124 Prep Batch: 66157

Analytical Method: Date Analyzed: Sample Preparation:

RL

S 8021B 2011-01-24 2011-01-24

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

| Parameter | Flag | 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 | m mg/L | 1 | 0.00100 |
| | | | | | |

| | | | | | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.116 | mg/L | 1 | 0.100 | 116 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.107 | mg/L | 1 | 0.100 | 107 | 51.1 - 128 |

Sample: 255901 - MW-5

Laboratory: Lubbock

Chloride (IC)

Analysis: QC Batch: 77266 Prep Batch: 66273 Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-01-30 2011-01-30 Prep Method: N/A Analyzed By: PGPrepared By: PG

RI

| . · | T) | TCD | TT 4. | 70.11 | TO T |
|-----------|------|--------|-------|--------------|------|
| Parameter | Flag | Result | Units | Dilution | KL_ |
| Chloride | | 5690 | mg/L | 500 | 2.50 |

Sample: 255901 - MW-5

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77367 Prep Batch: 66364

Analytical Method: E 300.0 Date Analyzed: Sample Preparation: 2011-02-01

2011-02-01

Prep Method: N/A Analyzed By: PGPrepared By: PG

RL

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 10 of 21 Chavez County, NM

Sample: 255901 - MW-5

Laboratory:

Midland

Analysis: QC Batch: TDS 77161 Analytical Method: Date Analyzed:

SM 2540C 2011-01-26 Prep Method: Analyzed By:

AR

Prep Batch:

66128

Sample Preparation: 2011-01-24 Prepared By:

AR

RL

Parameter Total Dissolved Solids Result 7890

Flag

Units mg/L Dilution 10

RL10.0

N/A

Sample: 255902 - MW-6

Laboratory:

Midland

Analysis: QC Batch:

BTEX 77124 Prep Batch: 66157

Analytical Method: Date Analyzed:

S 8021B 2011-01-24 2011-01-24 Prep Method: S 5030B

Analyzed By: \mathbf{AG} Prepared By: AG

Sample Preparation: RL

| | | 1612 . | | | |
|--------------|------|-----------|--------|----------|---------|
| Parameter | Flag | Result | Units | Dilution | RL |
| Benzene | | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | < 0.00100 | m mg/L | 1 | 0.00100 |
| Ethylbenzene | | < 0.00100 | mg/L | 1. | 0.00100 |
| Xylene | | < 0.00100 | m mg/L | 1 | 0.00100 |

| , | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------|--------|-------|----------|--------|----------|------------|
| Surrogate | \mathbf{Flag} | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.112 | mg/L | 1 | 0.100 | 112 | 67.8 - 126 |
| 4-Bromofluorobenzene (4-BFB) | | 0.106 | mg/L | 1 | 0.100 | 106 | 51.1 - 128 |

Sample: 255902 - MW-6

Laboratory: Lubbock

Analysis: QC Batch:

Chloride

Chloride (IC)

77266 Prep Batch: 66273

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-01-30 2011-01-30 Prep Method: N/A

100

Analyzed By: Prepared By:

PGPG

2.50

RLResult

Units mg/L Dilution RL

Flag Parameter

2880

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 11 of 21 Chavez County, NM

Sample: 255902 - MW-6

Laboratory: Lubbock

Analysis: SO4 (IC) QC Batch: 77266 Prep Batch: 66273

Analytical Method: Date Analyzed:

E 300.0 2011-01-30 Sample Preparation: 2011-01-30 Prep Method: N/A Analyzed By: PGPrepared By: PG

RL

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

Sample: 255902 - MW-6

Laboratory: Midland

TDS Analysis: QC Batch: 77161 Prep Batch: 66128

Analytical Method: Date Analyzed:

SM 2540C 2011-01-26 Sample Preparation: 2011-01-24 Prep Method: N/A Analyzed By: AR

Prepared By: AR

RL

| Parameter | Flag | Result | Units | Dilution | RL |
|------------------------|------|--------|-------|----------|------|
| Total Dissolved Solids | | 4690 | mg/L | 5 | 10.0 |

Method Blank (1)

QC Batch: 77124

QC Batch: 77124 Prep Batch: 66157

Date Analyzed: 2011-01-24 QC Preparation: 2011-01-24 Analyzed By: AG Prepared By: AG

MDL

| Parameter | Flag | 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 |

| | | | | • | Spike | Percent | Recovery |
|------------------------------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 0.115 | mg/L | 1 | 0.100 | 115 | 70.2 - 118 |
| 4-Bromofluorobenzene (4-BFB) | | 0.111 | mg/L | 11 | 0.100 | 111 | 47.3 - 116 |

Method Blank (1)

QC Batch: 77161

QC Batch: 77161 Prep Batch: 66128 Date Analyzed: 2011-01-26 QC Preparation: 2011-01-24

Analyzed By: AR Prepared By: AR Report Date: February 3, 2011 115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB

Page Number: 12 of 21 Chavez County, NM

| Parameter | Fla | n or | MDL Result | Units | | RL |
|--------------------------------------|-----------------|-----------------------------------|--------------------------|---------------|------------------------------|---------------------------|
| Total Dissolved Solids | 1.10 | 28 | 10.0 | mg/L | | 10 |
| Method Blank (1) | QC Batch: 77264 | | | | | |
| QC Batch: 77264 Prep Batch: 66272 | | Date Analyzed: QC Preparation: | 2011-01-30 2011-01-30 | | Analyzed By: Prepared By: | PG PG |
| Parameter Chloride | Flag | Re | MDL esult 0142 | Units mg/L | | $\frac{\mathrm{RL}}{2.5}$ |
| Chioride | | | 0142 | mg/L | | 2.0 |
| Method Blank (1) | QC Batch: 77264 | | | | | |
| QC Batch: 77264 Prep Batch: 66272 | | Date Analyzed: QC Preparation: | 2011-01-30 2011-01-30 | | Analyzed By: Prepared By: | PG PG |
| Parameter | Flag | | $_{ m Sult}$ | Units | | RL |
| Sulfate | | <0. | 126 | mg/L | | 2.5 |
| Method Blank (1) | QC Batch: 77266 | | | | | |
| QC Batch: 77266 Prep Batch: 66273 | | Date Analyzed: QC Preparation: | 2011-01-30 2011-01-30 | | Analyzed By: Prepared By: | PG PG |
| Parameter | Flag | | ADL esult | Units | - | RL |
| Chloride | | <0.0 | 0142 | mg/L | | 2.5 |
| Method Blank (1) | QC Batch: 77266 | | | | | |
| QC Batch: 77266 Prep Batch: 66273 | | Date Analyzed: QC Preparation: | 2011-01-30 2011-01-30 | | Ánalyzed By: Prepared By: | PG PG |
| Parameter | Flag | Re | IDL sult | Units | | RL |
| Sulfate | | <0. | 126 | m mg/L | | 2.5 |

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 13 of 21 Chavez County, NM

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

MDL Result

Parameter Sulfate

Flag < 0.126

Duplicate

Result

81500

Units RL mg/L $\overline{2.5}$

RPD

 $\overline{0}$

Duplicates (1)

Duplicated Sample: 255905

QC Batch:

77161

Date Analyzed:

2011-01-26

Units

mg/L

Analyzed By: AR

Prep Batch:

QC Preparation: 2011-01-24

AR

Param

66128

Prepared By:

Total Dissolved Solids

Sample Result

81800

Dilution 100

RPD

Limit

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:

| 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.

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------|-------|------|--------|------------|------|------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | 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 |

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 14 of 21 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 66128

77161

Date Analyzed:

2011-01-26 QC Preparation: 2011-01-24

Analyzed By: AR Prepared By: AR

LCS Matrix Spike Rec. Param Result Result Limit Units Dil. Amount Rec. 90 - 110 Total Dissolved Solids 993 mg/L 1000 < 9.75 99

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

| | LCSD | | | Spike | Matrix | | ${ m Rec.}$ | | RPD |
|------------------------|--------|-------|------|--------|--------|------|-------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Total Dissolved Solids | 999 | mg/L | 1 | 1000 | < 9.75 | 100 | 90 - 110 | 1 | 10 |

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

Laboratory Control Spike (LCS-1)

QC Batch:

77264

Date Analyzed:

2011-01-30

Analyzed By: PG

Prep Batch: 66272

QC Preparation: 2011-01-30

Prepared By: PG

| | LCS | | | Spike | Matrix | | Rec. |
|----------|--------|-------|------|--------|----------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | 24.1 | mg/L | 1 | 25.0 | < 0.0142 | 96 | 90 - 110 |

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

| | · LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------|-------|------|--------|----------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 23.9 | mg/L | 1 | 25.0 | < 0.0142 | 96 | 90 - 110 | 1 | 20 |

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

Laboratory Control Spike (LCS-1)

QC Batch:

77264

Date Analyzed:

2011-01-30

Prepared By: PG

Analyzed By: PG

Prep Batch: 66272

QC Preparation: 2011-01-30

| | LCS | | | Spike | Matrix | | ${ m Rec.}$ |
|---------|--------|-------|------|--------|---------|------|-------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | 24.7 | mg/L | 1 | 25.0 | < 0.126 | 99 | 90 - 110 |

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

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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 15 of 21 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 66273

Chloride

77266

Date Analyzed:

2011-01-30

QC Preparation: 2011-01-30

Analyzed By: PG Prepared By: PG

LCS Param Result

Spike Units Dil. Amount mg/L 25.0

Matrix Result

< 0.0142

Rec. Rec. Limit 96 90 - 110

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

24.0

LCSD Spike Matrix **RPD** Rec. Param Result Units Dil. Amount Result Rec. Limit **RPD** Limit Chloride 24.0 mg/L 25.0 < 0.014296 90 - 110 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

| | LCS | | | Spike | Matrix | | Rec. |
|---------|--------|-------|------|--------|---------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | 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.

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | 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: Prep Batch:

77367 66364 Date Analyzed:

2011-02-01

Analyzed By: PG

QC Preparation: 2011-02-01 Prepared By: PG

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 24.4 mg/L 25.0< 0.12698 90 - 110

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

| | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|----------------|--------|---------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | 24.0 | mg/L | $\overline{1}$ | 25.0 | < 0.126 | 96 | 90 - 110 | 2 | 20 |

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 16 of 21 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 255921

QC Batch: Prep Batch: 66157

77124

Date Analyzed:

2011-01-24

QC Preparation: 2011-01-24

Analyzed By: AG Prepared By: AG

| • | | MS | | | Spike | Matrix | | ${ m Re}c.$ |
|--------------|---|--------|-------|------|--------|------------|------|------------------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | \mathbf{Limit} |
| Benzene | T | 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 |
| Xyléne | 4 | 0.145 | mg/L | 11 | 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.

| | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|-----|--------|-------|------|--------|------------|------|------------|-----|-------|
| Param | | Result | Units | Dil. | Amount | Result | Rec. | Limit | 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.

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

Matrix Spike (MS-1)

Spiked Sample: 255899

QC Batch:

77264

Prep Batch: 66272

Date Analyzed:

2011-01-30

QC Preparation: 2011-01-30

Analyzed By: PG

Prepared By: PG

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

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

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

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

⁴Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. ⁵Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

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

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

⁸Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

⁹Surrogate out due to peak interference.

¹⁰Surrogate out due to peak interference.

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 17 of 21 Chavez County, NM

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 275 | mg/L | 5 | 125 | 133 | 114 | 90 - 110 | 1 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 255899

QC Batch:

77264

Date Analyzed:

2011-01-30

Analyzed By: PG

Prep Batch: 66272

QC Preparation:

2011-01-30

Prepared By: PG

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

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

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

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

Matrix Spike (MS-1)

Spiked Sample: 256128

QC Batch:

77266

Date Analyzed:

2011-01-30

Analyzed By: PG

Prep Batch: 66273

QC Preparation:

2011-01-30

Prepared By: PG

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 90 - 110 121 $\overline{125}$ 2.2 95 mg/L 5

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

| | MSD | | | Spike | Matrix | | Rec. | ٠ | RPD |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | 120 | mg/L | 5 | 125 | 2.2 | 94 | 90 - 110 | 1 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 256128

QC Batch:.

77266

Date Analyzed:

2011-01-30

Analyzed By: PG

Prep Batch:

66273

QC Preparation:

2011-01-30

Prepared By: PG

continued ...

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 18 of 21 Chavez County, NM

matrix spikes continued ...

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|----------|--------------|------------------|------------------------|-----------------|-------------------|------|------------------|
| D | MS | T T *, | D.I. | Spike | Matrix | D | Rec. |
| Param | Result | \mathbf{Units} | Dil . | Amount | \mathbf{Result} | Rec. | \mathbf{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.

