

1R – 1595

2012 AGWMR

03 / 26 / 2013



TETRA TECH

March 26, 2013

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

Re: 2012 Groundwater Sampling Report for the Celero Energy II, LP, Rock Queen Unit Tract 11 Tank Battery, Located in Unit Letter G, Section 26, Township 13 South, Range 31 East, Chaves County, New Mexico (NMOCD 1RP#1595).

Mr. Von Gonten:

This report details the results of the groundwater sampling events performed at the Celero Energy II, LP (Celero), Rock Queen Unit Tract 11 Tank Battery (Site) in 2012. The Site is located approximately 21-1/2 miles north of Maljamar, New Mexico. The Site location is shown on Figures 1 and 2.

FACILITY BACKGROUND

Pit Closure

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

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

Tetra Tech

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

Groundwater Investigation

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

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

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

Historic Gauging and Monitor Well Sampling

On May 25, 2007, initial sampling began at the site. During 2010, additional monitor wells were installed and quarterly sampling was initiated. During the sampling events, all monitor wells were gauged and sampled with no PSH measured. Utilizing the water level elevation calculations, groundwater gradient maps were generated for the sampling events with a hydraulic gradient to the southeast.

Historically, each of the wells has been sampled for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C and periodically for general chemistry using methods SM2320B, SW6010B, SM4500-H+. The samples were properly preserved and submitted under proper chain-of-custody control to Trace Analysis

Inc. of Midland, Texas. All water samples collected and analyzed were below the NMWQCC standard of 0.01 milligrams per liter (mg/L) of benzene. Chlorides for the sampling period ranged from 493 mg/L in monitor well MW-6 on July 27, 2011 to 122,000 mg/L in monitor well MW-1 on January 19, 2011. All the monitor wells during the sampling events exceeded the NMWQCC standard of 250 mg/L chlorides.

2012 GROUNDWATER SAMPLING RESULTS

Tetra Tech, Inc. (Tetra Tech) was onsite January 3, April 9, July 24, and October 23, 2012 to gauge all monitor/recovery wells. No PSH was measured in any of the monitor/recovery wells. Utilizing the water level elevation calculations, groundwater gradient maps were generated for each of the sampling events with a hydraulic gradient to the southeast. Groundwater gradient maps for the sampling events are included as Figures 4 through 7. Gauging data is summarized in Table 1.

On January 6, April 11, July 25, and October 25, 2012, each of the wells was sampled for BTEX utilizing method SW8021B, chlorides and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C. The samples were collected and submitted to Trace in Midland, Texas. All samples collected and analyzed were below the NMWQCC standard of 0.01 mg/L of benzene. Chlorides for the sampling period ranged from 391 mg/L in MW-6 on October 25, 2012 to 174,000 mg/L in MW-2 on April 11, 2012. All monitor wells exceeded the NMWQCC standard of 250 mg/L chlorides throughout the year. The general chemistry and BTEX analyses are shown in Tables 2 and 3, respectively. Chloride concentration maps for the sampling events are included as Figures 8 through 11. Copies of the laboratory analyses are enclosed in Appendix A.

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

CONCLUSIONS

1. Sampling occurred on January 6, April 11, July 25, and October 25, 2012. During the sampling events all monitor wells were gauged, purged and sampled. The samples were preserved, delivered to Trace of Midland, Texas and analyzed for BTEX utilizing method SW8021B, chlorides, and sulfates utilizing method E 300.0, total dissolved solids (TDS) utilizing method SM2540C.



2. The hydraulic gradient indicates a southeasterly direction.
3. All wells tested below the NMQQCC standards of 0.01 mg/L for benzene.
4. Chloride concentrations exceed the NMWQCC standards of 250 mg/L in all monitor wells. The chloride concentrations at the site range from 391 mg/L in monitor well MW-6 on October 25, 2012 to 174,000 mg/L on April 11, 2012.

RECOMMENDATIONS

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

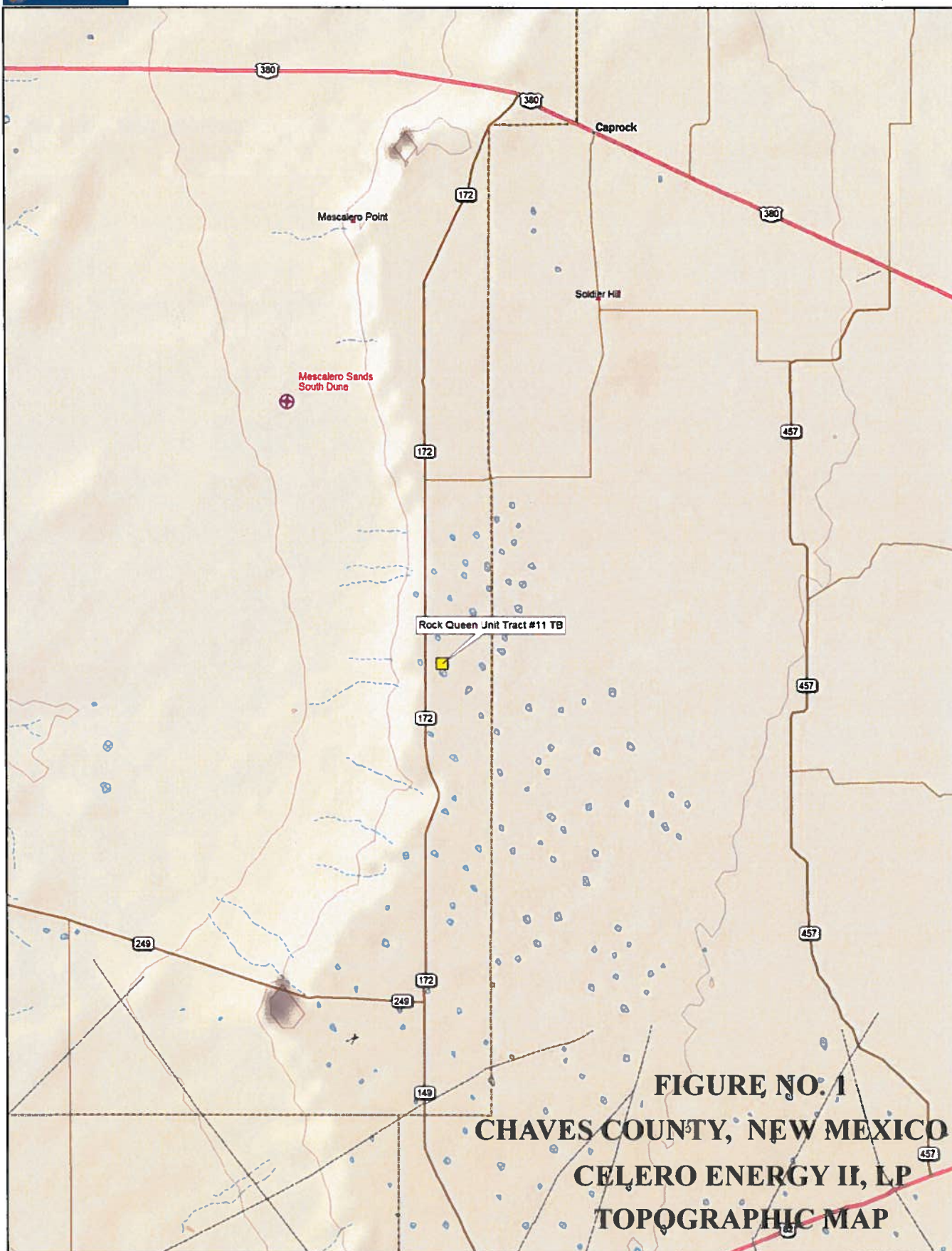
If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

Respectfully submitted,
Tetra Tech, Inc.


Jeffrey Kindley, P.G.
Senior Environmental Geologist

cc: Bruce Woodard – Celero Energy II, LP

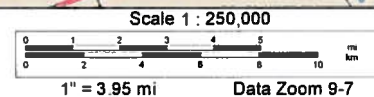
FIGURES

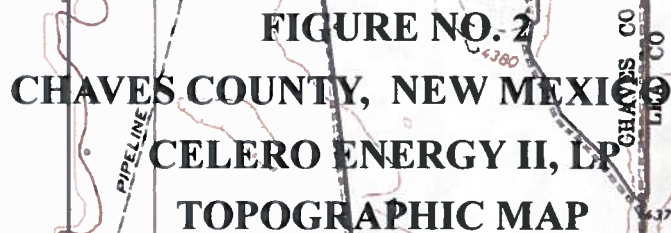


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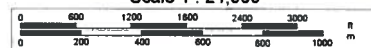




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Figure 1 is a map showing the location of the study site (A) relative to the town of TN and the MN (7.7°E) line. The map includes a scale bar indicating distances from 0 to 10 km. The study site (A) is marked with a star and is located south of TN and west of the MN (7.7°E) line.

Scale 1 : 24,000


$$1'' = 2,000.0 \text{ ft}$$

Data Zoom 12-7



STATE LAND

MW-7

MW-4

MW-3

ROCK QUEEN
TRACT #11
SATELLITE

MW-1

MW-2

MW-6

MW-5

MONITOR WELLS
RECOVERY WELLS

SCALE: 150'
0 150'

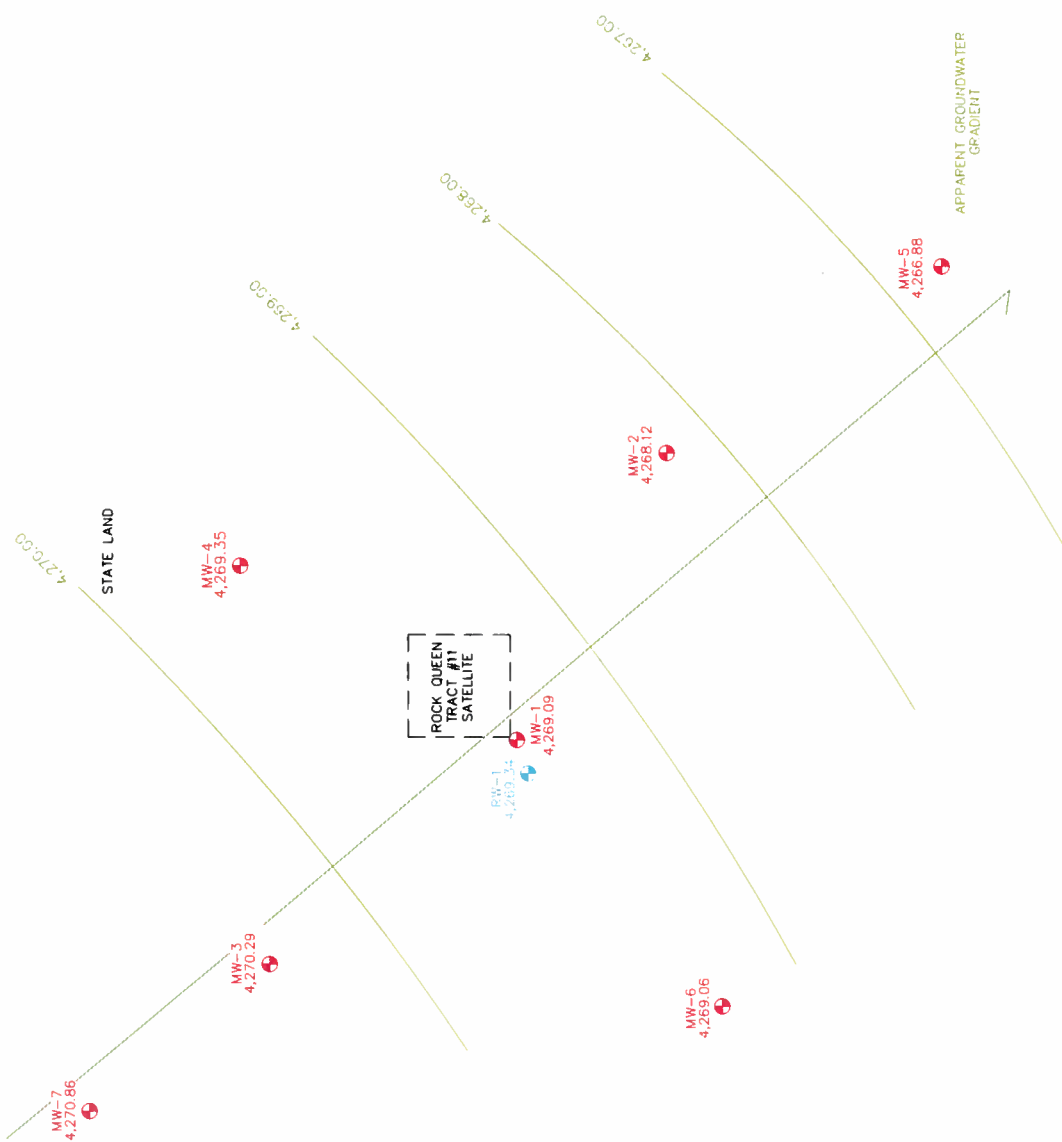
FIGURE NO. 3

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
SITE MAP

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 6/4/10
DWN BY: JJ
FILE: C:\GEO\0311\N
CELERO R Q UNIT 11