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | 122 | mg/L | 5 | 125 | < 0.630 | 98 | 90 - 110 | 1 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 256245

QC Batch:

77367

Date Analyzed:

2011-02-01

Analyzed By: PG

Prepared By: PG

Prep Batch: 66364

QC Preparation: 2011-02-01

| | MS | | | Spike | Matrix | | Rec. |
|---------|--------|--------|------|--------|--------|------|----------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | 13000 | m 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.

| | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit | 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

| | | | CCVs | CCVs | $-\mathrm{CCVs}$ | Percent | |
|--------------|------|-------|-----------------|-----------------|------------------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | 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

115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 19 of 21 Chavez County, NM

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene | | mg/L | 0.100 | 0.0858 | 86 | 80 - 120 | 2011-01-24 |
| Toluene | | mg/L | 0.100 | 0.0989 | 99 | 80 - 120 | 2011-01-24 |
| Ethylbenzene | | mg/L | 0.100 | 0.103 | 103 | 80 - 120 | 2011-01-24 |
| Xylene | | mg/L | 0.300 | 0.308 | 103 | 80 - 120 | 2011-01-24 |

Standard (CCV-1)

QC Batch: _77264

Date Analyzed: 2011-01-30

Analyzed By: PG

| | | | ${ m CCVs} \ { m True}$ | CCVs Found | ${ m CCVs} \ { m Percent}$ | Percent Recovery | Date |
|----------|------|-------|-------------------------|---------------|----------------------------|---------------------|------------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | mg/L | 25.0 | 24.4 | 98 | 90 - 110 | 2011-01-30 |

Standard (CCV-1)

QC Batch: 77264

Date Analyzed: 2011-01-30

Analyzed By: PG

| | | | CCVs | CCVs | CCVs | Percent | • |
|---------|------|-------|-------|-------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 24.8 | 99 | 90 - 110 | 2011-01-30 |

Standard (CCV-2)

QC Batch: 77264

Date Analyzed: 2011-01-30

Analyzed By: PG

| | | | CCVs | \mathbf{CCVs} | CCVs | Percent | |
|----------|------|-------|-------|-----------------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | mg/L | 25.0 | 24.1 | 96 | 90 - 110 | 2011-01-30 |

Standard (CCV-2)

QC Batch: 77264

Date Analyzed: 2011-01-30

Analyzed By: PG

| | | | CCVs | CCVs | CCVs | Percent | |
|---------|------|-------|-------|-----------------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 24.7 | 99 | 90 - 110 | 2011-01-30 |

Report Date: February 3, 2011 Work Order: 11012128 Page Number: 20 of 21 115-6403132 Celero/Rock Queen #13 TB Chavez County, NM Standard (CCV-1) Analyzed By: PG QC Batch: 77266 Date Analyzed: 2011-01-30 CCVs CCVsCCVsPercent Found Recovery True Percent Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/L 25.0 24.196 90 - 110 2011-01-30 Standard (CCV-1) QC Batch: 77266 Date Analyzed: 2011-01-30 Analyzed By: PG **CCVs CCVs CCVs** Percent True Recovery Found Percent Date Analyzed Param Flag Units Conc. Conc. Recovery Limits Sulfate 25.0 24.7 90 - 110 2011-01-30 mg/L99 Standard (CCV-2) Analyzed By: PG QC Batch: 77266 Date Analyzed: 2011-01-30 **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Flag Conc. Limits Param Units Conc. Recovery Analyzed Chloride mg/L 25.0 24.090 - 110 2011-01-30 Standard (CCV-2) Analyzed By: PG QC Batch: 77266 Date Analyzed: 2011-01-30

| _ | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|---------|------|-------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | ${f Units}$ | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 24.5 | 98 | 90 - 110 | 2011-01-30 |
| | | | | | | | |

Standard (CCV-1)

| QC Batch: | 77367 | | Date An | alyzed: 2011-0 | Analyzed By: PG | | |
|-----------|-------|-------|---------|----------------|-----------------|----------|------------|
| | | • | CCVs | CCVs | CCVs | Percent | |
| | | • | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 23.9 | 96 | 90 - 110 | 2011-02-01 |

Report Date: February 3, 2011 115-6403132

Work Order: 11012128 Celero/Rock Queen #13 TB Page Number: 21 of 21 Chavez County, NM

Standard (CCV-2)

QC Batch: 77367

Date Analyzed: 2011-02-01

Analyzed By: PG

| | | | CCVs | CCVs | CCVs | Percent | |
|---------|------|-------|-------|-------|----------|----------|------------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | mg/L | 25.0 | 24.1 | 96 | 90 - 110 | 2011-02-01 |

● &wo # 11012128 Analysis Request of Chain of Custody Record PAGE ANALYSIS REQUEST (Circle or Specify Method No.) TETRA TECH Ext. to C35 1910 N. Big Spring St. Ŧ Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 SITE MANAGER: CLIENT NAME: PRESERVATIVE NUMBER OF CONTAINERS Left Kindley METHOD PROJECT NO .: PROJECT NAME: Rock Queen Unit Tract 13 1B *ICLP Semi Vota* 115-6403132 LAB I.D. TIME COMP SAMPLE IDENTIFICATION DATE GRAB ENO3 NUMBER 岁 7611 1/21 255897 1035 898 1037 MW-Z 399 1105 MW-3 900 10 AL MW-4 901 1015 MW 5 902 d 1010 mw-C REUNQUISHED BY: (Signature) 124/1 SAMPLE SHIPPED BY: (Circle) RECEIVED Et (Signature) AELINGUISHED BY: (Signature) MAND DELIVERED UPS 16:00

CONTACT: SAMPLE CONDITION WHEN RECEIVED: REMARKS: Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech

7ime:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges

No

RECEIVED BY: (Signature)

REPROVISHED BY: (Signature)

RECEIVING LABORATORY:

Date:

SAMPLE LOG

Boring/Well:

TMW-1

Project Number:

N/A

Client:

COG

Site Location:

Pronghorn 1/2 Mile Leak Lea Co., NM T-18S R-32E Sec 11

Location:

Legals:

Total Depth

130

Date Installed:

03/16/11

Gauged:

3/23/11 - 133' Dry Well

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

Total Depth 130'

Groundwater was not encountered



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E

Lubbock, Texas 79424 El Paso, Texas 79922

800 • 378 • 1296 888 • 588 • 3443 806 • 794 • 1296

5002 Basin Street, Suite A1

Midland, Texas 79703

915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

817 - 201 - 5260

E-Mail: lab@traceanalysis.com

Certifications NELAP DoD LELAP NCTRCA DBE Oklahoma ISO 17025 Kansas

Analytical and Quality Control Report

Jeff Kindley Tetra Tech

1910 N. Big Spring Street

Report Date: May 2, 2011

Midland, TX, 79705

Work Order:

11041528

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen Tract #13 TB

115-6403132A Project Number:

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

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 263898 | MW-1 | water | 2011-04-13 | 11:00 | 2011-04-15 |
| 263899 | MW-2 | water | 2011-04-13 | 12:25 | 2011-04-15 |
| 263900 | MW-3 | water | 2011-04-13 | 11:20 | 2011-04-15 |
| 263901 | MW-4 | water | 2011-04-13 | 11:45 | 2011-04-15 |
| 263902 | MW-5 | water | 2011-04-13 | 12:45 | 2011-04-15 |
| 263903 | MW-6 | water | 2011-04-13 | 12:10 | 2011-04-15 |

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

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

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

Report Contents

| Case Narrative | ; |
|---|----|
| Analytical Report | • |
| Sample 263898 (MW-1) | (|
| Sample 263899 (MW-2) | |
| Sample 263900 (MW-3) | 8 |
| Sample 263901 (MW-4) | 9 |
| Sample 263902 (MW-5) | 1 |
| Sample 263903 (MW-6) | 1: |
| Method Blanks | 14 |
| QC Batch 80420 - Method Blank (1) | 14 |
| QC Batch 80664 - Method Blank (1) | 14 |
| | 14 |
| QC Batch 80664 - Method Blank (1) | - |
| QC Batch 80665 - Method Blank (1) | 14 |
| QC Batch 80665 - Method Blank (1) | 15 |
| QC Batch 80826 - Method Blank (1) | 1 |
| QC Batch 80826 - Duplicate (1) | 15 |
| Laboratory Control Spikes | 16 |
| QC Batch 80420 - LCS (1) | 16 |
| QC Batch 80664 - LCS (1) | 16 |
| QC Batch 80664 - LCS (1) | 17 |
| QC Batch 80665 - LCS (1) | 17 |
| QC Batch 80665 - LCS (1) | 17 |
| QC Batch 80826 - LCS (1) | 18 |
| QC Batch 80664 - MS (1) | 18 |
| QC Batch 80664 - MS (1) | 19 |
| QC Batch 80665 - MS (1) | 19 |
| QC Batch 80665 - MS (1) | 19 |
| C Date to the (1) | 10 |
| Calibration Standards | 21 |
| QC Batch 80420 - CCV (1) | 21 |
| QC Batch 80420 - CCV (2) | 21 |
| QC Batch 80664 - ICV (1) | 21 |
| QC Batch 80664 - ICV (1) | 21 |
| QC Batch 80664 - CCV (1) | 22 |
| QC Batch 80664 - CCV (1) | 22 |
| QC Batch 80665 - ICV (1) | 22 |
| QC Batch 80665 - ICV (1) | 22 |
| QC Batch 80665 - CCV (1) | 23 |
| QC Batch 80665 - CCV (1) | 23 |
| Appendix | 24 |
| Laboratory Certifications | |
| Standard Flags | |
| DIGHT TOTAL | 24 |

| Attachments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 24 | : |
|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|---|
|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|---|

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041528. Samples for work order 11041528 were received intact without headspace and at a temperature of 0.6 C.

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

| Test | Method | Prep Batch | Prep Date | QC Batch | Analysis Date |
|---------------|----------|---------------|---------------------|-------------|---------------------|
| BTEX | S 8021B | 68258 | 2011-04-18 at 08:51 | 80420 | 2011-04-18 at 23:21 |
| Chloride (IC) | E 300.0 | 68437 | 2011-04-25 at 09:23 | 80664 | 2011-04-26 at 15:31 |
| Chloride (IC) | E 300.0 | 68438 | 2011-04-25 at 11:24 | 80665 | 2011-04-26 at 15:32 |
| SO4 (IC) | E 300.0 | 68437 | 2011-04-25 at 09:23 | 80664 | 2011-04-26 at 15:31 |
| SO4 (IC) | E 300.0 | 68438 | 2011-04-25 at 11:24 | 80665 | 2011-04-26 at 15:32 |
| TDS | SM 2540C | 68432 | 2011-04-22 at 12:00 | 80826 | 2011-04-29 at 14:31 |

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11041528 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 6 of 24 Chavez County, NM

Analytical Report

Sample: 263898 - MW-1

Laboratory: Midland

Analysis: QC Batch: BTEX 80420

Analytical Method:

S 8021B

Prep Method:

S 5030B Analyzed By: ME

Prep Batch: 68258

Date Analyzed: Sample Preparation:

2011-04-18 2011-04-18

Prepared By: ME

| | | | RL | | | |
|--------------|------|------|-----------|--------------|----------|---------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | | 1 | < 0.00100 | $_{ m mg/L}$ | 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 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | ${f Amount}$ | Recovery | Limits |
| Trifluorotoluene (TFT) | | 1 | 0.0956 | mg/L | 1 | 0.100 | 96 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.100 | mg/L | 1 | 0.100 | 100 | 51.1 - 128 |

Sample: 263898 - MW-1

Laboratory: Midland

Analysis:

Chloride (IC)

QC Batch: Prep Batch:

80664

Analytical Method:

E 300.0

Prep Method: N/A Analyzed By:

68437

Date Analyzed: Sample Preparation: 2011-04-25

2011-04-26

ARPrepared By: AR

RI

| | | | 1017 | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 1 | 52.7 | mg/L | 5 | 2.50 |

Sample: 263898 - MW-1

Laboratory:

Midland

Analysis: QC Batch: SO4 (IC) 80664

Analytical Method:

E 300.0

Prep Method: N/A Analyzed By: AR

Prep Batch: 68437 Date Analyzed: Sample Preparation: 2011-04-25

2011-04-26

Prepared By:

RL

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

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 7 of 24 Chavez County, NM

Sample: 263898 - MW-1

Laboratory: Midland

Analysis: QC Batch: Prep Batch:

TDS 80826 68432

Analytical Method: Date Analyzed:

SM 2540C

2011-04-29 2011-04-25 Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Result Units Dilution RLParameter Flag Cert Total Dissolved Solids 481 mg/L 10.0

Sample Preparation:

Sample: 263899 - MW-2

Laboratory:

Prep Batch:

Midland

68258

Analysis: BTEX QC Batch: 80420

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B

2011-04-18 2011-04-18 Prep Method: S 5030B

Analyzed By: ME Prepared By: ME

RLParameter Flag Cert Result Units Dilution RLBenzene < 0.00100 mg/L 0.00100 Toluene < 0.00100 mg/L 1 0.00100 Ethylbenzene < 0.00100 mg/L1 0.001001 Xylene < 0.00100 mg/L 1 0.00100

| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | 1 | 0.0950 | mg/L | 1 | 0.100 | 95 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.100 | mg/L | 1 | 0.100 | 100 | 51.1 - 128 |

Sample: 263899 - MW-2

Laboratory:

Midland

Analysis: Chloride (IC) 80664 QC Batch: Prep Batch: 68437

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-04-26 2011-04-25

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

RLParameter Flag Cert Result Units Dilution RLChloride 9380 mg/L 1000 2.50 1

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 8 of 24 Chavez County, NM

Sample: 263899 - MW-2

Laboratory:

Midland

Analysis: QC Batch: SO4 (IC) 80664

Analytical Method: Date Analyzed:

E 300.0 2011-04-26 Prep Method: N/A Analyzed By:

Prep Batch: 68437 Sample Preparation:

2011-04-25

AR Prepared By: AR

RL

Parameter Sulfate

Flag Cert Result 193

Units mg/L

Dilution RL5 2.50

Sample: 263899 - MW-2

Laboratory:

Midland

Analysis:

TDS 80826 Analytical Method:

SM 2540C

Prep Method: N/A

QC Batch:

Date Analyzed:

2011-04-29

Analyzed By: ARAR

Prep Batch:

68432

Sample Preparation: 2011-04-25

Cert

Prepared By:

RL

Parameter Flag Total Dissolved Solids

Result 16900

Units Dilution 100 mg/L

RL10.0

Sample: 263900 - MW-3

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

BTEX 80420 68258

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-04-18 2011-04-18 Prep Method: S 5030B

Analyzed By: MEPrepared By: ME

RLFlag Parameter Cert Result Units Dilution RLBenzene < 0.00100 0.00100 mg/L Toluene < 0.00100 mg/L0.001001 Ethylbenzene < 0.00100 0.00100mg/L1 Xylene < 0.00100 0.00100mg/L

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 1 | 0.0944 | mg/L | 1 | 0.100 | 94 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.0969 | mg/L | 1 | 0.100 | 97 | 51.1 - 128 |

| Report Date 115-6403132 | e: May 2, 2011 A | | Celer | | er: 11041528 een Tract #13 T | В | Page Number: Chavez Count | |
|--|--|-----------------------|-------|--|---------------------------------|-------|--|-----------------|
| Sample: 26 | 3900 - MW-3 | | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (IC) 80664 68437 | | Dat | alytical Met te Analyzed uple Prepar | : 2011-04- | | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| _ | | | | | RL | | | |
| Parameter Chloride | | Flag | Ce | | Result | Units | Dilution | RL |
| Chioride | | | 1 | l | 148 | mg/L | 5. | 2.50 |
| Sample: 26 | 3900 - MW-3 | | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland SO4 (IC) 80664 68437 | | Date | rtical Metho Analyzed: le Preparat | 2011-04-26 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| Parameter | | Flag | Ce | unt | RL Result | Units | Dilution | RL |
| Sulfate | | 1145 | 1 | · · · · · · · · · · · · · · · · · · · | 84.1 | mg/L | 5 | 2.50 |
| Sample: 26 | 3900 - MW-3 | | | | | | | |
| Laboratory: | Midland | | | | | | | / / |
| Analysis: | TDS | | | tical Metho | | | Prep Method: | N/A |
| QC Batch: Prep Batch: | 80826 68432 | | | Analyzed: e Preparati | 2011-04-29 on: 2011-04-25 | | Analyzed By: Prepared By: | AR AR |
| Trep Datem. | 00402 | | · | e i reparan | 011. 2011-04-20 | | ricpared by. | 1110 |
| | | | | | RL | | | |
| Parameter Total Dissolv | - J O 1: 1 | | Flag | Cert | Result | Units | Dilution | RL |
| TOTAL DISSOIN | eu sonas | | | 1 | . 630 | mg/L | 2 | 10.0 |
| | | | | | | | | |
| | - | | | | | | | • |
| Sample: 265 | 3901 - MW-4 | | | | | | • | ٠ |
| Laboratory: | Midland | | | 134.1.1 | G 0001 D | | D M (1 1 C | rooad |

Analytical Method:

Sample Preparation:

Date Analyzed:

S 8021B

2011-04-18

2011-04-18

Analysis:

QC Batch:

Prep Batch:

 BTEX

80420

68258

continued ...