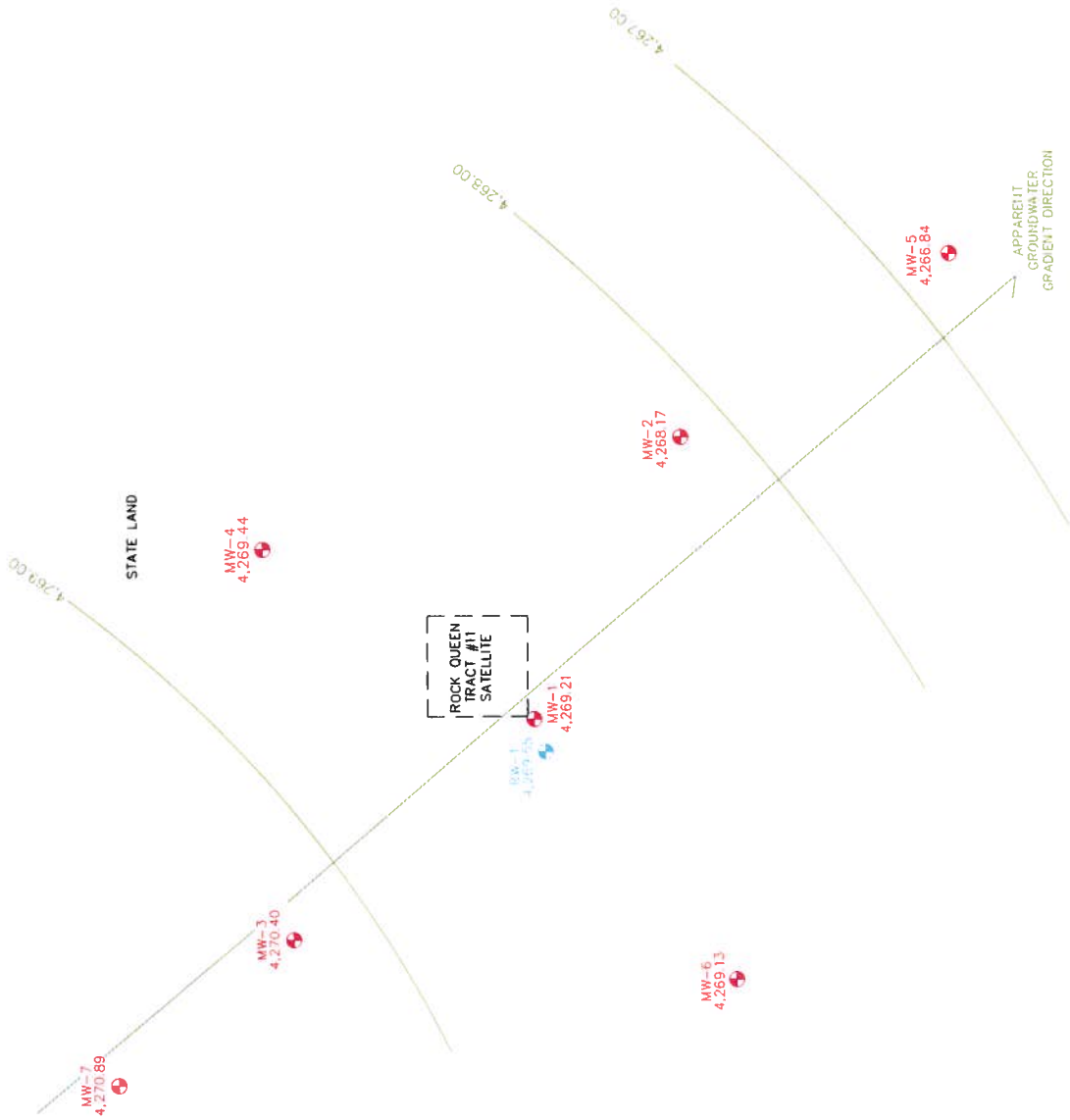


MONITOR WELLS
RECOVERY WELLS

DATE: 01/03/2012
DRAWN BY: [Signature]
CHECKED BY: [Signature]
SCALE: 150'

C.I. = 1' 0 150'

FIGURE NO. 4
CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 1/03/2012
TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS
RECOVERY WELLS

DATE	04/09/2012
DRAWN BY	IM
FILE	C:\CELERO\311\
CELERO R & G UNIT 11	

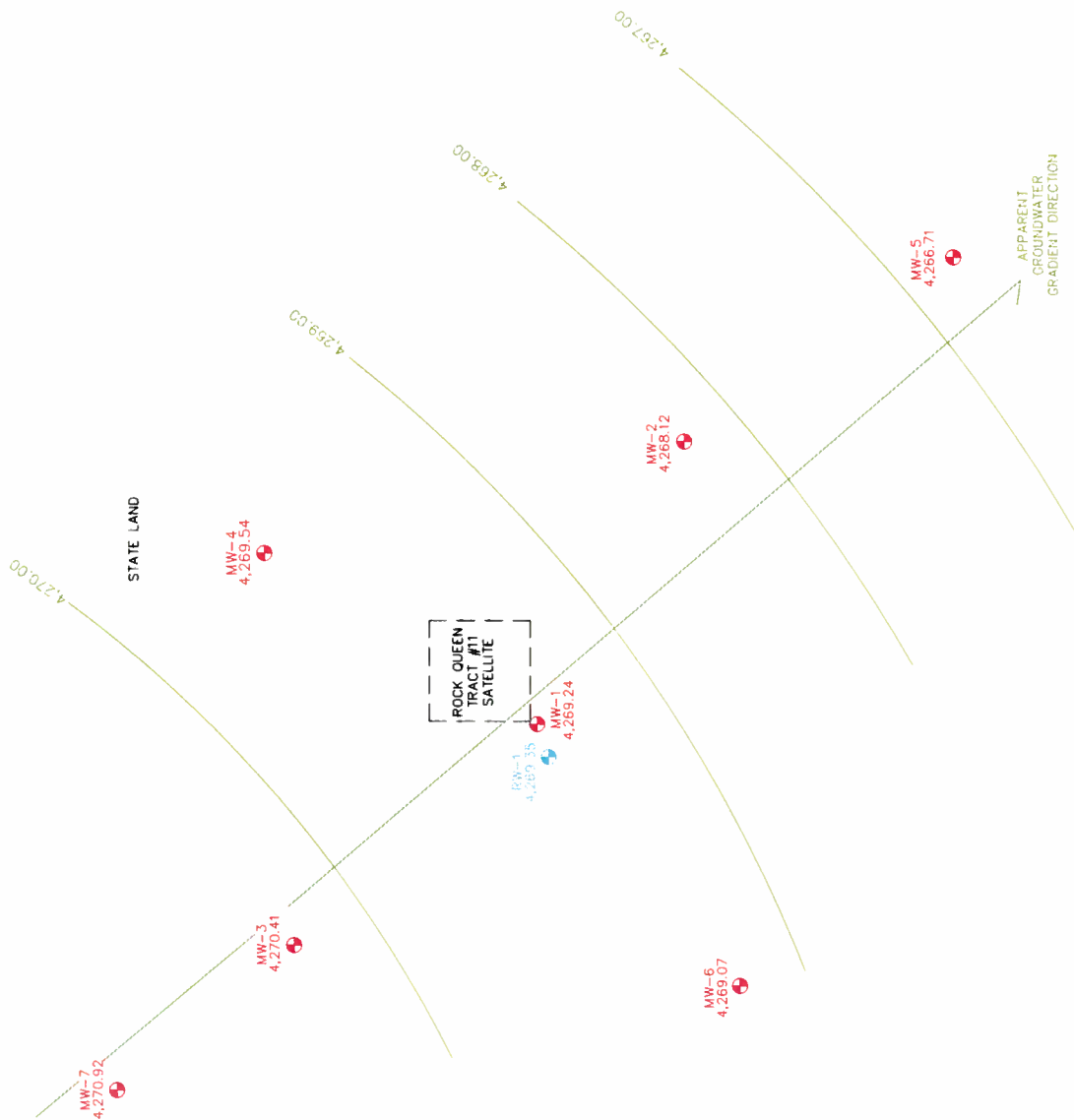
SCALE: 150'
C.I. = 1" 0 150'

FIGURE NO. 5

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 04/09/2012

TETRA TECH, INC.
MIDLAND, TEXAS



DATE: 7/24/12
DRAWN BY: JIM
FILE: C:\GEOGRAPHY\CHAVES CO UNIT 11

SCALE: 150'
C.I. = 1" = 150'

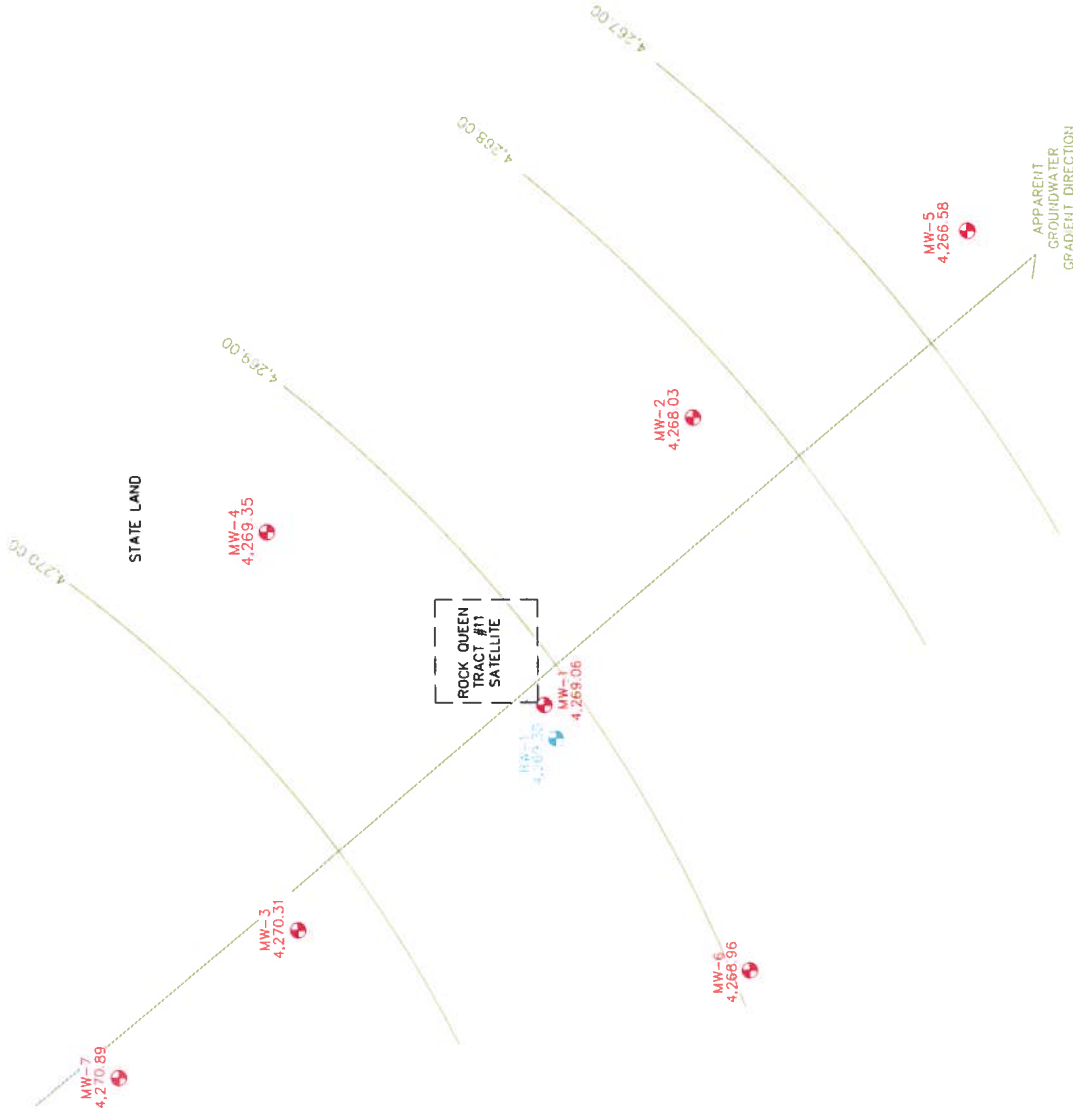
MONITOR WELLS
RECOVERY WELLS

FIGURE NO. 6

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 07/24/2012

TETRA TECH, INC.
MIDLAND, TEXAS



MONITOR WELLS
RECOVERY WELLS

DATE: 10/23/2012
DRAWN BY: IM
FILE: C:\CELLAR\DATA\CELLAR R & O Unit 11

SCALE: 150'
C.I. = 1" = 150'

FIGURE NO. 7

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
GROUNDWATER GRADIENT MAP
GAUGED ON 10/23/2012

TETRA TECH, INC.
MIDLAND, TEXAS



STATE LAND

MW-7
1,680

MW-3
2,200

MW-4
5,500

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
29,000

MW-2
37,400

MW-6
1,130

MW-5
21,300

MONITOR WELLS
RECOVERY WELLS

SCALE: 100'
0 100'

RESULTS IN mg/L
N/S - NOT SAMPLED

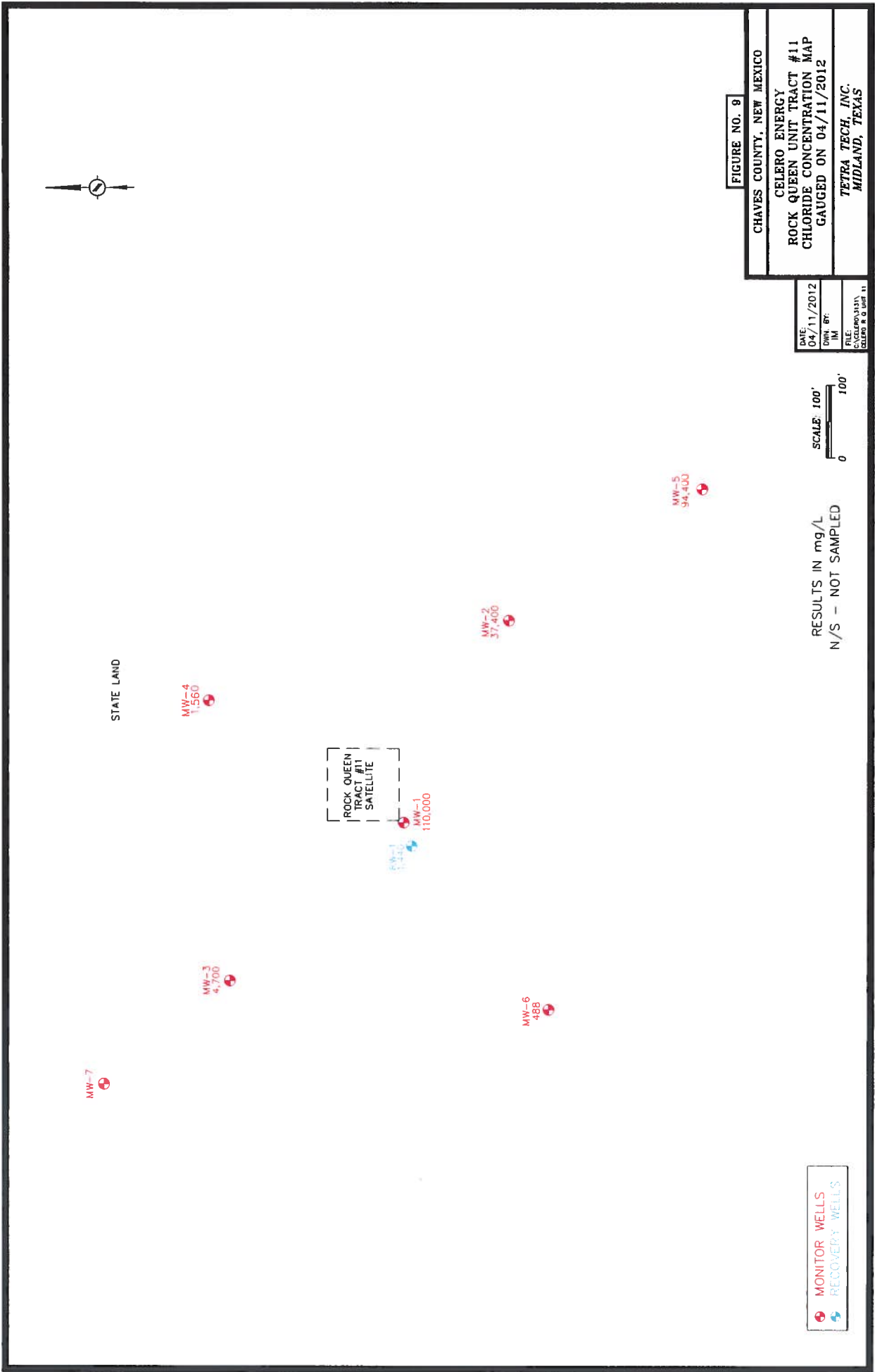
FIGURE NO. 8

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 01/06/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 01/06/2012
DRAWN BY: JM
FILE: C:\CELERO\0111\CHLORIDE.R 8 UNIT 11





STATE LAND

MW-7
1,660

MW-4
2,130

MW-3
1,690

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
32,900

MW-3
115

MW-2
13,800

MW-6
484

MW-5
43,500

MONITOR WELLS
RECOVERY WELLS

SCALE: 100'
0 100'

RESULTS IN mg/L
N/S - NOT SAMPLED

FIGURE NO. 10

CHAVES COUNTY, NEW MEXICO
CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 7/25/2012
TETRA TECH, INC.
MIDLAND, TEXAS

DATE
07/25/2012
OWN. BY
TETRA
FILE
CELLERO UNIT #11



STATE LAND

MW-7
1,550

MW-4
5,480

MW-3
3,640

ROCK QUEEN
TRACT #11
SATELLITE

MW-1
36,700

MW-2
48,300

MW-6
391

MW-5
78,900

MONITOR WELLS
RECOVERY WELLS

SCALE: 100'
0 100'

RESULTS IN mg/L
N/S - NOT SAMPLED

FIGURE NO. 11

CHAVES COUNTY, NEW MEXICO

CELERO ENERGY
ROCK QUEEN UNIT TRACT #11
CHLORIDE CONCENTRATION MAP
GAUGED ON 10/25/2012

TETRA TECH, INC.
MIDLAND, TEXAS

DATE
10/25/2012
TIME
8:11 AM
FILE
C:\CELLERO\DATA\CHLORO R Q UNIT 11

TABLES

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

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
MW-1	05/25/07	05/24/07	4,407.40	161.30	138.60	4,268.80
	02/25/10				138.19	4,269.21
	07/13/10				138.14	4,269.26
	10/11/10				138.25	4,269.15
	01/17/11				138.03	4,269.37
	04/11/11				138.14	4,269.26
	07/26/11				138.92	4,268.48
	10/24/11				138.18	4,269.22
	01/03/12				138.31	4,269.09
	04/09/12				138.19	4,269.21
MW-2	07/24/12	02/17/10	4,408.61	166.18	138.16	4,269.24
	10/23/12				138.34	4,269.06
	02/25/10				140.36	4,268.25
	07/13/10				140.28	4,268.33
	10/11/10				140.41	4,268.20
	01/17/11				140.15	4,268.46
	04/11/11				140.19	4,268.42
	07/26/11				141.05	4,267.56
	10/24/11				140.39	4,268.22
	01/03/12				140.49	4,268.12
MW-3	04/09/12	02/17/10	4,409.84	169.00	140.44	4,268.17
	07/24/12				140.49	4,268.12
	10/23/12				140.58	4,268.03
	02/25/10				139.49	4,270.35
	07/13/10				139.45	4,270.39
	10/11/10				139.57	4,270.27
	01/17/11				139.43	4,270.41
	04/11/11				139.50	4,270.34
	07/26/11				140.25	4,269.59
	10/24/11				139.48	4,270.36
MW-4	01/03/12	02/17/10	4,411.68	172.90	139.55	4,270.29
	04/09/12				139.44	4,270.40
	07/24/12				139.43	4,270.41
	10/23/12				139.53	4,270.31
	02/25/10	02/17/10	4,411.68	172.90	142.25	4,269.43
	07/13/10				142.23	4,269.45
	10/11/10				142.32	4,269.36

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

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
MW-4	01/17/11				142.16	4,269.52
	04/11/11				142.24	4,269.44
	07/26/11				143.04	4,268.64
	10/24/11				142.19	4,269.49
	01/03/12				142.33	4,269.35
	04/09/12				142.24	4,269.44
	07/24/12				142.14	4,269.54
	10/23/12				142.33	4,269.35
MW-5	01/17/11	12/01/10	4,407.26	160.00	139.99	4,267.27
	04/11/11				140.05	4,267.21
	07/26/11				140.98	4,266.28
	10/24/11				140.30	4,266.96
	01/03/12				140.38	4,266.88
	04/09/12				140.42	4,266.84
	07/24/12				140.55	4,266.71
	10/23/12				140.68	4,266.58
MW-6	01/17/11	12/01/10	4,404.87	156.42	135.51	4,269.36
	04/11/11				135.58	4,269.29
	07/26/11				136.37	4,268.50
	10/24/11				135.68	4,269.19
	01/03/12				135.81	4,269.06
	04/09/12				135.74	4,269.13
	07/24/12				135.80	4,269.07
	10/23/12				135.91	4,268.96
MW-7	01/17/11	12/02/10	4,413.08	161.37	142.22	4,270.86
	04/11/11				142.17	4,270.91
	07/26/11				142.98	4,270.10
	10/24/11				142.19	4,270.89
	01/03/12				142.22	4,270.86
	04/09/12				142.19	4,270.89
	07/24/12				142.16	4,270.92
	10/23/12				142.19	4,270.89
RW-1	01/17/11	12/08/10	4,405.75	161.80	136.05	4,269.70
	04/11/11				136.15	4,269.60
	07/26/11				137.03	4,268.72
	10/24/11				136.32	4,269.43
	01/03/12				136.41	4,269.34

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

Monitor Well	Date Gauged	of Well Installation	Elevation (ft)	Depth of Well (bgs in ft)	Depth to Groundwater (ft)	Elevation (ft)
RW-1	04/09/12				136.20	4,269.55
	07/24/12				136.40	4,269.35
	10/23/12				136.45	4,269.30

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

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-1	05/31/07	1,300	1,050	19,400	416	<1.00	<1.00	110	110	1,080	37,800	59,400	7,570	7.06
	02/25/10	3,280	2,240	28,500	737	<1.00	<1.00	101	101	1,360	60,700	104,000	17,400	6.24
	07/13/10	-	-	-	-	-	-	-	-	186	12,300	11,600	-	-
	10/11/10	-	-	-	-	-	-	-	-	455	20,400	42,700	-	-
	01/19/11	-	-	-	-	-	-	-	-	2,270	122,000	210,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	2,150	109,000	193,000	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,620	57,400	96,800	-	-
	07/27/11	-	-	-	-	-	-	-	-	625	22,100	56,000	-	-
	10/27/11	-	-	-	-	-	-	-	-	1,740	47,300	73,900	-	-
	01/06/12	-	-	-	-	-	-	-	-	615	29,000	43,800	-	-
	04/11/12	-	-	-	-	-	-	-	-	2,690	110,000	140,000	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	32,900	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	849	36,700	76,400	-	-
MW-2	02/25/10	723	265	3,850	47.6	<1.00	<1.00	132	132	176	5,670	17,800	-	7.70
	07/13/10	-	-	-	-	-	-	-	-	355	16,400	31,700	-	-
	10/11/10	-	-	-	-	-	-	-	-	547	24,000	38,400	-	-
	01/19/11	-	-	-	-	-	-	-	-	2,060	118,000	220,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	1,500	67,600	146,000	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,170	53,300	84,500	-	-
	07/27/11	-	-	-	-	-	-	-	-	1,610	91,700	143,000	-	-
	10/27/11	-	-	-	-	-	-	-	-	1,990	68,200	102,000	-	-
	01/06/12	-	-	-	-	-	-	-	-	747	37,400	50,400	-	-
	04/11/12	-	-	-	-	-	-	-	-	2,480	174,000	212,000	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	13,800	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	730	48,300	61,000	-	-
MW-3	02/25/10	370	88.4	1,060	14.2	<1.00	<1.00	138	138	120	1,990	3,460	1,290	8.13
	07/13/10	-	-	-	-	-	-	-	-	52.8	3,260	4,190	-	-
	10/11/10	-	-	-	-	-	-	-	-	73.6	2,700	6,290	-	-
	01/19/11	-	-	-	-	-	-	-	-	1,170	50,100	103,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	115	5,190	10,100	-	-
	04/14/11	-	-	-	-	-	-	-	-	73.2	2,880	4,440	-	-
	07/27/11	-	-	-	-	-	-	-	-	881	53,400	74,700	-	-