Prep Method: S 5030B

ME

ME

Analyzed By:

Prepared By:

Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 10 of 24 Chavez County, NM

sample 263901 continued ...

| | | | | RL | | | | |
|------------------------------|------|-----------------------|--------|---------|----------|--------|----------|------------|
| Parameter | Flag | Cert | | Result | Unit | s | Dilution | RL |
| | | | | RL | | | | |
| Parameter | Flag | Cert | | Result | Unit | s | 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/1 | | 1 | 0.00100 |
| Xylene | | 1 | < | 0.00100 | mg/ | L | 1 | 0.00100 |
| | | | | | | Spike | Percent | Recovery |
| Surrogate | Fla | g Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 1 | 0.0982 | mg/L | 1 | 0.100 | 98 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.101 | mg/L | 1 | 0.100 | 101 | 51.1 - 128 |

Sample: 263901 - MW-4

Laboratory: Midland

Chloride (IC) Analysis: QC Batch: 80664 Prep Batch: 68437

Analytical Method: E 300.0 Date Analyzed: 2011-04-26 Sample Preparation: 2011-04-25

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

| | | | RL | | • | |
|-----------|-----------------------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | | 1 | 174 | mg/L | 5 | 2.50 |

Sample: 263901 - MW-4

Laboratory: Midland Analysis:

QC Batch:

SO4 (IC)

80664 Prep Batch: 68437 Analytical Method: E 300.0 Date Analyzed: 2011-04-26 Sample Preparation: 2011-04-25

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

| | | | RL | | | |
|-----------|------|------|--------|-------------|----------|---------------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Sulfate | | 1 | 49.4 | ${ m mg/L}$ | 5 | 2.50 |

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 11 of 24 Chavez County, NM

Sample: 263901 - MW-4

Laboratory: Midland

Analysis: QC Batch:

TDS Analytical Method: 80826 Date Analyzed:

SM 2540C 2011-04-29 Prep Method: N/A Analyzed By: AR

RL

10.0

Prep Batch: 68432 Sample Preparation:

2011-04-25

Prepared By: AR

Flag

Parameter Total Dissolved Solids

RLCert Result 604

Units Dilution $\overline{2}$ mg/L

Sample: 263902 - MW-5

Laboratory:

Prep Batch:

Midland

68258

Analysis: BTEX QC Batch: 80420

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-04-18

2011-04-18

Prep Method: S 5030B

Analyzed By: ME ME Prepared By:

RLParameter Flag Cert Result Dilution RLUnits Benzene < 0.00100 mg/L 0.00100 1 Toluene < 0.00100 1 0.00100 mg/L 1 Ethylbenzene 1 0.00100 < 0.00100 mg/L1 Xylene < 0.00100 mg/L 1 0.00100

| Surrogate | Flag | Cert | Result | Units | Dilution | $egin{array}{c} 	ext{Spike} \ 	ext{Amount} \end{array}$ | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|---|---------------------|--------------------|
| Trifluorotoluene (TFT) | | 1 | 0.0956 | mg/L | 1 | 0.100 | 96 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.0975 | mg/L | 1 | 0.100 | 98 | 51.1 - 128 |

Sample: 263902 - MW-5

Laboratory:

Prep Batch:

Midland

68437

Analysis: QC Batch:

Chloride (IC) 80664

Analytical Method: Date Analyzed: Sample Preparation: E 300.0 2011-04-26 2011-04-25 Prep Method: N/A Analyzed By: ARPrepared By: AR

RLFlag Parameter Cert Result Units Dilution RLChloride 17700 mg/L 1000 2.50 Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 12 of 24 Chavez County, NM

Sample: 263902 - MW-5

Laboratory: Midland

Analysis: SO4 (IC) QC Batch: 80664 Prep Batch: 68437

Analytical Method: Date Analyzed:

 $\to 300.0$ 2011-04-26 Sample Preparation: 2011-04-25

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

| | | | RL |
|----------|------|------|---------|
| arameter | Flag | Cert | Result. |

Parameter Dilution Result Units RLSulfate 336 mg/L 100 2.50

Sample: 263902 - MW-5

Laboratory: Midland

Analysis: TDS QC Batch: 80826 Prep Batch: 68432 Analytical Method: Date Analyzed:

SM 2540C 2011-04-29 Sample Preparation: 2011-04-25 Prep Method: N/A

Analyzed By: AR Prepared By: AR

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

Sample: 263903 - MW-6

Laboratory: Midland

Analysis: **BTEX** QC Batch: 80420 Prep Batch: 68258

Analytical Method: S 8021B Date Analyzed: 2011-04-18 Sample Preparation: 2011-04-18

Prep Method: S 5030B Analyzed By: MEPrepared By: ME

RLParameter Flag Cert Result Units Dilution RL0.00100 Benzene < 0.00100 mg/L 1 Toluene mg/L 1 0.00100< 0.00100 1 Ethylbenzene 1 0.00100< 0.00100 mg/L Xylene 0.00100< 0.00100 mg/L

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|-------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 1 | 0.0914 | mg/L | 1 | 0.100 | 91 | 67.8 - 129 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.0955 | mg/L | 1 | 0.100 | 96 | 51.1 - 128 |

| Report Date: 115-64031324 | May 2, 2011 | | | Vork Order: 1 Rock Queen | | В | Page Number: 1 Chavez Coun | |
|---------------------------|----------------|------|----------|-----------------------------|---------------------------|--------------|-------------------------------|------|
| Sample: 263 | 3903 - MW-6 | | | | | | | |
| Laboratory: | Midland | | | | | | | |
| Analysis: | Chloride (IC) | | | tical Method | | 0.0 | Prep Method: | N/A |
| QC Batch: Prep Batch: | 80665 68438 | | | Analyzed: le Preparation | 2011-04-3 n: 2011-04-3 | _ | Analyzed By: Prepared By: | AR |
| Prep Daten: | 00400 | * | Samp | ie r reparatio | 1: 2011-04 | 20 | rrepared by: | AR |
| | | | | | RL | | | |
| Parameter | | Flag | Cert | Re | sult | Units | Dilution | RL |
| Chloride | | | 1 | 3 | 010 | mg/L | 100 | 2.50 |
| Sample: 263 | 3903 - MW-6 | | | | | | | |
| Laboratory: | Midland | | | | | | | |
| Analysis: | SO4 (IC) | | | cal Method: | E 300.0 | | Prep Method: | N/A |
| QC Batch: | 80665 | | Date An | | 2011-04-26 | | Analyzed By: | AR |
| Prep Batch: | 68438 | | Sample | Preparation: | 2011-04-25 | | Prepared By: | AR |
| | | | | | RL | | | |
| Parameter | | Flag | Cert | , Re | sult | Units | Dilution | RL |
| Sulfate | | | 1 | 8 | 35.2 | $_{ m mg/L}$ | 5 | 2.50 |
| | | | | | | | | |
| Sample: 263 | 3903 - MW-6 | | | | | | | |
| Laboratory: | Midland | | | | | | • | |
| Analysis: | TDS | | | al Method: | SM 2540C | | Prep Method: | N/A |
| QC Batch: | 80826 | | Date An | • | 2011-04-29 | | Analyzed By: | AR |
| Prep Batch: | 68432 | | Sample 1 | Preparation: | 2011-04-25 | | Prepared By: | AR |
| | | | | | RL | | • | |
| Parameter | | | Flag | Cert | Result | Units | Dilution | RL |
| Total Dissolve | ed Solids 🔍 | | - 100 | 1 | 4890 | mg/L | 5 | 10.0 |

Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 14 of 24 Chavez County, NM

Method Blanks

Method Blank (1)

QC Batch: 80420

QC Batch: Prep Batch: 68258

80420

Date Analyzed: QC Preparation: 2011-04-18

2011-04-18

Analyzed By: ME

Prepared By: ME

| | | | MDL | | |
|--------------|-----------------------|------|------------|--------|-------|
| Parameter | Flag | Cert | Result | Units | RL |
| Benzene | | 1 | < 0.000400 | mg/L | 0.001 |
| Toluene | | X. | < 0.000300 | mg/L | 0.001 |
| Ethylbenzene | | 1 | < 0.000300 | m mg/L | 0.001 |
| Xvlene | | 1 | < 0.000333 | mg/L | 0.001 |

| Common of the | T21 | O | D14 | T7 1/ | Dilati | Spike | Percent | Recovery |
|------------------------------|-----------------------|-----------------------|--------|--------------|----------|--------|----------|------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | 1 | 0.0862 | mg/L | 1 | 0.100 | 86 | 70.2 - 118 |
| 4-Bromofluorobenzene (4-BFB) | | 1 | 0.0861 | $_{ m mg/L}$ | 1 | 0.100 | 86 | 47.3 - 116 |

Method Blank (1)

QC Batch: 80664

QC Batch: Prep Batch:

80664 68437 Date Analyzed: QC Preparation:

2011-04-26 2011-04-25

Analyzed By: AR Prepared By: AR

MDL Parameter Flag Units RLCert Result 2.5 Chloride 0.484 mg/L

Method Blank (1)

QC Batch: 80664

QC Batch: Prep Batch: 68437

80664

Date Analyzed: QC Preparation:

2011-04-26 2011-04-25

Analyzed By: AR Prepared By: AR.

 MDL RLParameter Flag Cert Result Units Sulfate < 0.177 mg/L 2.5

| 115-6403132A | 011 | , Work Order Celero/Rock Quee | | ТВ | Р | Page Number: 15 of Chavez County, N | | | |
|---|-----------------|---|------------------------------|------------------------|---|---|----------|--|--|
| Method Blank (1) | QC Batch: 80665 | | | | | | | | |
| QC Batch: 80665 Prep Batch: 68438 | | Date Analyzed: QC Preparation: | 2011-04-26 2011-04-25 | | | Analyzed By: Prepared By: | AR AR | | |
| | • | | | MDL | | | | | |
| Parameter | Flag | Cert | | Result | U | nits | RL | | |
| Chloride | , | 1 | | 0.513 | m | g/L | 2.5 | | |
| Method Blank (1) | QC Batch: 80665 | | | | | | | | |
| QC Batch: 80665 | | Date Analyzed: | 2011-04-26 | | | Analyzed By: | AR | | |
| Prep Batch: 68438 | | QC Preparation: | 2011-04-25 | | | Prepared By: | AR | | |
| Parameter | Flag | Cert | | MDL Result | U | nits | RL | | |
| Sulfate | | 1 | | < 0.177 | | g/L | 2.5 | | |
| | | | , | | | | | | |
| QC Batch: 80826 | QC Batch: 80826 | Date Analyzed: QC Preparation: | 2011-04-29 2011-04-22 | | | Analyzed By: Prepared By: | AR AR | | |
| QC Batch: 80826 | QC Batch: 80826 | Date Analyzed: QC Preparation: | 2011-04-29 2011-04-22 | MDI | | Analyzed By: Prepared By: | AR AR | | |
| Prep Batch: 68432 | QC Batch: 80826 | QC Preparation: | 2011-04-22 | MDL Result | | Prepared By: | AR | | |
| QC Batch: 80826 | QC Batch: 80826 | | | MDL Result <9.75 | | | AR RL | | |
| QC Batch: 80826 Prep Batch: 68432 Parameter Total Dissolved Solids | | QC Preparation: | 2011-04-22 Cert | Result | | Prepared By: Units | AR RI | | |
| QC Batch: 80826 Prep Batch: 68432 | | QC Preparation: | 2011-04-22 Cert | Result | | Prepared By: Units | AR RL | | |
| QC Batch: 80826 Prep Batch: 68432 Parameter Total Dissolved Solids Duplicates (1) Dup | | QC Preparation: Flag O4 Date Analyzed: | 2011-04-22 Cert 2011-04-29 | Result | | Prepared By: Units mg/L Analyzed By: Prepared By: | AR RL 10 | | |

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 16 of 24 Chavez County, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

80420

Date Analyzed:

2011-04-18

Spike

Analyzed By: ME

Prepared By: ME

Prep Batch: 68258

QC Preparation: 2011-04-18

Rec. Matrix

| Param | F' | C | Result | Units | Dil. | ${f Amount}$ | Result | Rec. | Limit |
|--------------|----|---|--------|-------|------|--------------|------------|------|------------|
| Benzene | | 1 | 0.0962 | mg/L | 1 | 0.100 | < 0.000400 | 96 | 76.8 - 110 |
| Toluene | | 1 | 0.100 | mg/L | 1 | 0.100 | < 0.000300 | 100 | 81 - 108 |
| Ethylbenzene | | 1 | 0.0993 | mg/L | 1 | 0.100 | < 0.000300 | 99 | 78.8 - 118 |
| Xylene | | 1 | 0.297 | mg/L | 1 | 0.300 | < 0.000333 | 99 | 80.3 - 119 |
| | | | | | | | | | |

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|---|--------------|--------|-------|------|--------|------------|------|------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | | 1 | 0.0930 | mg/L | 1 | 0.100 | < 0.000400 | 93 | 76.8 - 110 | 3 | 20 |
| Toluene | | 1 | 0.0981 | mg/L | 1 | 0.100 | < 0.000300 | 98 | 81 - 108 | 2 | 20 |
| Ethylbenzene | | 1 | 0.0969 | mg/L | 1 | 0.100 | < 0.000300 | 97 | 78.8 - 118 | 2 | 20 |
| Xylene | | 1 | 0.292 | mg/L | 1 | 0.300 | < 0.000333 | 97 | 80.3 - 119 | 2 | 20 |