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

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-3	10/27/11	-	-	-	-	-	-	-	-	173	12,000	22,800	-	-
	01/06/12	-	-	-	-	-	-	-	-	52.4	2,200	3,400	-	-
	04/11/12	-	-	-	-	-	-	-	-	72.7	4,730	6,440	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	1,690	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	73.2	3,640	6,010	-	-
MW-4	02/25/10	540	385	4,670	295	<1.00	<1.00	148	148	290	10,700	25,800	2,930	7.37
	07/13/10	-	-	-	-	-	-	-	-	47.4	857	1,610	-	-
	10/11/10	-	-	-	-	-	-	-	-	176.0	7,140	14,500	-	-
	01/19/11	-	-	-	-	-	-	-	-	1,850.0	109,000	194,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	182.0	7,210	14,100	-	-
	04/14/11	-	-	-	-	-	-	-	-	347.0	12,200	26,400	-	-
	07/27/11	-	-	-	-	-	-	-	-	134	5,080	7,980	-	-
	10/26/11	-	-	-	-	-	-	-	-	967	56,400	97,300	-	-
	01/06/12	-	-	-	-	-	-	-	-	144	5,500	8,800	-	-
	04/11/12	-	-	-	-	-	-	-	-	65.3	1,560	2,820	-	-
MW-5	07/25/12	-	-	-	-	-	-	-	-	-	2,130	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	134	5,480	10,200	-	-
	01/19/11	-	-	-	-	-	-	-	-	939	56,300	109,000	-	-
	02/25/11	-	-	-	-	-	-	-	-	764	49,900	93,000	-	-
	04/14/11	-	-	-	-	-	-	-	-	1,100	67,500	109,000	-	-
	07/27/11	-	-	-	-	-	-	-	-	422	48,500	60,900	-	-
	10/27/11	-	-	-	-	-	-	-	-	1,020	71,600	106,000	-	-
MW-6	01/06/12	-	-	-	-	-	-	-	-	<250	21,300	30,700	-	-
	04/11/12	-	-	-	-	-	-	-	-	1,340	94,400	127,000	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	48,500	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	1,180	78,900	144,000	-	-
	01/19/11	-	-	-	-	-	-	-	-	378	25,800	56,700	-	-
	02/25/11	-	-	-	-	-	-	-	-	422	26,600	56,700	-	-
	04/14/11	-	-	-	-	-	-	-	-	77.6	1,800	3,320	-	-
	07/27/11	-	-	-	-	-	-	-	-	80	493	934	-	-
	10/26/11	-	-	-	-	-	-	-	-	378	29,300	73,100	-	-
	01/06/12	-	-	-	-	-	-	-	-	71.0	1,130	2,020	-	-

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

Monitor Well	Date Sampled	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Sodium (mg/L)	Dissolved Potassium (mg/L)	Hydroxide Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Bicarbonate Alkalinity (mg/L)	Total Alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	Hardness (mg/L)	pH
MW-6	04/11/12	-	-	-	-	-	-	-	-	57.7	488	1,210	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	484	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	61.0	391	1,320	-	-
MW-7	01/19/11	-	-	-	-	-	-	-	-	77	994	2,110	-	-
	02/25/11	-	-	-	-	-	-	-	-	79.4	1,230	2,580	-	-
	04/14/11	-	-	-	-	-	-	-	-	92.2	1,350	2,700	-	-
	07/27/11	-	-	-	-	-	-	-	-	84.1	1,580	2,440	-	-
	10/26/11	-	-	-	-	-	-	-	-	139	1,860	2,910	-	-
	01/06/12	-	-	-	-	-	-	-	-	83.6	1,680	2,080	-	-
	04/11/12	-	-	-	-	-	-	-	-	74.9	1,440	1,780	-	-
	07/25/12	-	-	-	-	-	-	-	-	-	1,660	-	-	-
	10/25/12	-	-	-	-	-	-	-	-	86.2	1,550	3,980	-	-
RW-1	01/19/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	02/25/11	-	-	-	-	-	-	-	-	1,690	94,000	174,000	-	-
	04/14/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/27/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/26/11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/06/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	04/11/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/25/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/25/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS - Not sampled
(-) Not Analyzed

Table 3
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract #11
Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl- Benzene (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
MW-1	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	0.0185	0.0185
	10/27/11	<0.001	<0.001	<0.001	0.0014	0.0014
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-2	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-3	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-4	02/25/10	<0.001	<0.001	<0.001	<0.001	<0.001
	07/13/10	<0.001	<0.001	<0.001	<0.001	<0.001
	10/11/10	<0.001	<0.001	<0.001	<0.001	<0.001
	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	0.0066	0.0066
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001

Table 3
Celero Energy II, LP
Groundwater Analytical Results
Rock Queen Unit Tract #11
Chaves County, New Mexico

Monitor Well	Date Sampled	Benzene in (mg/L)	Toluene in (mg/L)	Ethyl- Benzene (mg/L)	Xylene in (mg/L)	Total BTEX (mg/L)
MW-4	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-5	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	0.0065	<0.001	<0.001	<0.001	0.0065
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/27/11	<0.001	<0.001	<0.001	0.0010	0.0010
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	0.0010	0.0117
MW-6	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	0.0044	<0.0010	<0.0010	<0.0010	0.0044
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
MW-7	01/19/11	<0.001	<0.001	<0.001	<0.001	<0.001
	04/14/11	<0.001	<0.001	<0.001	<0.001	<0.001
	07/27/11	<0.001	<0.001	<0.001	<0.001	<0.001
	10/26/11	<0.001	<0.001	<0.001	<0.001	<0.001
	01/06/12	<0.001	<0.001	<0.001	<0.001	<0.001
	04/11/12	<0.001	<0.001	<0.001	<0.001	<0.001
	07/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
	10/25/12	<0.001	<0.001	<0.001	<0.001	<0.001
RW-1	01/19/11	NS	NS	NS	NS	NS
	04/14/11	NS	NS	NS	NS	NS
	07/27/11	NS	NS	NS	NS	NS
	10/27/11	NS	NS	NS	NS	NS
	01/06/12	NS	NS	NS	NS	NS
	04/11/12	NS	NS	NS	NS	NS
	07/25/12	NS	NS	NS	NS	NS
	10/25/12	NS	NS	NS	NS	NS

NS - Not sampled

APPENDIX A LABORATORY ANALYTICAL



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: January 19, 2012

Work Order: 12010636



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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285928	MW-1	water	2012-01-06	10:30	2012-01-06
285929	MW-2	water	2012-01-06	10:10	2012-01-06
285930	MW-3	water	2012-01-06	10:50	2012-01-06
285931	MW-4	water	2012-01-06	10:00	2012-01-06
285932	MW-5	water	2012-01-06	10:20	2012-01-06
285933	MW-6	water	2012-01-06	10:40	2012-01-06
285934	MW-7	water	2012-01-06	11:00	2012-01-06

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

This report consists of a total of 32 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

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

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QC Batch 87762 - Method Blank (1)	17
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QC Batch 87762 - LCS (1)	21
QC Batch 87762 - LCS (1)	21
QC Batch 87830 - LCS (1)	22
QC Batch 87908 - LCS (1)	22
QC Batch 87691 - MS (1)	22
QC Batch 87701 - MS (1)	23
QC Batch 87760 - MS (1)	24
QC Batch 87761 - MS (1)	24
QC Batch 87761 - MS (1)	25
QC Batch 87762 - MS (1)	25
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QC Batch 87760 - CCV (1)	28
QC Batch 87761 - ICV (1)	28
QC Batch 87761 - ICV (1)	28
QC Batch 87761 - CCV (1)	29
QC Batch 87761 - CCV (1)	29
QC Batch 87762 - ICV (1)	29
QC Batch 87762 - ICV (1)	29
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Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2012-01-06 and assigned to work order 12010636. Samples for work order 12010636 were received intact without headspace and at a temperature of 1.3 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	74456	2012-01-09 at 13:30	87691	2012-01-09 at 14:28
BTEX	S 8021B	74464	2012-01-10 at 14:00	87701	2012-01-10 at 17:31
Chloride (IC)	E 300.0	74526	2012-01-12 at 14:05	87761	2012-01-13 at 01:38
Chloride (IC)	E 300.0	74527	2012-01-12 at 14:06	87762	2012-01-13 at 05:40
Chloride (IC)	E 300.0	74566	2012-01-16 at 10:03	87830	2012-01-17 at 14:42
SO4 (IC)	E 300.0	74525	2012-01-12 at 14:05	87760	2012-01-12 at 18:37
SO4 (IC)	E 300.0	74526	2012-01-12 at 14:05	87761	2012-01-13 at 01:38
SO4 (IC)	E 300.0	74527	2012-01-12 at 14:06	87762	2012-01-13 at 05:40
TDS	SM 2540C	74509	2012-01-06 at 10:02	87908	2012-01-12 at 10:01

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 12010636 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 285928 - MW-1

Laboratory: Midland
Analysis: BTEX
QC Batch: 87691
Prep Batch: 74456

Analytical Method: S 8021B
Date Analyzed: 2012-01-09
Sample Preparation: 2012-01-09

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.118	mg/L	1	0.100	118	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0886	mg/L	1	0.100	89	67.5 - 140.8

Sample: 285928 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87830
Prep Batch: 74566

Analytical Method: E 300.0
Date Analyzed: 2012-01-17
Sample Preparation: 2012-01-16

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	1	29000	mg/L	1000	2.50

Sample: 285928 - MW-1

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87760
Prep Batch: 74525

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q*	1	615	mg/L	50	2.50

Report Date: January 19, 2012
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Sample: 285928 - MW-1

Laboratory: Midland
Analysis: TDS
QC Batch: 87908
Prep Batch: 74509

Analytical Method: SM 2540C
Date Analyzed: 2012-01-12
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	43800	mg/L	100	10.0

Sample: 285929 - MW-2

Laboratory: Midland
Analysis: BTEX
QC Batch: 87691
Prep Batch: 74456

Analytical Method: S 8021B
Date Analyzed: 2012-01-09
Sample Preparation: 2012-01-09

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.115	mg/L	1	0.100	115	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0870	mg/L	1	0.100	87	67.5 - 140.8

Sample: 285929 - MW-2

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	37400	mg/L	5000	2.50

Report Date: January 19, 2012
115-6403131A

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Celero/ Rock Queen #11

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Sample: 285929 - MW-2

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q*	1	747	mg/L	50	2.50

Sample: 285929 - MW-2

Laboratory: Midland
Analysis: TDS
QC Batch: 87908
Prep Batch: 74509

Analytical Method: SM 2540C
Date Analyzed: 2012-01-12
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	50400	mg/L	100	10.0

Sample: 285930 - MW-3

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.101	mg/L	1	0.100	101	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0769	mg/L	1	0.100	77	67.5 - 140.8

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Sample: 285930 - MW-3

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2012-01-13	Analyzed By:	AR
QC Batch:	87761	Sample Preparation:	2012-01-12	Prepared By:	AR
Prep Batch:	74526				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	2200	mg/L	100	2.50

Sample: 285930 - MW-3

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	SO4 (IC)	Date Analyzed:	2012-01-13	Analyzed By:	AR
QC Batch:	87761	Sample Preparation:	2012-01-12	Prepared By:	AR
Prep Batch:	74526				

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

Sample: 285930 - MW-3

Laboratory:	Midland	Analytical Method:	SM 2540C	Prep Method:	N/A
Analysis:	TDS	Date Analyzed:	2012-01-12	Analyzed By:	AR
QC Batch:	87908	Sample Preparation:	2012-01-06	Prepared By:	AR
Prep Batch:	74509				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	3400	mg/L	5	10.0

Sample: 285931 - MW-4

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

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sample 285931 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0989	mg/L	1	0.100	99	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0749	mg/L	1	0.100	75	67.5 - 140.8

Sample: 285931 - MW-4

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		i	5500	mg/L	500	2.50

Sample: 285931 - MW-4

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Qs	i	144	mg/L	50	2.50

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Sample: 285931 - MW-4

Laboratory: Midland
Analysis: TDS
QC Batch: 87908
Prep Batch: 74509

Analytical Method: SM 2540C
Date Analyzed: 2012-01-12
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	8800	mg/L	20	10.0

Sample: 285932 - MW-5

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.103	mg/L	1	0.100	103	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0851	mg/L	1	0.100	85	67.5 - 140.8

Sample: 285932 - MW-5

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	21300	mg/L	1000	2.50

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Sample: 285932 - MW-5

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 87761
Prep Batch: 74526

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q*	1	<250	mg/L	100	2.50

Sample: 285932 - MW-5

Laboratory: Midland
Analysis: TDS
QC Batch: 87908
Prep Batch: 74509

Analytical Method: SM 2540C
Date Analyzed: 2012-01-12
Sample Preparation: 2012-01-06

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	30700	mg/L	100	10.0

Sample: 285933 - MW-6

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0993	mg/L	1	0.100	99	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0697	mg/L	1	0.100	70	67.5 - 140.8

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Sample: 285933 - MW-6

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1130	mg/L	100	2.50

Sample: 285933 - MW-6

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	Q*	1	71.0	mg/L	5	2.50

Sample: 285933 - MW-6

Laboratory:	Midland	Analytical Method:	SM 2540C	Prep Method:	N/A
Analysis:	TDS	Date Analyzed:	2012-01-12	Analyzed By:	AR
QC Batch:	87908	Sample Preparation:	2012-01-06	Prepared By:	AR
Prep Batch:	74509				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	2020	mg/L	5	10.0

Sample: 285934 - MW-7

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0998	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0711	mg/L	1	0.100	71	67.5 - 140.8

Sample: 285934 - MW-7

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1680	mg/L	100	2.50

Sample: 285934 - MW-7

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate	u	1	83.6	mg/L	5	2.50

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Sample: 285934 - MW-7

Laboratory: Midland

Analysis: TDS

QC Batch: 87908

Prep Batch: 74509

Analytical Method: SM 2540C

Date Analyzed: 2012-01-12

Sample Preparation: 2012-01-06

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	2080	mg/L	5	10.0

Method Blanks

Method Blank (1) QC Batch: 87691

QC Batch: 87691
Prep Batch: 74456

Date Analyzed: 2012-01-09
QC Preparation: 2012-01-09

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0735	mg/L	1	0.100	74	45.9 - 126.4

Method Blank (1) QC Batch: 87701

QC Batch: 87701
Prep Batch: 74464

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

Analyzed By: AG
Prepared By: AG

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

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

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Method Blank (1) QC Batch: 87760

QC Batch: 87760
Prep Batch: 74525

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

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 87761

QC Batch: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	1.41	mg/L	2.5

Method Blank (1) QC Batch: 87761

QC Batch: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 87762

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 87762

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 87830

QC Batch: 87830
Prep Batch: 74566

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

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	1.11	mg/L	2.5

Method Blank (1) QC Batch: 87908

QC Batch: 87908
Prep Batch: 74509

Date Analyzed: 2012-01-12
QC Preparation: 2012-01-06

Analyzed By: AR
Prepared By: AR

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

Duplicates (2) Duplicated Sample: 285949

QC Batch: 87908
Prep Batch: 74509

Date Analyzed: 2012-01-12
QC Preparation: 2012-01-06

Analyzed By: AR
Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	95700	89800	mg/L	100	6	10
Total Dissolved Solids	1	95700	68400	mg/L	100	6	10

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87691
Prep Batch: 74456

Date Analyzed: 2012-01-09
QC Preparation: 2012-01-09

Analyzed By: AG
Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.100	mg/L	1	0.100	<0.000400	100	76.8 - 120.3
Toluene		1	0.0952	mg/L	1	0.100	<0.000300	95	80.9 - 122.2
Ethylbenzene		1	0.0890	mg/L	1	0.100	<0.000300	89	72.7 - 120.2
Xylene		1	0.263	mg/L	1	0.300	<0.000333	88	72.1 - 121.5

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.105	mg/L	1	0.100	<0.000400	105	76.8 - 120.3	5	20
Toluene		1	0.102	mg/L	1	0.100	<0.000300	102	80.9 - 122.2	7	20
Ethylbenzene		1	0.0971	mg/L	1	0.100	<0.000300	97	72.7 - 120.2	9	20
Xylene		1	0.286	mg/L	1	0.300	<0.000333	95	72.1 - 121.5	8	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.102	0.103	mg/L	1	0.100	102	103	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0885	0.0921	mg/L	1	0.100	88	92	56.4 - 127.9

Laboratory Control Spike (LCS-1)

QC Batch: 87701
Prep Batch: 74464

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

Analyzed By: AG
Prepared By: AG

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 87760
Prep Batch: 74525

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

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.5	mg/L	1	25.0	<0.177	102	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.5	mg/L	1	25.0	<0.177	102	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: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.9	mg/L	1	25.0	<0.265	100	90 - 110	0	20

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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: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.4	mg/L	1	25.0	<0.177	102	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.5	mg/L	1	25.0	<0.177	102	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

Report Date: January 19, 2012
115-6403131A

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 87830
Prep Batch: 74566

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

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.2	mg/L	1	25.0	<0.265	101	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: 87908
Prep Batch: 74509

Date Analyzed: 2012-01-12
QC Preparation: 2012-01-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	969	mg/L	1	1000	<9.75	97	85.5 - 112.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	990	mg/L	1	1000	<9.75	99	85.5 - 112.7	2	10

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

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Matrix Spike (MS-1) Spiked Sample: 285929

QC Batch: 87691
Prep Batch: 74456

Date Analyzed: 2012-01-09
QC Preparation: 2012-01-09

Analyzed By: AG
Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.114	mg/L	1	0.100	<0.000400	114	66.9 - 128.2
Toluene		1	0.103	mg/L	1	0.100	<0.000300	103	81.6 - 122.9
Ethylbenzene		1	0.0884	mg/L	1	0.100	<0.000300	88	62.7 - 117.9
Xylene		1	0.260	mg/L	1	0.300	<0.000333	87	62.9 - 118.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.110	mg/L	1	0.100	<0.000400	110	66.9 - 128.2	4	20
Toluene		1	0.101	mg/L	1	0.100	<0.000300	101	81.6 - 122.9	2	20
Ethylbenzene		1	0.0865	mg/L	1	0.100	<0.000300	86	62.7 - 117.9	2	20
Xylene		1	0.257	mg/L	1	0.300	<0.000333	86	62.9 - 118.2	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TF'T)	0.0981	0.103	mg/L	1	0.1	98	103	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.0893	0.0958	mg/L	1	0.1	89	96	52.2 - 135.8

Matrix Spike (MS-1) Spiked Sample: 285945

QC Batch: 87701
Prep Batch: 74464

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

Analyzed By: AG
Prepared By: AG

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.113	mg/L	1	0.100	0.0068	106	66.9 - 128.2	1	20
Toluene		1	0.0960	mg/L	1	0.100	0.002	94	81.6 - 122.9	2	20

continued ...

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matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1	0.0807	mg/L	1	0.100	<0.000300	81	62.7 - 117.9	3	20
Xylene		1	0.236	mg/L	1	0.300	<0.000333	79	62.9 - 118.2	1	20

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

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

Matrix Spike (MS-1) Spiked Sample: 285919

QC Batch: 87760
Prep Batch: 74525

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

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Q _n	Q _n	1	3540	mg/L	50	1380	2600	68 90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Q _n	Q _n	1	3540	mg/L	50	1380	2600	68 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: 285930

QC Batch: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	5000	mg/L	100	2750	2200	102	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	5020	mg/L	100	2750	2200	102	90 - 110	0	20

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

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Matrix Spike (MS-1) Spiked Sample: 285930

QC Batch: 87761
Prep Batch: 74526

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

Analyzed By: AR
Prepared By: AR

Param			F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Q ^s	Q ^s		1	2490	mg/L	100	2750	83.2	88	90 - 110

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

Param	F		C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Q _s	Q _s	1	2510	mg/L	100	2750	83.2	88	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: 285933

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 285933

QC Batch: 87762
Prep Batch: 74527

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

Analyzed By: AR
Prepared By: AR

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 285935

QC Batch: 87830
Prep Batch: 74566

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

Analyzed By: AR
Prepared By: AR

Param	F		C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q ^s	Q ^s	1	20200	mg/L	100	2750	19400	29	90 - 110

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

Param	F		C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q ⁺	Q ⁺	1	20200	mg/L	100	2750	19400	29	90 - 110	0	20

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

Calibration Standards

Standard (CCV-2)

QC Batch: 87691

Date Analyzed: 2012-01-09

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2012-01-09
Toluene		1	mg/L	0.100	0.0957	96	80 - 120	2012-01-09
Ethylbenzene		1	mg/L	0.100	0.0889	89	80 - 120	2012-01-09
Xylene		1	mg/L	0.300	0.260	87	80 - 120	2012-01-09

Standard (CCV-3)

QC Batch: 87691

Date Analyzed: 2012-01-09

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.103	103	80 - 120	2012-01-09
Toluene		1	mg/L	0.100	0.0980	98	80 - 120	2012-01-09
Ethylbenzene		1	mg/L	0.100	0.0918	92	80 - 120	2012-01-09
Xylene		1	mg/L	0.300	0.270	90	80 - 120	2012-01-09

Standard (CCV-1)

QC Batch: 87701

Date Analyzed: 2012-01-10

Analyzed By: AG

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

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Standard (CCV-2)

QC Batch: 87701

Date Analyzed: 2012-01-10

Analyzed By: AG

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

Standard (ICV-1)

QC Batch: 87760

Date Analyzed: 2012-01-12

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.7	103	90 - 110	2012-01-12

Standard (CCV-1)

QC Batch: 87760

Date Analyzed: 2012-01-12

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.5	102	90 - 110	2012-01-12

Standard (ICV-1)

QC Batch: 87761

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.8	99	90 - 110	2012-01-13

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Standard (ICV-1)

QC Batch: 87761

Date Analyzed: 2012-01-13

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.5	102	90 - 110	2012-01-13

Standard (CCV-1)

QC Batch: 87761

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 87761

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 87762

Date Analyzed: 2012-01-13

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 87830

Date Analyzed: 2012-01-17

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	25.0	100	90 - 110	2012-01-17

Standard (CCV-2)

QC Batch: 87830

Date Analyzed: 2012-01-17

Analyzed By: AR

Report Date: January 19, 2012
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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		i	mg/L	25.0	25.2	101	90 - 110	2012-01-17

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Analysis Request of Chain of Custody Record

TETRA TECH

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

SITE MANAGER:

MANAGER: Jeff Kindley

PROJECT NAME:

NAME: Rock Queen #11 ~~STAFF~~

SAMPLE IDENTIFICATION

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MW-2

Mid

12/12/20

9-6

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ZIP: _____

REMARKS:

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Abstract

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[illegible]

Return Order of service to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

1



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1296
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: April 24, 2012

Work Order: 12041304



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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
294166	MW-1	water	2012-04-11	15:50	2012-04-12
294167	MW-2	water	2012-04-11	15:40	2012-04-12
294168	MW-3	water	2012-04-11	16:10	2012-04-12
294169	MW-4	water	2012-04-11	15:20	2012-04-12
294170	MW-5	water	2012-04-11	15:30	2012-04-12
294171	MW-6	water	2012-04-11	16:00	2012-04-12
294172	MW-7	water	2012-04-11	16:20	2012-04-12

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

This report consists of a total of 28 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Abel

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

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Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2012-04-12 and assigned to work order 12041304. Samples for work order 12041304 were received intact without headspace and at a temperature of 2.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	76700	2012-04-19 at 10:35	90401	2012-04-20 at 11:02
BTEX	S 8021B	76700	2012-04-19 at 10:35	90403	2012-04-20 at 02:09
Chloride (IC)	E 300.0	76741	2012-04-21 at 14:00	90452	2012-04-23 at 09:39
SO4 (IC)	E 300.0	76741	2012-04-21 at 14:00	90452	2012-04-23 at 09:39
SO4 (IC)	E 300.0	76794	2012-04-23 at 14:00	90513	2012-04-24 at 09:06
TDS	SM 2540C	76564	2012-04-15 at 13:31	90279	2012-04-16 at 14:22

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 12041304 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.