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

| | | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|---|--------|--------|-------|------|--------|------|------|------------|
| Surrogate | | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 1 | 0.0921 | 0.0869 | mg/L | 1 | 0.100 | 92 | 87 | 66.6 - 114 |
| 4-Bromofluorobenzene (4-BFB) | 1 | 0.0975 | 0.0930 | mg/L | 1 | 0.100 | 98 | 93 | 68.2 - 124 |

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68437

80664

Date Analyzed:

2011-04-26

QC Preparation: 2011-04-25

Analyzed By: AR

Prepared By: AR

LCS Spike Rec. Matrix Param С Result Units Dil. Result Rec. Limit Amount Chloride 25.2 mg/L 25.0 < 0.265101 90 - 110

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

Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 17 of 24 Chavez County, NM

| control spikes continued | | | | | | | | | | | |
|--------------------------|--------------|--------------|--------|-------|------|--------|---------|------|-------------|-----|------------------------|
| • | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| | | | | | | | | | | | |
| | | | LCSD | | | Spike | Matrix | | ${ m Rec.}$ | | RPD |
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 3 | 25.5 | mg/L | 1 | 25.0 | < 0.265 | 102 | 90 - 110 | 1 | 20 |

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

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-04-26

Analyzed By: AR Prepared By: AR

Prep Batch: 68437 QC Preparation:

2011-04-25

LCS Spike Matrix Rec. Param Dil. Result Rec. Limit Result Units Amount Sulfate 23.2 mg/L 25.0 < 0.17793 90 - 110

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|--------------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1 | 23.7 | mg/L | 1 | 25.0 | < 0.177 | 95 | 90 - 110 | 2 | 20 |

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

Laboratory Control Spike (LCS-1)

QC Batch:

80665

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68438

QC Preparation: 2011-04-25

Prepared By: AR

LCS Rec. Spike Matrix Param Result Units Dil. Amount Result Rec. Limit 25.0< 0.265100 90 - 110 Chloride 24.9mg/L

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

| • | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|------------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | \mathbf{F} | $^{\rm C}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | .1 | 24.8 | mg/L | 1 | 25.0 | < 0.265 | 99 | 90 - 110 | 0 | 20 |

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

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 18 of 24 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch:

80665

Date Analyzed:

2011-04-26

Analyzed By: AR.

Prep Batch:

68438

QC Preparation:

2011-04-25

Prepared By: AR

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

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|--------------|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | i | 23.1 | mg/L | 1 | 25.0 | < 0.177 | 92 | 90 - 110 | 0 | 20 |

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68432

80826

Date Analyzed:

QC Preparation:

2011-04-29 2011-04-22 Analyzed By: AR

Prepared By: AR

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

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|------------------------|--------------|---|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Total Dissolved Solids | | 1 | 954 | mg/L | 1 | 1000 | < 9.75 | 95 | 90 - 110 | 10 | 10 |

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

Matrix Spike (MS-1) Spiked Sample: 263900

QC Batch:

80664

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68437

2011-04-25

Prepared By: AR

QC Preparation:

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 275 90 - 110 Chloride 354 mg/L 10 139

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

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 19 of 24 Chavez County, NM

| | • | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | F | $^{\rm C}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1 | 352 | mg/L | 10 | 275 | 139 | 77 | 90 - 110 | 1 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 263900

QC Batch:

80664

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68437

QC Preparation:

2011-04-25

Prepared By: AR.

| | | | MS | | | Spike | Matrix | | Rec. |
|---------|--------------|----|--------|-------|------|--------|--------|------|----------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | | .1 | 292 | mg/L | 10 | 275 | 79.5 | 77 | 90 - 110 |

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

| + | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|------------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | \mathbf{Limit} |
| Sulfate | | 1 | 297 | mg/L | 10 | 275 | 79.5 | 79 | 90 - 110 | 2 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 263903

QC Batch:

80665

Date Analyzed:

2011-04-26

Analyzed By: AR.

Prep Batch: 68438

QC Preparation:

2011-04-25

Prepared By: AR

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|-------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | ${f Limit}$ |
| Chloride | | 1 | 5530 | mg/L | 100 | 2750 | 3010 | 92 | 90 - 110 |

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|--------------|--------|-------|------|--------|--------|------|------------------|-----|-------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | \mathbf{Limit} | RPD | Limit |
| Chloride | | 1 | 5580 | mg/L | 100 | 2750 | 3010 | 93 | 90 - 110 | 1 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 263903

QC Batch:

80665

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68438

QC Preparation:

2011-04-25

Prepared By: AR

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 20 of 24 Chavez County, NM

| | | | | MS | | | Spike | Matrix | | Rec. |
|---------|-----|---|---|--------|-------|------|--------|--------|------|----------|
| Param | · (| F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | | | 1 | 2680 | mg/L | 100 | 2750 | 136 | 92 | 90 - 110 |

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------------|---|--------|-------|------|--------|--------|------|------------------------|-----|------------------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | \mathbf{Limit} |
| Sulfate | | 1 | 2680 | mg/L | 100 | 2750 | 136 | 92 | 90 - 110 | 0 | 20 |

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

Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 21 of 24 Chavez County, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 80420

Date Analyzed: 2011-04-18

Analyzed By: ME

| Param | Flag | Cert | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|-----------------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene | |) | mg/L | 0.100 | 0.0933 | 93 | 80 - 120 | 2011-04-18 |
| Toluene | | 1 | mg/L | 0.100 | 0.0975 | 98 | 80 - 120 | 2011-04-18 |
| Ethylbenzene | • | 1 | mg/L | 0.100 | 0.0974 | 97 | 80 - 120 | 2011-04-18 |
| Xylene | | 1 | mg/L | 0.300 | 0.291 | 97 | 80 - 120 | 2011-04-18 |

Standard (CCV-2)

QC Batch: 80420

Date Analyzed: 2011-04-18

Analyzed By: ME

| • | | | | CCVs True | $\begin{array}{c} \text{CCVs} \\ \text{Found} \end{array}$ | CCVs Percent | Percent Recovery | Date |
|--------------|-----------------------|------|--------------|--------------|--|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Benzene | | 1 | mg/L | 0.100 | 0.0951 | 95 | 80 - 120 | 2011-04-18 |
| Toluene | | 1 | $_{ m mg/L}$ | 0.100 | 0.0993 | 99 | 80 - 120 | 2011-04-18 |
| Ethylbenzene | | . 1 | mg/L | 0.100 | 0.0998 | 100 | 80 - 120 | 2011-04-18 |
| Xylene | | 1 | $_{ m mg/L}$ | 0.300 | 0.298 | 99 | 80 - 120 | 2011-04-18 |

Standard (ICV-1)

QC Batch: 80664

Date Analyzed: 2011-04-26

Analyzed By: AR

| | | | | ICVs True | ICVs Found | ICVs Deposit | Percent | Doto |
|----------|------|------|-------|--------------|---------------|-----------------|----------|------------|
| D | T.I. | α | TT ** | | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 22.8 | 91 | 90 - 110 | 2011-04-26 |

Standard (ICV-1)

QC Batch: 80664

Date Analyzed: 2011-04-26

Analyzed By: AR

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 22 of 24 Chavez County, NM

| Param | Flag | Cert | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Sulfate | | 1 | ·mg/L | 25.0 | 22.8 | 91 | 90 - 110 | 2011-04-26 |

Standard (CCV-1)

QC Batch: 80664

Date Analyzed: 2011-04-26

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 80664

Date Analyzed: 2011-04-26

Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 80665

Date Analyzed: 2011-04-26

Analyzed By: AR

| | | | | ICVs True | ICVs Found | ICVs Percent | Percent Recovery | Date |
|----------|------|-----------------------|------------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | \mathbf{Units} | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 23.3 | 93 | 90 - 110 | 2011-04-26 |

Standard (ICV-1)

QC Batch: 80665

Date Analyzed: 2011-04-26

Analyzed By: AR

115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 23 of 24 Chavez County, NM

| | | | | ICVs | ICVs | ICVs | Percent | |
|---------|------|------|------------------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | \mathbf{Units} | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | mg/L | 25.0 | 23.3 | 93 | 90 - 110 | 2011-04-26 |

Standard (CCV-1)

QC Batch: 80665

Date Analyzed: 2011-04-26

Analyzed By: AR

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|-----------------------|------------------|------------|-------|----------|----------|------------|
| | • | | | ${f True}$ | Found | Percent | Recovery | Date |
| Param | Flag | Cert | \mathbf{Units} | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 23.1 | 92 | 90 - 110 | 2011-04-26 |

Standard (CCV-1)

QC Batch: 80665

Date Analyzed: 2011-04-26

Analyzed By: AR

| | | | | CCVs | CCVs | CCVs | Percent | |
|---------|------|-----------------------|-------|-------|-------|-----------------|----------|------------|
| | | | • | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | mg/L | 25.0 | 24.2 | 97 | 90 - 110 | 2011-04-26 |

Report Date: May 2, 2011 115-6403132A

Work Order: 11041528 Celero/Rock Queen Tract #13 TB Page Number: 24 of 24 Chavez County, NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Analysis Request of Chain of Custody Record PAGE: OF: **ANALYSIS REQUEST** (Circle or Specify Method No.) TETRA TECH (Ext. to C35) S S 1910 N. Big Spring St. ξ Нg Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 5 Major Anions/Cations, pH(TD9 TX1005 GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/625 PCB's 8080/608 Pest. 808/608 CLIENT NAME: SITE MANAGER: **PRESERVATIVE** NUMBER OF CONTAINERS Celero **METHOD** 8015 MOD. TCLP Semi Volatiles PROJECT NAME: ROCK Queen Unit Tract PROJECT NO.: RCRA Metals Ag Sullars 115-6403132 Gamma Spec. BTEX 8021B PAH 8270 LAB I.D. MATRIX COMP. Chloride DATE TIME NONE GRAB SAMPLE IDENTIFICATION HN03 NUMBER 핑 RC 7011 4/13 *3*63898 mw-100 899 1225 mwz 900 1120 mw-3 901 mw-4 902 mws 4/13 9031 X 1210 mw.b SAMPLED BY: (Priot & Initial)

SAMPLE SHIPPED BY: (Circle) Date: 4-13-17 Date: 4-15-Time: Date: RELINQUISAED BY: (Signature) Пте HAND DELIVERED RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature) TETRA TECH CONTACT PERSON: Results by: Time: RECEIVING LABORATORY: RECEIVED BY: (Signature) Jeff Kindley RUSH Charges ADDRESS: MIGIONO Authorized: ZIP: PHONE: DATE: TIME: No

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

SAMPLE CONDITION WHEN RECEIVED

REMARKS:



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E

Lubbock, Texas 79424 El Paso, Texas 79922

888 • 588 • 3443

915 • 585 • 3443

FAX 915 • 585 • 4944

5002 Basin Street, Suite AT

Widland, 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

NELAP DoD LELAP NCTRCA DBEKansas Oklahoma

Analytical and Quality Control Report (Corrected Report)

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

Report Date: August 24, 2011

Work Order:

Project Location:

Chavez Co., NM

Project Name:

Celero/Rock Queen Tract #13 TB

Project Number:

115-6403132A

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

| | | • | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 273451 | MW-1 | water | 2011-08-01 | 13:50 | 2011-08-02 |
| 273452 | MW-2 | water | 2011-08-01 | 13:30 | 2011-08-02 |
| 273453 | MW-3 | water | 2011-08-01 | 14:00 | 2011-08-02 |
| 273454 | MW-4 | water | 2011-08-01 | 13:40 | 2011-08-02 |
| 273455 | MW-5 | water | 2011-08-01 | 13:10 | 2011-08-02 |
| 273456 | MW-6 | water | 2011-08-01 | 13:20 | 2011-08-02 |

Report Corrections (Work Order 11080232)

• TDS was run out of hold time. Comments were added to the report. 8/23/11

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

Michael april

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

Report Contents

| Case Narrative | 5 |
|--|--|
| Analytical Report Sample 273451 (MW-1) Sample 273452 (MW-2) Sample 273453 (MW-3) Sample 273454 (MW-4) Sample 273455 (MW-5) Sample 273456 (MW-6) | 6 7 8 9 11 12 |
| Method Blanks QC Batch 83538 - Method Blank (1) QC Batch 83760 - Method Blank (1) QC Batch 83760 - Method Blank (1) QC Batch 83762 - Method Blank (1) QC Batch 83762 - Method Blank (1) QC Batch 83929 - Method Blank (1) QC Batch 83929 - Duplicate (1) | 14 14 14 14 15 15 |
| Laboratory Control Spikes QC Batch 83538 - LCS (1) QC Batch 83760 - LCS (1) QC Batch 83762 - LCS (1) QC Batch 83762 - LCS (1) QC Batch 83762 - LCS (1) QC Batch 83929 - LCS (1) QC Batch 83538 - MS (1) QC Batch 83760 - MS (1) QC Batch 83760 - MS (1) QC Batch 83762 - MS (1) QC Batch 83762 - MS (1) | 16 16 16 17 17 17 18 18 19 20 20 |
| QC Batch 83538 - CCV (2) QC Batch 83538 - CCV (3) QC Batch 83760 - ICV (1) QC Batch 83760 - ICV (1) QC Batch 83760 - CCV (1) QC Batch 83760 - CCV (1) QC Batch 83762 - ICV (1) QC Batch 83762 - ICV (1) QC Batch 83762 - ICV (1) QC Batch 83762 - CCV (1) | 21 21 21 21 22 22 22 22 23 23 |
| , | 24 24 |

| Standard Flags | | | | | | | | | | | | | | | | | | | | | | 2 |
|----------------|------|--|------|------|--|--|--|--|--|------|--|--|--|--|--|------|--|--|--|--|------|---|
| Attachments | | | | | | | | | | | | | | | | | | | | | | 2 |

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2011-08-02 and assigned to work order 11080232. Samples for work order 11080232 were received intact without headspace and at a temperature of 3.9 C