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Analytical Report

Sample: 294166 - MW-1

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0932	mg/L	1	0.100	93	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0925	mg/L	1	0.100	92	51.1 - 122.9

Sample: 294166 - MW-1

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	110000	mg/L	2500	2.50

Sample: 294166 - MW-1

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	2690	mg/L	500	2.50

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Sample: 294166 - MW-1

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	140000	mg/L	100	10.0

Sample: 294167 - MW-2

Laboratory: Midland
Analysis: BTEX
QC Batch: 90403
Prep Batch: 76700

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0926	mg/L	1	0.100	93	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0947	mg/L	1	0.100	95	51.1 - 122.9

Sample: 294167 - MW-2

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	174000	mg/L	5000	2.50

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Sample: 294167 - MW-2

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	<5000	mg/L	2000	2.50

Sample: 294167 - MW-2

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	212000	mg/L	100	10.0

Sample: 294168 - MW-3

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0938	mg/L	1	0.100	94	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0917	mg/L	1	0.100	92	51.1 - 122.9

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Sample: 294168 - MW-3

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	4730	mg/L	100	2.50

Sample: 294168 - MW-3

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90513
Prep Batch: 76794

Analytical Method: E 300.0
Date Analyzed: 2012-04-24
Sample Preparation: 2012-04-23

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	72.7	mg/L	25	2.50

Sample: 294168 - MW-3

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	6440	mg/L	5	10.0

Sample: 294169 - MW-4

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

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

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

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sample 294169 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.110	mg/L	1	0.100	110	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.106	mg/L	1	0.100	106	51.1 - 122.9

Sample: 294169 - MW-4

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1560	mg/L	50	2.50

Sample: 294169 - MW-4

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	65.3	mg/L	10	2.50

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Sample: 294169 - MW-4

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	2820	mg/L	5	10.0

Sample: 294170 - MW-5

Laboratory: Midland
Analysis: BTEX
QC Batch: 90403
Prep Batch: 76700

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		2	0.00440	mg/L	1	0.00100
Toluene	u	2	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	2	<0.00100	mg/L	1	0.00100
Xylene	u	2	<0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Q=	Q=	0.0584	mg/L	1	0.100	58	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0564	mg/L	1	0.100	56	51.1 - 122.9

Sample: 294170 - MW-5

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	94400	mg/L	2500	2.50

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Sample: 294170 - MW-5

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	1340	mg/L	500	2.50

Sample: 294170 - MW-5

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	127000	mg/L	100	10.0

Sample: 294171 - MW-6

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0983	mg/L	1	0.100	98	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0953	mg/L	1	0.100	95	51.1 - 122.9

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Sample: 294171 - MW-6

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	488	mg/L	50	2.50

Sample: 294171 - MW-6

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	57.7	mg/L	10	2.50

Sample: 294171 - MW-6

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

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

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

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

Sample: 294172 - MW-7

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

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

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

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sample 294172 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0959	mg/L	1	0.100	96	73.5 - 123.1
4-Bromofluorobenzene (4-BFB)			0.0940	mg/L	1	0.100	94	51.1 - 122.9

Sample: 294172 - MW-7

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1440	mg/L	50	2.50

Sample: 294172 - MW-7

Laboratory: Lubbock
Analysis: SO4 (IC)
QC Batch: 90452
Prep Batch: 76741

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	74.9	mg/L	10	2.50

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Sample: 294172 - MW-7

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

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

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		2	1780	mg/L	5	10.0

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Method Blanks

Method Blank (1) QC Batch: 90279

QC Batch: 90279
Prep Batch: 76564

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

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 90401

QC Batch: 90401
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

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

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

Method Blank (1) QC Batch: 90403

QC Batch: 90403
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0917	mg/L	1	0.100	92	74.2 - 126
4-Bromofluorobenzene (4-BFB)			0.0916	mg/L	1	0.100	92	51.3 - 124.6

Method Blank (1) QC Batch: 90452

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.684	mg/L	2.5

Method Blank (1) QC Batch: 90452

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

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

Method Blank (1) QC Batch: 90513

QC Batch: 90513
Prep Batch: 76794

Date Analyzed: 2012-04-24
QC Preparation: 2012-04-23

Analyzed By: RL
Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1	0.249	mg/L	2.5

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Duplicates (2) Duplicated Sample: 294156

QC Batch: 90279
Prep Batch: 76564

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

Analyzed By: AR
Prepared By: AR

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

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 90279
Prep Batch: 76564

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

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		2	1000	mg/L	1	1000	<9.75	100	85.5 - 112.7

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

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

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

Laboratory Control Spike (LCS-2)

QC Batch: 90279
Prep Batch: 76564

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

Analyzed By: AR
Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 90401
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

Report Date: April 24, 2012
115-6403131A

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 90403
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.104	mg/L	1	0.100	<0.000600	104	79.7 - 117.6
Toluene		2	0.104	mg/L	1	0.100	<0.000400	104	73.9 - 123.9
Ethylbenzene		2	0.105	mg/L	1	0.100	<0.000600	105	76.8 - 120.8
Xylene		2	0.314	mg/L	1	0.300	<0.00130	105	76.2 - 120.5

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.103	mg/L	1	0.100	<0.000600	103	79.7 - 117.6	1	20
Toluene		2	0.103	mg/L	1	0.100	<0.000400	103	73.9 - 123.9	1	20
Ethylbenzene		2	0.103	mg/L	1	0.100	<0.000600	103	76.8 - 120.8	2	20
Xylene		2	0.308	mg/L	1	0.300	<0.00130	103	76.2 - 120.5	2	20

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

continued ...

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control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0831	0.0890	mg/L	1	0.100	83	89	72.5 - 117
4-Bromofluorobenzene (4-BFB)	0.0862	0.0893	mg/L	1	0.100	86	89	69.4 - 124

Laboratory Control Spike (LCS-1)

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	26.8	mg/L	1	25.0	<0.209	107	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.8	mg/L	1	25.0	<0.209	103	90 - 110	4	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.5	mg/L	1	25.0	<0.179	102	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.2	mg/L	1	25.0	<0.179	101	90 - 110	1	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 90513
Prep Batch: 76794

Date Analyzed: 2012-04-24
QC Preparation: 2012-04-23

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.5	mg/L	1	25.0	<0.179	102	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.1	mg/L	1	25.0	<0.179	100	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: 294170

QC Batch: 90401
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

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

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

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

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

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

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Matrix Spike (MS-1) Spiked Sample: 294386

QC Batch: 90403
Prep Batch: 76700

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

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	0.0999	mg/L	1	0.100	<0.000600	100	86.6 - 130.3
Toluene		2	0.0996	mg/L	1	0.100	<0.000400	100	82.2 - 120.1
Ethylbenzene		2	0.0997	mg/L	1	0.100	<0.000600	100	66.8 - 119.2
Xylene		2	0.297	mg/L	1	0.300	<0.00130	99	66.5 - 118.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	0.100	mg/L	1	0.100	<0.000600	100	86.6 - 130.3	0	20
Toluene		2	0.0996	mg/L	1	0.100	<0.000400	100	82.2 - 120.1	0	20
Ethylbenzene		2	0.101	mg/L	1	0.100	<0.000600	101	66.8 - 119.2	1	20
Xylene		2	0.303	mg/L	1	0.300	<0.00130	101	66.5 - 118.4	2	20

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

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	0.0624	0.0707	mg/L	1	0.1	62	71	73.2 - 116.6
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	0.0614	0.0703	mg/L	1	0.1	61	70	64.8 - 125.7

Matrix Spike (MS-1) Spiked Sample: 294172

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	3450	mg/L	100	2080	1349	101	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3470	mg/L	100	2080	1349	102	90 - 110	1	20

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

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Matrix Spike (MS-1) Spiked Sample: 294172

QC Batch: 90452
Prep Batch: 76741

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

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2170	mg/L	100	2080	74.5	101	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	2190	mg/L	100	2080	74.5	102	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: 294864

QC Batch: 90513
Prep Batch: 76794

Date Analyzed: 2012-04-24
QC Preparation: 2012-04-23

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	123	mg/L	5	104	22.2	97	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	124	mg/L	5	104	22.2	98	90 - 110	1	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 90401

Date Analyzed: 2012-04-20

Analyzed By: tc

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

Standard (CCV-2)

QC Batch: 90401

Date Analyzed: 2012-04-20

Analyzed By: tc

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

Standard (CCV-3)

QC Batch: 90401

Date Analyzed: 2012-04-20

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.103	103	80 - 120	2012-04-20
Toluene		2	mg/L	0.100	0.103	103	80 - 120	2012-04-20
Ethylbenzene		2	mg/L	0.100	0.102	102	80 - 120	2012-04-20
Xylene		2	mg/L	0.300	0.307	102	80 - 120	2012-04-20

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Standard (CCV-2)

QC Batch: 90403

Date Analyzed: 2012-04-20

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.106	106	80 - 120	2012-04-20
Toluene		2	mg/L	0.100	0.107	107	80 - 120	2012-04-20
Ethylbenzene		2	mg/L	0.100	0.107	107	80 - 120	2012-04-20
Xylene		2	mg/L	0.300	0.321	107	80 - 120	2012-04-20

Standard (CCV-3)

QC Batch: 90403

Date Analyzed: 2012-04-20

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-20
Toluene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-20
Ethylbenzene		2	mg/L	0.100	0.105	105	80 - 120	2012-04-20
Xylene		2	mg/L	0.300	0.315	105	80 - 120	2012-04-20

Standard (CCV-1)

QC Batch: 90452

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	26.1	104	90 - 110	2012-04-23

Standard (CCV-1)

QC Batch: 90452

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.5	102	90 - 110	2012-04-23

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Standard (CCV-2)

QC Batch: 90452

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	26.4	106	90 - 110	2012-04-23

Standard (CCV-2)

QC Batch: 90452

Date Analyzed: 2012-04-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.9	104	90 - 110	2012-04-23

Standard (CCV-1)

QC Batch: 90513

Date Analyzed: 2012-04-24

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	25.0	100	90 - 110	2012-04-24

Standard (CCV-2)

QC Batch: 90513

Date Analyzed: 2012-04-24

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.7	99	90 - 110	2012-04-24

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less 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.

12041304

Analysis Request of Chain of Custody Record

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



CLIENT NAME: Celero		SITE MANAGER: Jeff Kinley	
PROJECT NO.: 115-403131A		PROJECT NAME: Rock Queen # 11	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
274166	4/11	1550	MW-1
167		1540	MW-2
168		1610	MW-3
169		1520	MW-4
170		1530	MW-5
171		1600	MW-6
172		1620	MW-7

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

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

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	Date: 4/12/04	Time: 1500
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	Date: 4/13/04	Time: 1510
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	Date: 4/13/04	Time: 1530
RECEIVING LABORATORY: Tetra	ADDRESS: Midland	STATE: TX	ZIP: 79701
SAMPLE CONDITION WHEN RECEIVED: 29.8 mbars			
REMARKS: *Midland - BTEX 1 TDS *Analysis - C-1 SO4			

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

12041304

Analysis Request of Chain of Custody Record

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ANALYSIS REQUEST
(Circle or Specify Method No.)**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946CLIENT NAME: CellcoSITE MANAGER: Jeff KinleyPROJECT NAME: 2012-11PROJECT NO.: 115-40331A

LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION		
			MATRIX	COMP	GRAB
274166	4/11	1530	✓	✓	✓
167		1540			
165		1610			
165		1520			
170		1530			
171		1600			
172		1620	✓	✓	✓

PRESERVATIVE METHOD

NUMBER OF CONTAINERS

HCL

HNO3

ICE

NONE

TPH 8015 MOD. TX1005 (Ext to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH (TDS)

BTEX 8021B

4

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RELINQUISHED BY: (Signature)

Date: 4/11/12Time: 15:10

RECEIVED BY: (Signature)

Date: 4/11/12Time: 15:10

RELINQUISHED BY: (Signature)

Date: 4/11/12Time: 15:10

RECEIVED BY: (Signature)

Date: 4/11/12Time: 15:10

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Date: 4/11/12Time: 15:10

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: August 7, 2012

Work Order: 12072702



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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
304910	MW-1	water	2012-07-25	13:00	2012-07-26
304911	MW-2	water	2012-07-25	13:10	2012-07-26
304912	MW-3	water	2012-07-25	13:40	2012-07-26
304913	MW-4	water	2012-07-25	14:00	2012-07-26
304914	MW-5	water	2012-07-25	13:30	2012-07-26
304915	MW-6	water	2012-07-25	13:20	2012-07-26
304916	MW-7	water	2012-07-25	13:50	2012-07-26

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

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

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

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Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2012-07-26 and assigned to work order 12072702. Samples for work order 12072702 were received intact without headspace and at a temperature of 4.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	79320	2012-08-01 at 15:45	93574	2012-08-01 at 15:45
Chloride (IC)	E 300.0	79317	2012-08-01 at 09:17	93594	2012-08-03 at 11:19
Chloride (IC)	E 300.0	79415	2012-08-05 at 00:51	93693	2012-08-06 at 13:08

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 12072702 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.