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

| | | Prep | Prep | \mathbf{QC} | Analysis |
|---------------|----------|-------|---------------------|---------------|---------------------|
| Test | Method | Batch | Date | Batch | Date |
| BTEX | S 8021B | 70958 | 2011-08-03 at 09:47 | 83538 | 2011-08-03 at 09:47 |
| Chloride (IC) | E 300.0 | 71091 | 2011-08-08 at 09:22 | 83760 | 2011-08-08 at 20:19 |
| Chloride (IC) | E 300.0 | 71092 | 2011-08-08 at 09:22 | 83762 | 2011-08-09 at 10:20 |
| SO4 (IC) | E 300.0 | 71091 | 2011-08-08 at 09:22 | 83760 | 2011-08-08 at 20:19 |
| SO4 (IC) | E 300.0 | 71092 | 2011-08-08 at 09:22 | 83762 | 2011-08-09 at 10:20 |
| TDS | SM 2540C | 71106 | 2011-08-09 at 11:05 | 83929 | 2011-08-16 at 14:16 |

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 11080232 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: August 24, 2011

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 6 of 24 Chavez Co., NM

Analytical Report

Sample: 273451 - MW-1

Laboratory:

Midland

Analysis: QC Batch:

Parameter

Benzene

BTEX 83538

Analytical Method: Date Analyzed:

Cert

1

S 8021B

2011-08-03 2011-08-03 Prep Method: Analyzed By:

ME Prepared By: ME

S 5030B

Prep Batch: 70958 Sample Preparation:

Flag

U

RL

Units Dilution Result RL< 0.00100 mg/L 1 0.00100< 0.00100 mg/L 1 0.00100

Toluene υ Ethylbenzene < 0.00100 mg/L1 0.00100 ·U Xylene < 0.00100 mg/L 1 0.00100 IJ

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.100 | mg/L | 1 | 0.100 | 100 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0943 | mg/L | 1 | 0.100 | 94 | 67.5 - 140.8 |

Sample: 273451 - MW-1

Laboratory:

Midland

71091

Analysis: QC Batch: Prep Batch: Chloride (IC) 83760

Date Analyzed:

Analytical Method:

E 300.0 2011-08-08 Prep Method:

N/A Analyzed By: AR

Sample Preparation: 2011-08-08

Prepared By: AR

RLParameter Cert Result Flag Units Dilution RLChloride 64.1 mg/L 2.50

Sample: 273451 - MW-1

Laboratory:

Midland

Analysis: SO4 (IC) QC Batch: 83760 Prep Batch: 71091

Analytical Method: Date Analyzed: Sample Preparation: E 300.0 2011-08-08 2011-08-08 Prep Method: N/A Analyzed By: AR Prepared By: AR

RLParameter Flag Cert Result Units Dilution RLSulfate 68.4 2.50 mg/L 5

Report Date: August 24, 2011

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 7 of 24 Chavez Co., NM

Sample: 273451 - MW-1

Laboratory: Analysis:

Midland

TDS QC Batch: 83929 Prep Batch: 71106 Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C

2011-08-16 2011-08-10

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RL

Parameter Flag Cert Result Units Dilution RLTotal Dissolved Solids 465 mg/L10.0 H 1

Sample: 273452 - MW-2

Laboratory:

Midland BTEX

Analysis: QC Batch: 83538 Prep Batch: 70958

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-08-03 2011-08-03 Prep Method: Analyzed By:

S 5030B ME Prepared By: ME

RLFlag Parameter Cert Result Units Dilution RLBenzene 0.00100 U < 0.00100 mg/L 1 Toluene 1 0.00100 U < 0.00100 mg/L Ethylbenzene < 0.00100 mg/L 1 0.00100 υ 1 Xylene < 0.00100 mg/L 0.00100 U

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.0988 | mg/L | 1 | 0.100 | 99 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0928 | mg/L | 1 | 0.100 | 93 | 67.5 - 140.8 |

Sample: 273452 - MW-2

Laboratory:

Midland

Analysis: Chloride (IC) QC Batch: 83760 Prep Batch: 71091

Analytical Method: Date Analyzed: Sample Preparation:

E 300.0 2011-08-08 2011-08-08 Prep Method: N/A Analyzed By: AR Prepared By: AR

RLFlag Parameter Cert Result Units Dilution RLChloride 8450 500 2.50mg/L

Report Date: August 24, 2011 Work Order: 11080232 Page Number: 8 of 24 115-6403132A Chavez Co., NM Celero/Rock Queen Tract #13 TB Sample: 273452 - MW-2 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 83760 Date Analyzed: 2011-08-08 Analyzed By: ARPrep Batch: 71091 Sample Preparation: 2011-08-08 Prepared By: AR RLParameter Cert Flag Result Dilution RLUnits Sulfate 148 mg/L 2.50 Sample: 273452 - MW-2 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 83929 Date Analyzed: 2011-08-16 Analyzed By: AR Prep Batch: 71106 Sample Preparation: 2011-08-10 Prepared By: AR RLParameter Flag Cert Result Units Dilution RL

Sample: 273453 - MW-3

Laboratory: Midland

Total Dissolved Solids

Analysis: BTEX
QC Batch: 83538
Prep Batch: 70958

Analytical Method: S 8021B
Date Analyzed: 2011-08-03
Sample Preparation: 2011-08-03

H

9760

mg/L

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

20

10.0

| | | | RL | | | |
|--------------|------|------|-----------|-------------|----------|---------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | υ | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | υ | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | υ | 1 | < 0.00100 | ${ m mg/L}$ | 1 | 0.00100 |
| Xylene | υ | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.105 | mg/L | 1 | 0.100 | 105 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0966 | mg/L | 1 | 0.100 | 97 | 67.5 - 140.8 |

| Report Date 115-6403132 | e: August 24, 2011 A | | Ce | Work Ore elero/Rock Q | ТВ | Page Number: 9 of 24 Chavez Co., NM | | | |
|--|---|------|------|---|-----------------------|--|--|-------------------|--|
| Sample: 27 | '3453 - MW-3 | | | | | | | | |
| Laboratory: Analysis: QC Batch: Prep Batch: | Midland Chloride (IC) 83760 71091 | | Da | alytical Metl te Analyzed: mple Prepara | 2011-08-0 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| Parameter | | Flag | C | ert | RL Result | Units | Dilution | RL | |
| Chloride | | | | 1 | 166 | mg/L | 5 | 2.50 | |
| Sample: 27 Laboratory: Analysis: QC Batch: Prep Batch: | 73453 - MW-3 Midland SO4 (IC) 83760 71091 | | Date | ytical Metho Analyzed: ole Preparatio | 2011-08-08 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| Parameter | | Flag | C | ert | RL Result | Units | Dilution | זמ | |
| Sulfate | | riag | | 1 | 61.5 | mg/L | 5 | $\frac{RL}{2.50}$ | |
| Sample: 27 Laboratory: Analysis: QC Batch: Prep Batch: | 3453 - MW-3 Midland TDS 83929 71106 | | Date | rtical Method Analyzed: le Preparatio | 2011-08-16 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR | |
| Parameter | | | Flag | Cert | RL ´ | TTta | Dileties | DI | |
| Total Dissolv | red Solids | | н | 1 | Result 812 | $\frac{\text{Units}}{\text{mg/L}}$ | Dilution 2 | $\frac{RL}{10.0}$ | |
| Sample: 27 Laboratory: Analysis: QC Batch: | 3454 - MW-4 Midland BTEX - 83538 | | | cal Method: nalyzed: | S 8021B 2011-08-03 | | Prep Method: S Analyzed By: M | 5030B E | |
| Prep Batch: | 70958 | | | Preparation: | | | Prepared By: M | | |
| | | | | / | | cont | inued | | |

Report Date: August 24, 2011

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 10 of 24 Chavez Co., NM

sample 273454 continued ...

| | | | RL | | | |
|--------------|-----------------|------|-----------|--------|----------|---------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| | | | RL | | | |
| Parameter | \mathbf{Flag} | Cert | Result | Units | Dilution | RL |
| Benzene | υ | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | υ | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Ethylbenzene | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Xylene | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|-----------------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | \mathbf{Cert} | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.103 | mg/L | 1 | 0.100 | 103 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0935 | mg/L | 1 | 0.100 | 94 | 67.5 - 140.8 |

Sample: 273454 - MW-4

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

83760

Chloride (IC)

71091

Analytical Method:

E 300.0 2011-08-08

Date Analyzed:

Sample Preparation: 2011-08-08

Units

mg/L

Prep Method: N/A Analyzed By: AR

Prepared By: AR

Parameter Cert Flag Result Chloride 224

RL

RLDilution 10 2.50

Sample: 273454 - MW-4

Laboratory: Midland

Analysis: QC Batch:

Prep Batch:

SO4 (IC)

83760 71091

Analytical Method:

E 300.0

Date Analyzed: Sample Preparation:

2011-08-08 2011-08-08 Prep Method: N/A

Analyzed By: AR

Prepared By:

AR

| | | | RL | | | |
|-----------|------|------|--------|-------|----------|------|
| Parameter | Flag | Cert | Result | Units | Dilution | RL |
| Sulfate | | 1 | 48.7 | mg/L | 5 | 2.50 |

Report Date: August 24, 2011 Work Order: 11080232 Page Number: 11 of 24 115-6403132A Celero/Rock Queen Tract #13 TB Chavez Co., NM Sample: 273454 - MW-4 Laboratory: Midland Analysis: Analytical Method: TDS SM 2540C Prep Method: N/A QC Batch: 83929 Date Analyzed: 2011-08-16 Analyzed By: AR Prep Batch: 71106 Sample Preparation: 2011-08-10 Prepared By: AR RL

Result

690

Cert

Flag

Sample: 273455 - MW-5

| Laboratory: . | Midland |
|---------------|---------|
| Analysis: | BTEX |

Total Dissolved Solids

Parameter

Analysis: BTEX QC Batch: 83538 Prep Batch: 70958 Analytical Method: S 8021B Date Analyzed: 2011-08-03 Sample Preparation: 2011-08-03

S 8021B Prep Method: S 5030B 2011-08-03 Analyzed By: ME 2011-08-03 Prepared By: ME

Units

mg/L

Dilution

Prep Method:

Analyzed By:

N/A

AR

RL

10.0

| | | | RL | | | • |
|--------------|------|------|-----------|--------|----------|------------|
| Parameter | Flag | Cert | Result | Units | Dilution | $_{ m RL}$ |
| Benzene | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | υ | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Ethylbenzene | υ | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Xylene | υ. | 1 | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.101 | mg/L | 1 | 0.100 | 101 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0950 | mg/L | 1 | 0.100 | 95 | 67.5 - 140.8 |

Sample: 273455 - MW-5

Laboratory: Midland

Parameter

Chloride

Analysis: Chloride (IC)
QC Batch: 83762
Prep Batch: 71092

Flag

Analytical Method: E 300.0
Date Analyzed: 2011-08-09
Sample Preparation: 2011-08-08

 RL
 RL

 Cert
 Result
 Units
 Dilution
 RL

 1
 2800
 mg/L
 100
 2.50

Report Date: August 24, 2011 Work Order: 11080232 Page Number: 12 of 24 115-6403132A Celero/Rock Queen Tract #13 TB Chavez Co., NM Sample: 273455 - MW-5 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: Prep Method: E 300.0 N/A QC Batch: 83762 Date Analyzed: 2011-08-09 Analyzed By: ARPrep Batch: 71092 Sample Preparation: 2011-08-08 Prepared By: ARRLParameter Flag Cert Result Units Dilution RL77.2 Sulfate mg/L 2.50 Sample: 273455 - MW-5 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 83929 Date Analyzed: 2011-08-16 Analyzed By: ARPrep Batch: 71106 Sample Preparation: 2011-08-10 Prepared By: AR RLFlag Parameter Cert Result Units Dilution RLTotal Dissolved Solids 4140 mg/L 10.0 н 1 5

Sample: 273456 - MW-6

Laboratory: Midland

Analysis: BTEX
QC Batch: 83538
Prep Batch: 70958

Analytical Method: S 8021B
Date Analyzed: 2011-08-03
Sample Preparation: 2011-08-03

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

RLFlag Parameter Cert Result Units Dilution RLBenzene mg/L 0.00100 < 0.00100 1 U ι Toluene < 0.00100 mg/L 1 0.00100 U 1 Ethylbenzene υ < 0.00100 mg/L 1 0.00100 1 Xylene 0.00100 < 0.00100 mg/L

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.106 | mg/L | 1 | 0.100 | 106 | 79.1 - 127.2 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.0984 | mg/L | 1 | 0.100 | 98 | 67.5 - 140.8 |

| Report Date: August 2 115-6403132A | Cel | Work Order: lero/Rock Queer | | ГВ | Page Number: 1 Chavez Co | | |
|---|------|--------------------------------|--|--------------------------------------|-----------------------------|--|-------------------|
| Sample: 273456 - M | W-6 | | | | | | |
| Laboratory: Midland Analysis: Chloride QC Batch: 83762 Prep Batch: 71092 | (IC) | Da | alytical Method te Analyzed: mple Preparatio | 2011-08-0 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| | | ~ | _ | RL | | | |
| Parameter Chloride | Flag | | | esult | Units | Dilution 100 | 2.50 |
| Chioride | | | 1 2 | 2130 | mg/L | 100 | 2.00 |
| Sample: 273456 - M | W-6 | | | | | | |
| Analysis: SO4 (IC) | ı | | ytical Method: | E 300.0 | • | Prep Method: | |
| QC Batch: 83762 Prep Batch: 71092 | | | Analyzed: ole Preparation: | 2011-08-09 2011-08-08 | | Analyzed By: Prepared By: | AR AR |
| T tep Daucii. 11002 | • | Dentify | de i reparamon. | | | Tiepared by. | Ait |
| Parameter | Flag | C | ert R | RL esult | Units | Dilution | RL |
| Sulfate | | | | 59.3 | mg/L | 5 | 2.50 |
| Sample: 273456 - MT Laboratory: Midland Analysis: TDS QC Batch: 83929 Prep Batch: 71106 | | Date | rtical Method: Analyzed: le Preparation: | SM 2540C 2011-08-16 2011-08-10 | | Prep Method: Analyzed By: Prepared By: | N/A AR AR |
| D | | 1711 | a | RL Daniel | TT 1/2 | TO 11 .11 | זת |
| Parameter Total Dissolved Solids | | Flag _H | Cert | Result 2930 | Units mg/L | Dilution 5 | $\frac{RL}{10.0}$ |
| | | | | | | | |
| | | • | | | | | |
| | | | | | - | • | |
| | | | | | | • | |
| | • | | | | • | | |
| | | | | | - | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Report Date: August 24, 2011

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 14 of 24 Chavez Co., NM

Method Blanks

Method Blank (1)

QC Batch: 83538

QC Batch:

83538

Date Analyzed:

2011-08-03

Analyzed By: ME

Prep Batch:

70958

QC Preparation:

2011-08-03

Prepared By: ME

| Parameter | | MDL | | | | | | | | |
|--------------|-----------------|------|------------|--------------|-------|--|--|--|--|--|
| | \mathbf{Flag} | Cert | Result | Units | RL | | | | | |
| Benzene | | 1 | < 0.000400 | $_{ m mg/L}$ | 0.001 | | | | | |
| Toluene | | 1 | < 0.000300 | m mg/L | 0.001 | | | | | |
| Ethylbenzene | | 1 | < 0.000300 | ${ m mg/L}$ | 0.001 | | | | | |
| Xylene | | 1 | < 0.000333 | ${ m mg/L}$ | 0.001 | | | | | |

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

Method Blank (1)

QC Batch: 83760

QC Batch:

Parameter

Chloride

83760

Date Analyzed:

2011-08-08

MDL

Result

5.69

Analyzed By: AR Prepared By:

Prep Batch: 71091

QC Preparation: 2011-08-08

Cert

Units RL mg/L 2.5

Method Blank (1)

QC Batch: 83760

QC Batch: 83760 Prep Batch: 71091

Date Analyzed: QC Preparation:

2011-08-08 2011-08-08

Analyzed By: AR Prepared By: AR

MDL

Flag

Parameter Flag CertResult Units RLSulfate < 0.177mg/L2.5

| Report Date: August 2 115-6403132A | 4, 2011 | Work Ord Celero/Rock Qu | er: 11080232 teen Tract #1 | Page Number: 15 of 24 Chavez Co., NM | | | |
|---------------------------------------|-----------------------|-----------------------------------|-------------------------------|---|----------|------------------------------|---------------|
| Method Blank (1) | QC Batch: 83762 | | | | | | |
| QC Batch: 83762 Prep Batch: 71092 | | Date Analyzed: QC Preparation: | 2011-08-09 2011-08-08 | | | Analyzed By: Prepared By: | AR AR |
| Parameter | Flag | Cert | | $rac{	ext{MDL}}{	ext{Result}}$ | 1 | Units | RL |
| Chloride | 1 105 | 1 | | 5.68 | | ng/L | 2.5 |
| Method Blank (1) | QC Batch: 83762 | | | | | | |
| QC Batch: 83762 Prep Batch: 71092 | | Date Analyzed: QC Preparation: | 2011-08-09 2011-08-08 | | | Analyzed By: Prepared By: | AR AR |
| Parameter | Flag | Cert | | MDL Result | | Units | RL |
| Sulfate | | 1 | | <0.177 | 1 | ng/L | 2.5 |
| | | | r. | | | | , |
| Method Blank (1) | QC Batch: 83929 | | | | | | |
| QC Batch: 83929 Prep Batch: 71106 | | Date Analyzed: QC Preparation: | 2011-08-16 2011-08-09 | | | Analyzed By: Prepared By: | AR AR |
| Parameter | | Flag | Cert | MDL Result | | Units | \mathbf{RL} |
| Total Dissolved Solids | | | 1 | <9.75 | | mg/L | 10 |
| Dunligatos (1) Dun | olicated Sample: 2734 | re. | | | | | |
| Duplicates (1) Dup QC Batch: 83929 | oncated Sample: 2754 | Date Analyzed: | 2011-08-16 | | | Analyzed By: | AR |
| Prep Batch: 71106 | | QC Preparation: | 2011-08-09 | | | Prepared By: | AR |
| Param | | Duplicate Result | Sample Result | Units | Dilution | RPD | RPD Limit |
| Total Dissolved Solids | 1 | 2720 | 2930 | mg/L | 5 | 7 | 10 |

.

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 16 of 24 Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-08-03

Analyzed By: ME

Prep Batch: 70958

QC Preparation:

2011-08-03

Prepared By: ME

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

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

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

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

| 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: Prep Batch: 71091

83760

Date Analyzed:

QC Preparation:

2011-08-08

2011-08-08

Analyzed By: AR

Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|---|--------|-------|------|--------|---------|------|--------------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1 | 27.3 | mg/L | 1 | 25.0 | < 0.265 | 109 | 90.9 - 113.9 |

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

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 17 of 24

Chavez Co., NM

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 | 27.2 | mg/L | 1 | 25.0 | < 0.265 | 109 | 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:

83760

Date Analyzed:

2011-08-08

Analyzed By: AR

Prep Batch: 71091

QC Preparation: 2011-08-08

Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|---------|---|---|--------|-------|------|--------|---------|------|------------|
| Param | F | C | Result | Units | Dil. | Amount | Result | 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.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|---|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1 | 25.7 | mg/L | 1 | 25.0 | < 0.177 | 103 | 99 - 113.6 | 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:

83762

Date Analyzed:

2011-08-09

Analyzed By: AR

Prep Batch: 71092

QC Preparation:

2011-08-08

Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|---|---|--------|-------|------|--------|---------|------|--------------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1 | 27.3 | mg/L | 1 | 25.0 | < 0.265 | 109 | 90.9 - 113.9 |

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|-------|---|--------|-------|------|--------|---------|------|--------------|-----|-------|
| Param | F | С | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1 | 27.2 | mg/L | 1 | 25.0 | < 0.265 | 109 | 90.9 - 113.9 | 0 | 20 |

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

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 18 of 24 Chavez Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 71092

83762

Date Analyzed:

2011-08-09

Analyzed By: AR

QC Preparation: 2011-08-08 Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|---------|---|---|--------|-------|------|--------|---------|------|------------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | | 1 | 25.9 | 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.

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|---|--------|-------|------|--------|---------|------|------------|-----|-------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1 | 26.0 | 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.

Laboratory Control Spike (LCS-1)

QC Batch:

83929 Prep Batch: 71106 Date Analyzed: QC Preparation:

2011-08-16 2011-08-09 Analyzed By: AR

Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|------------------------|---|--------------|--------|-------|------|--------|--------|------|--------------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Total Dissolved Solids | | 1 | 1040 | mg/L | 1 | 1000 | < 9.75 | 104 | 85.5 - 112.7 |

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|------------------------|--------------|--------------|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Total Dissolved Solids | | 1 | 1010 | mg/L | 1 | 1000 | < 9.75 | 101 | 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: 273037

QC Batch: Prep Batch:

70958

Date Analyzed:

2011-08-03

Analyzed By: ME

QC Preparation: 2011-08-03

Prepared By:

| | | | MS | | | Spike | Matrix | | Rec. |
|--------------|--------------|--------------|--------|-------|------|--------|-----------|------|--------------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | 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 ...

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 19 of 24 Chavez Co., NM

matrix spikes continued ...

| | | | | MS | | | Spike | Matrix | | Rec. |
|--------|---|---|---|--------|--------|------|--------|--------|------|--------------|
| Param | , | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Xylene | | | 1 | 1.29 | m 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.

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------------|--------------|--------|-------|------|--------|-----------|------|--------------|-----|-------|
| Param | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | 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.

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|--------|------|--------|------|------|--------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 0.511 | 0.468 | m 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: 274083

QC Batch:

83760

Date Analyzed:

2011-08-08

Analyzed By: AR

Prepared By: AR

Prep Batch: 71091 QC Preparation: 2011-08-08

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 2040 mg/L 1380 680 99 48.4 - 143.2

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|---|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1 | 2030 | mg/L | 50 | 1380 | 680 | 98 | 48.4 - 143.2 | 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: 274083

QC Batch: 83760 Prep Batch: 71091 Date Analyzed:

2011-08-08

Analyzed By: AR

QC Preparation:

2011-08-08

Prepared By: AR

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 20 of 24 Chavez Co., NM

| _ | _ | | MS | | | Spike | Matrix | | Rec. |
|---------|----|------|--------|--------|------|--------|-------------------|------|--------------|
| Param | F_ | · C_ | Result | Units | Dil. | Amount | \mathbf{Result} | Rec. | Limit |
| Sulfate | | 1 | 1800 | m mg/L | 50 | 1380 | 447 | 98 | 59.7 - 115.4 |

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|---|---|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1 | 1810 | mg/L | - 50 | 1380 | 447 | 99 | 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: 273456

QC Batch:

83762

Date Analyzed:

2011-08-09

Analyzed By: AR

Prep Batch: 71092

QC Preparation:

2011-08-08

Prepared By: AR

| | | | MS | | | Spike | Matrix | | Rec. |
|----------|--------------|---|--------|-------|------|--------|--------|------|--------------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 1 | 4660 | mg/L | 100 | 2750 | 2130 | 92 | 48.4 - 143.2 |

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

| | • | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|---|---|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 1 | 4420 | mg/L | 100 | 2750 | 2130 | 83 | 48.4 - 143.2 | 5 | 20 |

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

Matrix Spike (MS-1)

Spiked Sample: 273456

QC Batch:

Date Analyzed:

2011-08-09

Analyzed By: AR

Prep Batch: 71092

QC Preparation:

2011-08-08

Prepared By: AR

| | • | | MS | | | Spike | Matrix | | Rec. |
|---------|---|--------------|--------|--------|------|--------|--------|------|--------------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Sulfate | | 1 | 2670 | m mg/L | 100 | 2750 | 138 | 92 | 59.7 - 115.4 |

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------------|---|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Sulfate | | 1 | 2640 | mg/L | 100 | 2750 | 138 | 91 | 59.7 - 115.4 | 1 | 20 |

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

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 21 of 24 Chavez Co., NM

Calibration Standards

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 | $_{ m mg/L}$ | 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 | $_{ m mg/L}$ | 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: 83760

Date Analyzed: 2011-08-08

Analyzed By: AR

| | | | | ICVs | ICVs | _ICVs | Percent | _ |
|----------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 27.6 | 110 | 90 - 110 | 2011-08-08 |

Standard (ICV-1)

QC Batch: 83760

Date Analyzed: 2011-08-08

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 22 of 24

Chavez Co., NM

| | | | | ICVs | ICVs | ICVs | Percent | |
|---------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | mg/L | 25.0 | 25.9 | 104 | 90 - 110 | 2011-08-08 |

Standard (CCV-1)

QC Batch: 83760

Date Analyzed: 2011-08-08

Analyzed By: AR

| | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 27.0 | 108 | 90 - 110 | 2011-08-08 |

Standard (CCV-1)

QC Batch: 83760

Date Analyzed: 2011-08-08

Analyzed By: AR

| | | | | CCVs | CCVs | CCVs | Percent | |
|---------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | mg/L | 25.0 | 26.0 | 104 | 90 - 110 | 2011-08-08 |

Standard (ICV-1)

QC Batch: 83762

Date Analyzed: 2011-08-09

Analyzed By: AR

| | | | | ICVs | ICVs | ICVs | Percent | |
|----------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | mg/L | 25.0 | 27.0 | 108 | 90 - 110 | 2011-08-09 |

Standard (ICV-1)

QC Batch: 83762

Date Analyzed: 2011-08-09

115-6403132A

Work Order: 11080232

Celero/Rock Queen Tract #13 TB

Page Number: 23 of 24

Chavez Co., NM

| | | | | ICVs True | ICVs Found | ICVs Percent | Percent Recovery | Date |
|---------|------|------|-------------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | ${ m mg/L}$ | 25.0 | 26.0 | 104 | 90 - 110 | 2011-08-09 |

Standard (CCV-1)

QC Batch: 83762

Date Analyzed: 2011-08-09

Analyzed By: AR

| | | | | CCVs | CCVs | CCVs | Percent | |
|----------|------|------|--------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 1 | m mg/L | 25.0 | 27.0 | 108 | 90 - 110 | 2011-08-09 |

Standard (CCV-1)

QC Batch: 83762

Date Analyzed: 2011-08-09

| | | | | CCVs | CCVs | CCVs | Percent | |
|---------|------|------|-------|-------|-------|----------|----------|------------|
| | | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Sulfate | | 1 | mg/L | 25.0 | 25.9 | 104 | 90 - 110 | 2011-08-09 |

115-6403132A

Work Order: 11080232 Celero/Rock Queen Tract #13 TB Page Number: 24 of 24 Chavez Co., NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Xus #: 11080232 **Analysis Request of Chain of Custody Record** PAGE: OF: **ANALYSIS REQUEST** (Circle or Specify Method No.) TETRA TECH (Ext. to C35) 8 8 1910 N. Big Spring St. Нg 운 Midland, Texas 79705 2 (432) 682-4559 • Fax (432) 682-3946 ≽ 8 CLIENT NAME: SITE MANAGER: PRESERVATIVE **METHOD** rclP Metals Ag As PROJECT NO .: PROJECT NAME: Glero FILTERED (Y/N) 115-6403132 LAB I.D. MATRIX COMP DATE TIME SAMPLE IDENTIFICATION GRAB NUMBER 핑 2011 273451 1350 muni 452 1330 453 1400 MW-3 454 1340 455 1310 496 1370 RELINQUISHED BY: (Signature SAMPLED BY: (Print & Initial SAMPLE SHIPPED BY: (Circle) RELINQUISHED BY: (Signature) AIRBILL #: FEDEX MAND DELIVEBED Time: OTHER: RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature) Date: Results by: RECEIVING LABORATORY: RECEIVED BY: (Signature) Jeff Kindley

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

SAMPLE CONDITION WHEN RECEIVED:

RUSH Charges Authorized: Yes



200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

5015 Harris Parkway, Suite 110 Ft Worth, Texas 76132

Lubhock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

888 • 588 • 3443

915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications

NCTRCA DBE NELAP DoD LELAP Oklahoma Kansas

Analytical and Quality Control Report

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

Report Date: November 10, 2011

Work Order:

Project Location: Chavez Co., NM

Project Name:

Celero/Rock Queen Tract #13 TB

Project Number:

115-6403132A

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

| | | | Date | Time | Date |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 281154 | MW-3 | water | 2011-10-26 | 10:12 | 2011-10-31 |
| 281155 | MW-1 | water | 2011-10-26 | 11:15 | 2011-10-31 |
| 281156 | MW-4 | water | 2011-10-26 | 12:07 | 2011-10-31 |
| 281157 | MW-6 | water | 2011-10-26 | 13:15 | 2011-10-31 |
| 281158 | MW-5 | water | 2011-10-26 | 14:12 | 2011-10-31 |
| 281159 | MW-2 | water | 2011-10-26 | 15:24 | 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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

Report Contents

| Case Narrative | 4 |
|-----------------------------------|----|
| Analytical Report | 5 |
| | 5 |
| | 5 |
| Sample 281156 (MW-4) | 6 |
| Sample 281157 (MW-6) | 7 |
| Sample 281158 (MW-5) | 7 |
| Sample 281159 (MW-2) | 8 |
| Method Blanks | 10 |
| QC Batch 86000 - Method Blank (1) | 10 |
| | 10 |
| | 10 |
| Laboratory Control Spikes | 11 |
| | 11 |
| | 11 |
| | 12 |
| | 12 |
| | 13 |
| | 13 |
| Calibration Standards | 14 |
| QC Batch 86000 - CCV (1) | 14 |
| | 14 |
| | 14 |
| | 14 |
| | 15 |
| mana a casa basa isi | 15 |
| Appendix 1 | 16 |
| Laboratory Certifications | 16 |
| | 16 |
| | 16 |

Case Narrative

Samples for project Celero/Rock Queen Tract #13 TB were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103127. Samples for work order 11103127 were received intact without headspace and at a temperature of 3.9 C.