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Work Order: 12072702
Celero/ Rock Queen #11

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Analytical Report

Sample: 304910 - MW-1

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93574
Prep Batch: 79320

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0899	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0868	mg/L	1	0.100	87	70 - 130

Sample: 304910 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93594
Prep Batch: 79317

Analytical Method: E 300.0
Date Analyzed: 2012-08-03
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	32900	mg/L	5000	2.50

Sample: 304911 - MW-2

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93574
Prep Batch: 79320

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0872	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0893	mg/L	1	0.100	89	70 - 130

Sample: 304911 - MW-2

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93594
Prep Batch: 79317

Analytical Method: E 300.0
Date Analyzed: 2012-08-03
Sample Preparation: 2012-08-01

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	13800	mg/L	1000	2.50

Sample: 304912 - MW-3

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93574
Prep Batch: 79320

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0873	mg/L	1	0.100	87	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0895	mg/L	1	0.100	90	70 - 130

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Sample: 304912 - MW-3

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93693
Prep Batch: 79415

Analytical Method: E 300.0
Date Analyzed: 2012-08-06
Sample Preparation: 2012-08-05

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	1690	mg/L	100	2.50

Sample: 304913 - MW-4

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93574
Prep Batch: 79320

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0858	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0896	mg/L	1	0.100	90	70 - 130

Sample: 304913 - MW-4

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93693
Prep Batch: 79415

Analytical Method: E 300.0
Date Analyzed: 2012-08-06
Sample Preparation: 2012-08-05

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	2130	mg/L	100	2.50

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Sample: 304914 - MW-5

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 93574

Prep Batch: 79320

Analytical Method: S 8021B

Date Analyzed: 2012-08-01

Sample Preparation: 2012-08-01

Prep Method: S 5030B

Analyzed By: ZLM

Prepared By: ZLM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	<0.00100	mg/L	1	0.00100
Toluene	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	U	1	<0.00100	mg/L	1	0.00100
Xylene		1	0.0117	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Q _{nr}	Q _{nr}	0.131	mg/L	1	0.100	131	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0821	mg/L	1	0.100	82	70 - 130

Sample: 304914 - MW-5

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 93693

Prep Batch: 79415

Analytical Method: E 300.0

Date Analyzed: 2012-08-06

Sample Preparation: 2012-08-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q _{nr}	2	48500	mg/L	1000	2.50

Sample: 304915 - MW-6

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 93574

Prep Batch: 79320

Analytical Method: S 8021B

Date Analyzed: 2012-08-01

Sample Preparation: 2012-08-01

Prep Method: S 5030B

Analyzed By: ZLM

Prepared By: ZLM

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0881	mg/L	1	0.100	88	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0905	mg/L	1	0.100	90	70 - 130

Sample: 304915 - MW-6

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93693
Prep Batch: 79415

Analytical Method: E 300.0
Date Analyzed: 2012-08-06
Sample Preparation: 2012-08-05

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q ⁸	2	484	mg/L	10	2.50

Sample: 304916 - MW-7

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 93574
Prep Batch: 79320

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0863	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0883	mg/L	1	0.100	88	70 - 130

Sample: 304916 - MW-7

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 93693
Prep Batch: 79415

Analytical Method: E 300.0
Date Analyzed: 2012-08-06
Sample Preparation: 2012-08-05

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*	2	1660	mg/L	100	2.50

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Method Blanks

Method Blank (1) QC Batch: 93574

QC Batch: 93574
Prep Batch: 79320

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

Analyzed By: ZLM
Prepared By: ZLM

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000371	mg/L	0.001
Toluene		1	<0.000347	mg/L	0.001
Ethylbenzene		1	<0.000326	mg/L	0.001
Xylene		1	0.000700	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0902	mg/L	1	0.100	90	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0928	mg/L	1	0.100	93	70 - 130

Method Blank (1) QC Batch: 93594

QC Batch: 93594
Prep Batch: 79317

Date Analyzed: 2012-08-03
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	0.747	mg/L	2.5

Method Blank (1) QC Batch: 93693

QC Batch: 93693
Prep Batch: 79415

Date Analyzed: 2012-08-06
QC Preparation: 2012-08-05

Analyzed By: AR
Prepared By: AR

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

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 93574
Prep Batch: 79320

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

Analyzed By: ZLM
Prepared By: ZLM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0911	mg/L	1	0.100	<0.000371	91	78.6 - 120
Toluene		1	0.0908	mg/L	1	0.100	<0.000347	91	79.6 - 120
Ethylbenzene		1	0.0947	mg/L	1	0.100	<0.000326	95	80 - 120
Xylene		1	0.280	mg/L	1	0.300	0.0007	93	79.3 - 120

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0915	mg/L	1	0.100	<0.000371	92	78.6 - 120	0	20
Toluene		1	0.0910	mg/L	1	0.100	<0.000347	91	79.6 - 120	0	20
Ethylbenzene		1	0.0963	mg/L	1	0.100	<0.000326	96	80 - 120	2	20
Xylene		1	0.281	mg/L	1	0.300	0.0007	94	79.3 - 120	0	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0891	0.0889	mg/L	1	0.100	89	89	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0877	0.0887	mg/L	1	0.100	88	89	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 93594
Prep Batch: 79317

Date Analyzed: 2012-08-03
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

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

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

continued ...

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control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	25.5	mg/L	1	25.0	<0.265	102	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: 93693
Prep Batch: 79415

Date Analyzed: 2012-08-06
QC Preparation: 2012-08-05

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	26.0	mg/L	1	25.0	<0.265	104	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	25.9	mg/L	1	25.0	<0.265	104	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 304906

QC Batch: 93574
Prep Batch: 79320

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

Analyzed By: ZLM
Prepared By: ZLM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0895	mg/L	1	0.100	0.0034	86	42.2 - 136
Toluene		1	0.0756	mg/L	1	0.100	<0.000347	76	44.3 - 133
Ethylbenzene		1	0.0684	mg/L	1	0.100	<0.000326	68	45.6 - 132
Xylene		1	0.200	mg/L	1	0.300	<0.000357	67	44.7 - 128

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0884	mg/L	1	0.100	0.0034	85	42.2 - 136	1	20
Toluene		1	0.0714	mg/L	1	0.100	<0.000347	71	44.3 - 133	6	20

continued ...

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matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1	0.0648	mg/L	1	0.100	<0.000326	65	45.6 - 132	5	20
Xylene		1	0.192	mg/L	1	0.300	<0.000357	64	44.7 - 128	4	20

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

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)			0.0722	0.0680	mg/L	1	0.1	72	68	70 - 130
4-Bromofluorobenzene (4-BFB)	Q _{tr}	Q _{tr}	0.0620	0.0617	mg/L	1	0.1	62	62	70 - 130

Matrix Spike (MS-1) Spiked Sample: 304907

QC Batch: 93594
Prep Batch: 79317

Date Analyzed: 2012-08-03
QC Preparation: 2012-08-01

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	4490	mg/L	100	2750	1470	110	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	4500	mg/L	100	2750	1470	110	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 304913

QC Batch: 93693
Prep Batch: 79415

Date Analyzed: 2012-08-06
QC Preparation: 2012-08-05

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q _{tr}	Q _{tr}	2	5540	mg/L	100	2750	2130	124

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Q _{tr}	Q _{tr}	2	5560	mg/L	100	2750	2130	125	80 - 120	0

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

Calibration Standards

Standard (CCV-1)

QC Batch: 93574

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0938	94	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0923	92	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0963	96	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.281	94	80 - 120	2012-08-01

Standard (CCV-2)

QC Batch: 93574

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0896	90	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0880	88	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0933	93	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.273	91	80 - 120	2012-08-01

Standard (CCV-3)

QC Batch: 93574

Date Analyzed: 2012-08-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0883	88	80 - 120	2012-08-01
Toluene		1	mg/L	0.100	0.0863	86	80 - 120	2012-08-01
Ethylbenzene		1	mg/L	0.100	0.0893	89	80 - 120	2012-08-01
Xylene		1	mg/L	0.300	0.266	89	80 - 120	2012-08-01

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Standard (CCV-1)

QC Batch: 93594

Date Analyzed: 2012-08-03

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	25.5	102	90 - 110	2012-08-03

Standard (CCV-2)

QC Batch: 93594

Date Analyzed: 2012-08-03

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	25.5	102	90 - 110	2012-08-03

Standard (CCV-1)

QC Batch: 93693

Date Analyzed: 2012-08-06

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	26.4	106	90 - 110	2012-08-06

Standard (CCV-2)

QC Batch: 93693

Date Analyzed: 2012-08-06

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		2	mg/L	25.0	26.7	107	90 - 110	2012-08-06

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

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



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: November 6, 2012

Work Order: 12102918



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

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
312907	MW-1	water	2012-10-25	11:40	2012-10-26
312908	MW-2	water	2012-10-25	11:20	2012-10-26
312909	MW-3	water	2012-10-25	11:50	2012-10-26
312910	MW-4	water	2012-10-25	12:05	2012-10-26
312911	MW-5	water	2012-10-25	11:10	2012-10-26
312912	MW-6	water	2012-10-25	11:30	2012-10-26
312913	MW-7	water	2012-10-25	12:00	2012-10-26

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

This report consists of a total of 37 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

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

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Case Narrative

Samples for project Celero/ Rock Queen #11 were received by TraceAnalysis, Inc. on 2012-10-26 and assigned to work order 12102918. Samples for work order 12102918 were received intact without headspace and at a temperature of 2.6 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	81562	2012-11-01 at 09:16	96232	2012-11-01 at 09:16
BTEX	S 8021B	81605	2012-11-03 at 09:49	96287	2012-11-03 at 09:49
BTEX	S 8021B	81633	2012-11-05 at 09:49	96325	2012-11-05 at 09:49
Chloride (IC)	E 300.0	81587	2012-11-03 at 12:33	96279	2012-11-05 at 08:53
Chloride (IC)	E 300.0	81587	2012-11-03 at 12:33	96280	2012-11-05 at 08:54
Chloride (IC)	E 300.0	81587	2012-11-03 at 12:33	96281	2012-11-05 at 08:55
SO4 (IC)	E 300.0	81587	2012-11-03 at 12:33	96279	2012-11-05 at 08:53
SO4 (IC)	E 300.0	81587	2012-11-03 at 12:33	96280	2012-11-05 at 08:54
SO4 (IC)	E 300.0	81587	2012-11-03 at 12:33	96281	2012-11-05 at 08:55
TDS	SM 2540C	81536	2012-10-30 at 13:35	96264	2012-10-31 at 15:34

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 12102918 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.