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

| | | Prep | Prep | QC | Analysis |
|---------------|---------|-------|---------------------|-------|---------------------|
| Test | | Batch | Date | Batch | Date |
| BTEX | S 8021B | 73017 | 2011-11-01 at 15:26 | 86000 | 2011-11-01 at 15:26 |
| Chloride (IC) | E 300.0 | 73106 | 2011-11-03 at 09:30 | 86199 | 2011-11-03 at 11:31 |
| Chloride (IC) | E 300.0 | 73107 | 2011-11-03 at 09:31 | 86200 | 2011-11-03 at 11:32 |

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 11103127 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.

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 5 of 16 Chavez Co., NM

Analytical Report

Sample: 281154 - MW-3

Laboratory: Lubbock

Analysis: QC Batch:

Prep Batch:

BTEX 86000 73017

Analytical Method:

S 8021B Date Analyzed:

2011-11-01 Sample Preparation: 2011-11-01 Prep Method: S 5030B Analyzed By:

Prepared By:

ZLM ZLM

| | m RL | | | | | | | | | | |
|--------------|------|--------------|------|-----------|--------|----------|---------|--|--|--|--|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL | | | | |
| Benzene | U | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 | | | | |
| Toluene | U | \mathbf{U} | 1 | < 0.00100 | m mg/L | 1 | 0.00100 | | | | |
| Ethylbenzene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 | | | | |
| Xylene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 | | | | |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|-----------------|-----------------------|--------|-------|----------|--------|----------|----------|
| Surrogate | \mathbf{Flag} | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.107 | mg/L | 1 | 0.100 | 107 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.107 | mg/L | 1 | 0.100 | 107 | 70 - 130 |

Sample: 281154 - MW-3

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

Chloride (IC) 86199 73106

Analytical Method: Date Analyzed:

E 300.0 2011-11-03 2011-11-03 Prep Method: N/A Analyzed By:

AR Prepared By: AR

RL

RLFlag Parameter Cert Result Units Dilution Chloride Qs 225 2.50 mg/L Qв 2

Sample Preparation:

Sample: 281155 - MW-1

Laboratory:

Lubbock

BTEX Analysis: QC Batch: 86000 Prep Batch: 73017

Analytical Method: Date Analyzed:

S 8021B 2011-11-01 Sample Preparation: 2011-11-01 Prep Method: S 5030B Analyzed By: ZLM Prepared By: ZLM

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 6 of 16 Chavez Co., NM

| Parameter | | Dlo. | C+ | RL Paralt | TT!. | Dilution | זמ |
|--------------|------------|------|------|--------------|-------|----------|---------|
| Farameter | | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | U | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | · ບ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Xylene | U | U · | 1 | < 0.00100 | mg/L | 1 | 0.00100 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.105 | mg/L | 1 | 0.100 | 105 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.106 | mg/L | 1 | 0.100 | 106 | 70 - 130 |

Sample: 281155 - MW-1

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 86199 Prep Batch: 73106

Analytical Method: Date Analyzed:

E 300.0 2011-11-03 Sample Preparation: 2011-11-03 Prep Method: N/A

Analyzed By: AR Prepared By:

| | | | | $_{ m RL}$ | | | |
|-----------|----|------|------|------------|-------|----------|------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | Qs | - Qs | 2 | 63.3 | mg/L | 5 | 2.50 |

Sample: 281156 - MW-4

Laboratory:

Lubbock BTEX

Analysis: QC Batch: 86000 Prep Batch: 73017

Analytical Method: Date Analyzed:

S 8021B 2011-11-01 Sample Preparation: 2011-11-01 Prep Method: S 5030B Analyzed By: ZLM Prepared By: ZLM

| • | | | | RL | | | |
|--------------|---|------|------|-----------|--------------|----------|---------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | U | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | U | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | υ | U | 1 | < 0.00100 | $_{ m mg/L}$ | 1 . | 0.00100 |
| Xylene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |

| | | • | | | • | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.104 | mg/L | 1 | 0.100 | 104 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | _ | | 0.104 | mg/L | 1 | 0.100 | 104 | 70 - 130 |

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 7 of 16 Chavez Co., NM

Sample: 281156 - MW-4

Laboratory:

Midland

Analysis:

Chloride (IC)

QC Batch: Prep Batch:

86199 73106 Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0

2011-11-03 2011-11-03 Prep Method: N/A AR

Analyzed By: Prepared By: AR

RL

| | | | | 1023 | | | |
|-----------|----|------|------|--------|-------|----------|------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | Qs | Qs | 2 | 188 | mg/L | 10 | 2.50 |

Sample: 281157 - MW-6

Laboratory:

Lubbock

Analysis: QC Batch: Prep Batch: 73017

BTEX 86000

Analytical Method: Date Analyzed:

S 8021B 2011-11-01 Prep Method: S 5030B

Analyzed By: ZLM

Prepared By:

ZLM

| | | | | RL | | | |
|--------------|---|------|------|-----------|--------|----------|---------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | U | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Toluene | U | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Ethylbenzene | ប | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Xylene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |

Sample Preparation: 2011-11-01

| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 0.103 | mg/L | 1 | 0.100 | 103 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.111 | mg/L | 1 | 0.100 | 111 | 70 - 130 |

Sample: 281157 - MW-6

Laboratory:

Midland

73107

Analysis: QC Batch: Prep Batch: Chloride (IC) 86200

Analytical Method: Date Analyzed:

E 300.0 2011-11-03 Sample Preparation: 2011-11-03 Prep Method: N/A Analyzed By: AR Prepared By:

RLParameter Flag Cert Result Units Dilution RLChloride 2550 500 2.50 Qs mg/L Qв 2

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 8 of 16 Chavez Co., NM

Sample: 281158 - MW-5

Laboratory: Analysis: QC Batch:

Prep Batch:

Lubbock BTEX

73017

86000

Analytical Method: Date Analyzed:

S 8021B 2011-11-01 Sample Preparation: 2011-11-01 Prep Method: S 5030B

Analyzed By: ZLMPrepared By: ZLM

| | | | RL |
|----------|------|------|--------|
| arameter | Flag | Cert | Result |

| | | | | 100 | | | |
|--------------|---|------|------|-----------|-------------|----------|---------|
| Parameter | | Flag | Cert | Result | Units | Dilution | m RL |
| Benzene | υ | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Toluene | U | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Ethylbenzene | U | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Xylene | U | U | 1 | < 0.00100 | ${ m mg/L}$ | 1 | 0.00100 |
| | | | | | | | |

| a . | *** | ~ . | . | | | Spike | Percent | Recovery |
|------------------------------|------|------|----------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.107 | mg/L | 1 | 0.100 | 107 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.106 | mg/L | 1 | 0.100 | 106 | 70 - 130 |

Sample: 281158 - MW-5

Laboratory:

Midland

Analysis: Chloride (IC) QC Batch: 86200

Analytical Method: Date Analyzed:

E 300.0 2011-11-03 Prep Method: N/A Analyzed By: AR Prepared By: AR

Prep Batch: 73107

Sample Preparation: 2011-11-03

| | | | | K.L | | | |
|-----------|----|------|------|--------|-------|----------|------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | Qs | Qs | 2 | 481 | mg/L | 50 | 2.50 |

Sample: 281159 - MW-2

Laboratory:

Lubbock

Analysis: BTEXQC Batch: 86000 Prep Batch: 73017

Analytical Method: Date Analyzed:

S 8021B 2011-11-01 Sample Preparation: 2011-11-01

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

| | | | | RL | | | |
|--------------|---|---------|------|-----------|--------------|----------|---------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Benzene | υ | U | 1 | < 0.00100 | $_{ m mg/L}$ | 1 | 0.00100 |
| Toluene | ប | U | 1 | < 0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | υ | U | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |
| Xylene | υ | ${f U}$ | 1 | < 0.00100 | m mg/L | 1 | 0.00100 |

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 9 of 16 Chavez Co., NM

| Surrogate | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT) | | | 0.108 | mg/L | 1 | 0.100 | 108 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.108 | mg/L | 1 | 0.100 | 108 | 70 - 130 |

Sample: 281159 - MW-2

Laboratory:

Midland

Analysis:

Chloride (IC)

QC Batch: 86200 Prep Batch: 73107 Analytical Method: Date Analyzed:

E 300.0

Date Analyzed: 2011-11-03 Sample Preparation: 2011-11-03 Prep Method: N/A

Analyzed By: AR
Prepared By: AR

RL

| | | | | 1013 | | | |
|-----------|----|------|------|--------|-------|----------|------|
| Parameter | | Flag | Cert | Result | Units | Dilution | RL |
| Chloride | Qs | Qs | 2 | 8870 | mg/L | 1000 | 2.50 |

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 10 of 16 Chavez Co., NM

Method Blanks

Method Blank (1)

QC Batch: 86000

QC Batch:

86000

Date Analyzed:

2011-11-01

Analyzed By: ZLM

Prep Batch: 73017

QC Preparation: 2011-11-01

Prepared By: ZLM

| | / | | MDL | | |
|--------------|------|------|------------|--------------|-------|
| Parameter | Flag | Cert | Result | Units | RL |
| Benzene | | 1 | < 0.000765 | mg/L | 0.001 |
| Toluene | | 1 | < 0.000719 | m mg/L | 0.001 |
| Ethylbenzene | | 1 | < 0.000860 | $_{ m mg/L}$ | 0.001 |
| Xylene | | 1 | < 0.000942 | mg/L | 0.001 |

| | | | | | | Spike | Percent | Recovery |
|------------------------------|------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Cert | Result | Units | Dilution | Amount | Recovery | Limits |
| Trifluorotoluene (TFT) | | | 0.106 | mg/L | 1 | 0.100 | 106 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | | | 0.105 | mg/L | 1 | 0.100 | 105 | 70 - 130 |

Method Blank (1)

QC Batch: 86199

QC Batch: 86199 Prep Batch: 73106

Parameter

Chloride

Date Analyzed:

2011-11-03

MDL

Result

0.704

Analyzed By: AR Prepared By: AR

QC Preparation: 2011-11-03

Cert

Units RLmg/L 2.5

Method Blank (1)

QC Batch: 86200

QC Batch: 86200 Prep Batch: 73107 Date Analyzed: QC Preparation:

Flag

2011-11-03 2011-11-03

Analyzed By: AR Prepared By: AR

MDL Cert Parameter Flag Result

RLUnits Chloride 0.667 mg/L 2.5

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 11 of 16 Chavez Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

86000

Date Analyzed:

Analyzed By: ZLM

Prep Batch:

73017

QC Preparation: 2011-11-01 Prepared By:

ZLM

| Param | F | C | LCS Result | Units | Dil. | $\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$ | Matrix Result | Rec. | Rec. Limit |
|--------------|---|---|---------------|--------------|------|--|------------------|------|---------------|
| Benzene | | 1 | 0.103 | mg/L | 1 | 0.100 | < 0.000765 | 103 | 70 - 130 |
| Toluene | | 1 | 0.0993 | mg/L | 1 | 0.100 | < 0.000719 | 99 | 70 - 130 |
| Ethylbenzene | | 1 | 0.0973 | mg/L | 1 | 0.100 | < 0.000860 | 97 | 70 - 130 |
| Xylene | | 1 | 0.289 | $_{ m mg/L}$ | 1 | 0.300 | < 0.000942 | 96 | 70 - 130 |

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------------|---|--------|-------------|------|--------|------------|------|----------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | | 1 | 0.107 | mg/L | 1 | 0.100 | < 0.000765 | 107 | 70 - 130 | 4 | 20 |
| Toluene | | 1 | 0.102 | mg/L | 1 | 0.100 | < 0.000719 | 102 | 70 - 130 | 3 | 20 |
| Ethylbenzene | • | 1 | 0.0998 | ${ m mg/L}$ | 1 | 0.100 | < 0.000860 | 100 | 70 - 130 | 2 | 20 |
| Xylene | | 1 | 0.294 | mg/L | 1 | 0.300 | < 0.000942 | 98 | 70 - 130 | 2 | 20 |

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

| | LCS | LCSD | | | Spike | LCS | LCSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|------------------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | \mathbf{Limit} |
| Trifluorotoluene (TFT) | 0.100 | 0.0953 | mg/L | 1 | 0.100 | 100 | 95 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 0.0975 | 0.0923 | mg/L | 1 | 0.100 | 98 | 92 | 70 - 130 |

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-11-03

Analyzed By: AR

Rec.

Limit

90 - 110

Prep Batch:

73106

QC Preparation:

2011-11-03

Prepared By:

LCS Spike Matrix Param \mathbf{C} Result Units Dil. Amount Result Rec. Chloride 23.0 92 mg/L < 0.265

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

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 12 of 16

Chavez Co., NM

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 | | 3 | 23.2 | mg/L | 1 | 25.0 | < 0.265 | 93 | 90 - 110 | 1 | 20 |

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

Laboratory Control Spike (LCS-1)

QC Batch:

86200

Date Analyzed:

Analyzed By: AR

Prep Batch: 73107

QC Preparation:

2011-11-03

Prepared By: AR

| | | | LCS | | | Spike | Matrix | | Rec. |
|----------|--------------|---|--------|-------|------|--------|---------|------|----------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | | 2 | 22.9 | mg/L | 1 | 25.0 | < 0.265 | 92 | 90 - 110 |

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

| | | | LCSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|--------------|---|--------|-------|------|--------|---------|------|----------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | | 2 | 23.4 | mg/L | 1 | 25.0 | < 0.265 | 94 | 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: 281152

QC Batch: Prep Batch: 73017

86000

Date Analyzed: QC Preparation:

2011-11-01 2011-11-01

Analyzed By: ZLM Prepared By: ZLM

| | | | MS | | • | Spike | Matrix | | Rec. |
|--------------|---|--------------|--------|-------|------|--------|------------|------|----------|
| Param | F | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Benzene | | 1 | 0.102 | mg/L | 1 | 0.100 | < 0.000765 | 102 | 70 - 130 |
| Toluene | | 1 - | 0.0935 | mg/L | 1 | 0.100 | < 0.000719 | 94 | 70 - 130 |
| Ethylbenzene | | 1 | 0.0881 | mg/L | 1 | 0.100 | < 0.000860 | 88 | 70 - 130 |
| Xylene | | 1 | 0.260 | mg/L | 1 | 0.300 | < 0.000942 | 87 | 70 - 130 |

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

| | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|---------|--------------|---|--------|-------|------|--------|------------|------|----------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Benzene | | 1 | 0.0891 | mg/L | 1 | 0.100 | < 0.000765 | 89 | 70 - 130 | 14 | 20 |
| Toluene | | 1 | 0.0813 | mg/L | 1 | 0.100 | < 0.000719 | 81 | 70 - 130 | 14 | 20 |

continued ...

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 13 of 16

Chavez Co., NM

matrix spikes continued . . .

| - | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|--------------|--------------|---|--------|-------|------|--------|------------|------|----------|-----|-------|
| Param | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Ethylbenzene | | 1 | 0.0776 | mg/L | 1 | 0.100 | < 0.000860 | 78 | 70 - 130 | 13 | 20 |
| Xylene | | 1 | 0.228 | mg/L | 1 | 0.300 | < 0.000942 | 76 | 70 - 130 | 13 | 20 |

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

| | MS | MSD | | | Spike | MS | MSD | Rec. |
|------------------------------|--------|--------|-------|------|--------|------|------|----------|
| Surrogate | Result | Result | Units | Dil. | Amount | Rec. | Rec. | Limit |
| Trifluorotoluene (TFT) | 0.102 | 0.101 | mg/L | 1 | 0.1 | 102 | 101 | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 0.107 | 0.106 | mg/L | 1 | 0.1 | 107 | 106 | 70 - 130 |

Matrix Spike (MS-1)

Spiked Sample: 281154

QC Batch:

86199

Date Analyzed:

2011-11-03

Analyzed By: AR

Prep Batch: 73106

QC Preparation:

2011-11-03

Prepared By: AR

| | | , | | MS | | | Spike | Matrix | | Rec. |
|----------|----|----|-----|--------|-------|------|--------|--------|------|----------|
| Param | | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | Qs | Qs | . 2 | 448 | mg/L | 10 | 275 | 228 | 80 | 90 - 110 |

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

| | | | | MSD | | | Spike | Matrix | | Rec. | | RPD |
|----------|----|--------------|---|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | C | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | Qs | Qs | 2 | 443 | mg/L | 10 | 275 | 228 | 78 | 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: 281157

QC Batch:

86200

Date Analyzed:

2011-11-03

Analyzed By: AR

Prep Batch: 73107

QC Preparation:

2011-11-03

Prepared By: AR

| | | | | MS | | | Spike | Matrix | | Rec. |
|----------|----|----|---|--------|-------|------|--------|--------|------|----------|
| Param | | F | C | Result | Units | Dil. | Amount | Result | Rec. | Limit |
| Chloride | Qs | Qs | 2 | 3870 | mg/L | 50 | 1380 | 2750 | 81 | 90 - 110 |

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

| | | | | ·MSD· | • | | Spike | Matrix | | Rec. | | ŔPD |
|----------|----|--------------|--------------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param | | \mathbf{F} | \mathbf{C} | Result | Units | Dil. | Amount | Result | Rec. | Limit | RPD | Limit |
| Chloride | Qø | Qs | 2 | 3880 | mg/L | 50 | 1380 | 2750 | 82 | 90 - 110 | 0 | 20 |

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

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 14 of 16 Chavez Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 86000

Date Analyzed: 2011-11-01

Analyzed By: ZLM

| | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|--------------|------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Benzene | | 1 | mg/L | 0.100 | 0.106 | 106 | 80 - 120 | 2011-11-01 |
| Toluene | | 1 | mg/L | 0.100 | 0.102 | 102 | 80 - 120 | 2011-11-01 |
| Ethylbenzene | | 1 | mg/L | 0.100 | 0.0994 | 99 | 80 - 120 | 2011-11-01 |
| Xylene | | 1 | mg/L | 0.300 | 0.297 | 99 | 80 - 120 | 2011-11-01 |

Standard (CCV-2)

QC Batch: 86000

Date Analyzed: 2011-11-01

Analyzed By: ZLM

| Param | Flag | Cert | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|------|--------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene | | 1 | mg/L | 0.100 | 0.109 | 109 | 80 - 120 | 2011-11-01 |
| Toluene | | 1 | mg/L | 0.100 | 0.104 | 104 | 80 - 120 | 2011-11-01 |
| Ethylbenzene | | 1 | m mg/L | 0.100 | 0.101 | 101 | 80 - 120 | 2011-11-01 |
| Xylene | | 1 | m mg/L | 0.300 | 0.300 | 100 | 80 - 120 | 2011-11-01 |

Standard (CCV-1)

QC Batch: 86199

Date Analyzed: 2011-11-03

Analyzed By: AR

| | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 2 | mg/L | 25.0 | 22.6 | 90 | 90 - 110 | 2011-11-03 |

Standard (CCV-2)

QC Batch: 86199

Date Analyzed: 2011-11-03

115-6403132A

Work Order: 11103127

Celero/Rock Queen Tract #13 TB

Page Number: 15 of 16

Chavez Co., NM

| _ | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 2 | mg/L | 25.0 | 22.6 | 90 | 90 - 110 | 2011-11-03 |

Standard (CCV-1)

QC Batch: 86200

Date Analyzed: 2011-11-03

Analyzed By: AR

| | | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|----------|------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Cert | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Chloride | | 2 | mg/L | 25.0 | 22.6 | 90 | 90 - 110 | 2011-11-03 |

Standard (CCV-2)

QC Batch: 86200

Date Analyzed: 2011-11-03

| Param | , | Flag | Cert | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|----------|---|----------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride | | <u>_</u> | 2 | mg/L | 25.0 | 22.9 | 92 | 90 - 110 | 2011-11-03 |

115-6403132A

Work Order: 11103127 Celero/Rock Queen Tract #13 TB Page Number: 16 of 16 Chavez Co., NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

| | _ | | W | , - | # | | 103127 | | | | | | | | | | | | | | | | | | | | | _ | | | |
|--|--------|----------------------|-----------|--------------|------|---------|--|---|-------|----------------------|----------------|------------|-----------------------------------|-----------|----------|----------|---|----------------------------------|----------------|------------------|----------------------|----------------------|---------------------------|----------------|------------------------|------------------------|--|------------------------|--------------------------------|-------------------------|--------------|
| An | al | VS | is F | ₹e | Q | lu | est of Cha | ain of Cus | stoav | F | ₹€ | € C | O | rd | | | | | | | | | | GE: | | 1 | | U. | | T | |
| | | | | _ | _ | | 7 | | | | _ | | | | | d | ANALYSIS REQUEST (Circle or Specify Method No.) | | | | | | | | | | | | | | |
| | | | | | | F. | TETRA 1910 N. Big Midland, Tex (432) 682-4559 | Spring St. | | | | | | | | 1 1 | 5 (Ext. to C35) | Cr Pb Hg Se | Vr Pd Hg | | | | | | | | | | Sol | | |
| CLIENT NAME: SITE MANAGER: Celtro Jeff Kindley | | | | | | | | | NERS | | PI | | RVA THO | |] | TX1005 | Ba Cd | s Ba Cd | | | 60/624 | 270/625 | | | | | | s, pH, | | | |
| PROJECT N 115-6 | | 132 | | PA | ЮJ | ECT | NAME: ekro/Rock Que | rn*13 | | NUMBER OF CONTAINERS | FILTERED (Y/N) | | | | | 2 | 8015 MOD. | ls Ag A | Is Ag As | les | Volumes | 8240/82 | ni. Vol. 8 | /608 | 8 | ß. | E | stos) | 1s/Cation | | |
| LAB I.D. NUMBER | D) | ATE | TIME | MATRIX | COMP | GRAB | SAMPI | SAMPLE IDENTIFICATION | | | | | | CE | NONE | 121 | TPH 8016 | PAR 6270 RCRA Metals Ag As Ba | TCLP Metals Ag | TCLP Volatiles | I CLP Semi volatiles | GC.MS Vol. | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/6 | Chlonde Gamma Spec. | Alpha Beta (Air) | PLM (Asbe | Major Anions/Cations, ph., 105 | | |
| 281154 | 101 | zi | 1012 | 2 | | X | MW-3 | | | 4 | 3 | X | | X | | X | | | | | | | | | į | X | | | | | |
| 155 | | | 1115 | \mathbb{L} | | Ш | MW-1 | | | | | | | \coprod | | Ш | | | | | | | | | | | | Ц | | | |
| 156 | | | 1207 | $\ \cdot\ $ | | $\ \ $ | MW-4 | | | \prod | $ \ $ | | | | | | | | | | | | | | | $\ $ | | | | | |
| 157 | | | 1315 | | | \prod | mw-L | | | \prod | | | | | | \prod | $ \top $ | | | | | | | | | I | | | | | |
| 158 | | | 1412 | | | \prod | mw-5 | | | \prod | | 7 | | \prod | | | | | | | T | | | | | \prod | | | | | |
| 159 | · | V | 1524 | * | | • | MW-Z | | · | + | * | 4 | | * | | * | | | | | | | | | | • | | | | | |
| | | | | | | | | | , | _ | | | _ | _ | _ | | 1 | | | | _ | _ | | | \downarrow | \downarrow | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{eta}}}$ | | 1 | | 1 |
| | | | | | L | | | | | _ | _ | | _ | _ | _ | | \downarrow | - | | $ \downarrow $ | 4 | \bot | - | | 4 | \downarrow | ig | $\left \cdot \right $ | \downarrow | $\downarrow \downarrow$ | \downarrow |
| | | | | | _ | | | | | _ | _ | | \dashv | _ | \bot | \sqcup | \dashv | _ | | | 1 | \bot | - | Н | \dashv | + | - | H | \bot | \Box | 1 |
| RELINQUISHED | BY: (: | Signatu | m) And | 24 | | | Date: 10/51/1 | RECEIVED BY: (Signature) | ····· | | | | | io [| 21/1 | Ш | _ | SAMP | LED | BY: (Pi | rint & | Initia | | | \perp | | | ate: | 10/ | 20/1 | <u>_</u> |
| RELINQUISHED | BY: (| Signatur Signatur | re) | | | | Time: 1140 Date: 20/51/4 Time: 1400 Date: 11me: | RECEIVED BY: (Signature) RECEIVED BY: (Signature) | | | | D. 17 | me: ate: me: ate: me: | 14 | <u> </u> | | = | SAMPI FEDI HAN | D DE | LIVER | ED | f: (Circ BL UF | ile) US PS | <u> </u> | | | | | its by | · · | _ |
| RECEIVING LABORATORY: TYLCY ADDRESS: CITY: MING LAND STATE: ZIP: CONTACT: PHONE: DATE: | | | | | | | ME: | | 8.' | 40 | , | | - | | بل | eH | - 1 | lino | lle | 1 | | | | | H Cha orized (es | | io | | | | |
| SAMPLE COND | TION | WHEN | RECEIVED: | ٥ | | | REMARKS: | 10.00 | Q.V | 10 | <u>\</u> | | 14 | - (| 24 | C X | | | _7 | PC | - | 7 1 | 10 | · · | 2 on | クコ | á? | .9/3 | 7./ | ~ つ | G, E |

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

District I 1625 N. French Dr., Hobbs, NM 88240 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

Oil Conservation Division 1220 South St. Francis Dr. Revised October 10, 2003

Form C-141

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Santa Fe, NM 87505 Release Notification and Corrective Action **OPERATOR** ☐ Initial Report Final Report COG OPERATING LLC Name of Company Contact Pat Ellis 550 W. Texas, Suite 100, Midland, TX 79701 432-230-0077 Telephone No. Address **Facility Name** Jenkins B Federal Water Flood (Northwest Central) Facility Type Skim Tank Federal Mineral Owner (API#) 30-015-21945 Surface Owner Lease No. closest well location LOCATION OF RELEASE Feet from the Township North/South Line Feet from the Unit Letter Section Range East/West Line County Eddy 175 30E 20 C Latitude 32 49.813 Longitude 103 59.736 **NATURE OF RELEASE** Type of Release Produced water / Oil Volume of Release Volume Recovered 3bbls oil 3bbls oil 17bbls pw 15bbls pw Source of Release Skim tank Date and Hour of Discovery Date and Hour of Occurrence 03/23/2012 03/23/2012 11:30 a.m. Was Immediate Notice Given? If YES, To Whom? ☐ Yes ☒ No ☒ Not Required By Whom? Date and Hour Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes 🛛 No If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.* Due to a rush of fluid from a new well and a plugged strainer at our Texaco BE #8 Injector the skim tank overflowed. The strainer at the Texaco BE #8 Injector has been cleaned out. Describe Area Affected and Cleanup Action Taken.* Initially 20bbls were released from the skim tank and we were able to recover 18bbls with a vacuum truck. The spill area measures 20' x 20' around the skim tank. The release was contained on the location. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a work plan to the NMOCD/BLM for approval prior to any significant remediation work. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION Signature: Approved by District Supervisor: Printed Name: Josh Russo Title: **HSE** Coordinator Approval Date: **Expiration Date:** E-mail Address: jrusso@conchoresources.com Conditions of Approval: Attached

Phone:

432-212-2399

^{04/02/2012} Attach Additional Sheets If Necessary