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Analytical Report

Sample: 312907 - MW-1

Laboratory: Midland
Analysis: BTEX
QC Batch: 96232
Prep Batch: 81562

Analytical Method: S 8021B
Date Analyzed: 2012-11-01
Sample Preparation: 2012-11-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0942	mg/L	1	0.100	94	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0746	mg/L	1	0.100	75	70 - 130

Sample: 312907 - MW-1

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96279
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	36700	mg/L	5000	2.50

Sample: 312907 - MW-1

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96279
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	849	mg/L	50	2.50

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Sample: 312907 - MW-1

Laboratory: Midland
Analysis: TDS
QC Batch: 96264
Prep Batch: 81536

Analytical Method: SM 2540C
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	76400	mg/L	100	10.0

Sample: 312908 - MW-2

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0832	mg/L	1	0.100	83	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0779	mg/L	1	0.100	78	70 - 130

Sample: 312908 - MW-2

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96279
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	48300	mg/L	5000	2.50

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Sample: 312908 - MW-2

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96279
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	730	mg/L	50	2.50

Sample: 312908 - MW-2

Laboratory: Midland
Analysis: TDS
QC Batch: 96264
Prep Batch: 81536

Analytical Method: SM 2540C
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	61000	mg/L	100	10.0

Sample: 312909 - MW-3

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0864	mg/L	1	0.100	86	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0837	mg/L	1	0.100	84	70 - 130

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Sample: 312909 - MW-3

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96280
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	3640	mg/L	500	2.50

Sample: 312909 - MW-3

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96280
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	73.2	mg/L	5	2.50

Sample: 312909 - MW-3

Laboratory: Midland
Analysis: TDS
QC Batch: 96264
Prep Batch: 81536

Analytical Method: SM 2540C
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	6010	mg/L	10	10.0

Sample: 312910 - MW-4

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

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

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

continued ...

Report Date: November 6, 2012
115-6403131A

Work Order: 12102918
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sample 312910 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0851	mg/L	1	0.100	85	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0846	mg/L	1	0.100	85	70 - 130

Sample: 312910 - MW-4

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96280
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	5480	mg/L	500	2.50

Sample: 312910 - MW-4

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96280
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	134	mg/L	5	2.50

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Sample: 312910 - MW-4

Laboratory: Midland

Analysis: TDS

QC Batch: 96264

Prep Batch: 81536

Analytical Method: SM 2540C

Date Analyzed: 2012-10-31

Sample Preparation: 2012-10-30

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	10200	mg/L	20	10.0

Sample: 312911 - MW-5

Laboratory: Midland

Analysis: BTEX

QC Batch: 96325

Prep Batch: 81633

Analytical Method: S 8021B

Date Analyzed: 2012-11-05

Sample Preparation: 2012-11-05

Prep Method: S 5030B

Analyzed By: YG

Prepared By: YG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	¹ Q _{tr}	Q _{tr}	0.168	mg/L	1	0.100	168	70 - 130
4-Bromofluorobenzene (4-BFB)	² Q _{tr}	Q _{tr}	0.0658	mg/L	1	0.100	66	70 - 130

Sample: 312911 - MW-5

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 96280

Prep Batch: 81587

Analytical Method: E 300.0

Date Analyzed: 2012-11-05

Sample Preparation: 2012-11-03

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	78900	mg/L	5000	2.50

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Sample: 312911 - MW-5

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96280
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	1180	mg/L	50	2.50

Sample: 312911 - MW-5

Laboratory: Midland
Analysis: TDS
QC Batch: 96264
Prep Batch: 81536

Analytical Method: SM 2540C
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	144000	mg/L	100	10.0

Sample: 312912 - MW-6

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

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

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0854	mg/L	1	0.100	85	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0845	mg/L	1	0.100	84	70 - 130

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Sample: 312912 - MW-6

Laboratory: Midland
Analysis: Chloride (IC)
QC Batch: 96281
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	391	mg/L	10	2.50

Sample: 312912 - MW-6

Laboratory: Midland
Analysis: SO4 (IC)
QC Batch: 96281
Prep Batch: 81587

Analytical Method: E 300.0
Date Analyzed: 2012-11-05
Sample Preparation: 2012-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	61.0	mg/L	5	2.50

Sample: 312912 - MW-6

Laboratory: Midland
Analysis: TDS
QC Batch: 96264
Prep Batch: 81536

Analytical Method: SM 2540C
Date Analyzed: 2012-10-31
Sample Preparation: 2012-10-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	1320	mg/L	2	10.0

Sample: 312913 - MW-7

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

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

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

continued ...

sample 312913 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0844	mg/L	1	0.100	84	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0840	mg/L	1	0.100	84	70 - 130

Sample: 312913 - MW-7

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2012-11-05	Analyzed By: AR
QC Batch: 96281	Sample Preparation: 2012-11-03	Prepared By: AR
Prep Batch: 81587		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	1550	mg/L	100	2.50

Sample: 312913 - MW-7

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2012-11-05	Analyzed By: AR
QC Batch: 96281	Sample Preparation: 2012-11-03	Prepared By: AR
Prep Batch: 81587		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	86.2	mg/L	10	2.50

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Sample: 312913 - MW-7

Laboratory: Midland

Analysis: TDS

QC Batch: 96264

Prep Batch: 81536

Analytical Method: SM 2540C

Date Analyzed: 2012-10-31

Sample Preparation: 2012-10-30

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	3980	mg/L	5	10.0

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Method Blanks

Method Blank (1) QC Batch: 96232

QC Batch: 96232
Prep Batch: 81562

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

Analyzed By: YG
Prepared By: YG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TF'T)			0.0913	mg/L	1	0.100	91	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0818	mg/L	1	0.100	82	70 - 130

Method Blank (1) QC Batch: 96264

QC Batch: 96264
Prep Batch: 81536

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-30

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96279

QC Batch: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 96279

QC Batch: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96280

QC Batch: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96280

QC Batch: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96281

QC Batch: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 96281

QC Batch: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 96287

QC Batch: 96287
Prep Batch: 81605

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

Analyzed By: YG
Prepared By: YG

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

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

Method Blank (1) QC Batch: 96325

QC Batch: 96325
Prep Batch: 81633

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-05

Analyzed By: YG
Prepared By: YG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0855	mg/L	1	0.100	86	70 - 130

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			0.0856	mg/L	1	0.100	86	70 - 130

Duplicates (2) Duplicated Sample: 312917

QC Batch: 96264
Prep Batch: 81536

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-30

Analyzed By: AR
Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	635	695	mg/L	5	9	10
Total Dissolved Solids	1	635	227000	mg/L	5	9	10

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 96232
Prep Batch: 81562

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

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0985	mg/L	1	0.100	<0.000600	98	70 - 130
Toluene		1	0.0951	mg/L	1	0.100	<0.000600	95	70 - 130
Ethylbenzene		1	0.0881	mg/L	1	0.100	<0.000800	88	70 - 130
Xylene		1	0.276	mg/L	1	0.300	<0.000767	92	70 - 130

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0973	mg/L	1	0.100	<0.000600	97	70 - 130	1	20
Toluene		1	0.0942	mg/L	1	0.100	<0.000600	94	70 - 130	1	20
Ethylbenzene		1	0.0873	mg/L	1	0.100	<0.000800	87	70 - 130	1	20
Xylene		1	0.274	mg/L	1	0.300	<0.000767	91	70 - 130	1	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0923	0.0923	mg/L	1	0.100	92	92	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0847	0.0840	mg/L	1	0.100	85	84	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 96264
Prep Batch: 81536

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-30

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	1060	mg/L	1	1000	<9.75	106	90 - 110

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

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1050	mg/L	1	1000	<9.75	105	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-2)

QC Batch: 96264
Prep Batch: 81536

Date Analyzed: 2012-10-31
QC Preparation: 2012-10-30

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	997	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: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	22.5	mg/L	1	25.0	<0.265	90	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	22.8	mg/L	1	25.0	<0.265	91	90 - 110	1	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	23.0	mg/L	1	25.0	<0.177	92	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	22.6	mg/L	1	25.0	<0.177	90	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: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	23.2	mg/L	1	25.0	<0.265	93	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	22.5	mg/L	1	25.0	<0.265	90	90 - 110	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: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	22.7	mg/L	1	25.0	<0.177	91	90 - 110

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

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	22.8	mg/L	1	25.0	<0.177	91	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: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	22.7	mg/L	1	25.0	<0.265	91	90 - 110	4	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	23.4	mg/L	1	25.0	<0.177	94	90 - 110

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

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

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

Analyzed By: YG
Prepared By: YG

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0945	mg/L	1	0.100	<0.000600	94	70 - 130
Toluene		1	0.0922	mg/L	1	0.100	<0.000600	92	70 - 130
Ethylbenzene		1	0.0853	mg/L	1	0.100	<0.000800	85	70 - 130
Xylene		1	0.268	mg/L	1	0.300	<0.000767	89	70 - 130

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 96325
Prep Batch: 81633

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-05

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0908	mg/L	1	0.100	<0.000600	91	70 - 130
Toluene		1	0.0886	mg/L	1	0.100	<0.000600	89	70 - 130
Ethylbenzene		1	0.0823	mg/L	1	0.100	<0.000800	82	70 - 130
Xylene		1	0.259	mg/L	1	0.300	<0.000767	86	70 - 130

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0947	mg/L	1	0.100	<0.000600	95	70 - 130	4	20
Toluene		1	0.0931	mg/L	1	0.100	<0.000600	93	70 - 130	5	20
Ethylbenzene		1	0.0874	mg/L	1	0.100	<0.000800	87	70 - 130	6	20
Xylene		1	0.274	mg/L	1	0.300	<0.000767	91	70 - 130	6	20

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

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control spikes continued . . .

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene ('TFT')	0.0820	0.0875	mg/L	1	0.100	82	88	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0847	0.0894	mg/L	1	0.100	85	89	70 - 130

Matrix Spike (MS-1) Spiked Sample: 312900

QC Batch: 96232
Prep Batch: 81562

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

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0970	mg/L	1	0.100	<0.000600	97	70 - 130
Toluene		1	0.0933	mg/L	1	0.100	<0.000600	93	70 - 130
Ethylbenzene		1	0.0855	mg/L	1	0.100	<0.000800	86	70 - 130
Xylene		1	0.268	mg/L	1	0.300	<0.000767	89	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0953	mg/L	1	0.100	<0.000600	95	70 - 130	2	20
Toluene		1	0.0920	mg/L	1	0.100	<0.000600	92	70 - 130	1	20
Ethylbenzene		1	0.0848	mg/L	1	0.100	<0.000800	85	70 - 130	1	20
Xylene		1	0.266	mg/L	1	0.300	<0.000767	89	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene ('TFT')	0.0903	0.0905	mg/L	1	0.1	90	90	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0823	0.0819	mg/L	1	0.1	82	82	70 - 130

Matrix Spike (MS-1) Spiked Sample: 312906

QC Batch: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	220000	mg/L	5000	150000	58100	108	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	219000	mg/L	5000	150000	58100	107	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 312906

QC Batch: 96279
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	135000	mg/L	5000	150000	1010	89	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	136000	mg/L	5000	150000	1010	90	80 - 120	1	20

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

Matrix Spike (MS-1) Spiked Sample: 312909

QC Batch: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	19400	mg/L	500	15000	3640	105	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	19600	mg/L	500	15000	3640	106	80 - 120	1	20

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

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Matrix Spike (MS-1) Spiked Sample: 312909

QC Batch: 96280
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	13700	mg/L	500	15000	110	91	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	13800	mg/L	500	15000	110	91	80 - 120	1	20

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

Matrix Spike (MS-1) Spiked Sample: 312912

QC Batch: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	748	mg/L	10	300	391	119	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	751	mg/L	10	300	391	120	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 312912

QC Batch: 96281
Prep Batch: 81587

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-03

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	338	mg/L	10	300	62.8	92	80 - 120

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

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	342	mg/L	10	300	62.8	93	80 - 120	1	20

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

Matrix Spike (MS-1) Spiked Sample: 312905

QC Batch: 96287
Prep Batch: 81605

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

Analyzed By: YG
Prepared By: YG

Param			MS	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	
	F	C	Result							
Benzene			1	0.0851	mg/L	1	0.100	<0.000600	85	70 - 130
Toluene			1	0.0730	mg/L	1	0.100	<0.000600	73	70 - 130
Ethylbenzene	Q _{st}	Q _{st}	1	0.0589	mg/L	1	0.100	<0.000800	59	70 - 130
Xylene	Q _{st}	Q _{st}	1	0.126	mg/L	1	0.300	<0.000767	42	70 - 130

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

Param			MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit	
	F	C	Result	Units								
Benzene			1	0.0866	mg/L	1	0.100	<0.000600	87	70 - 130	2	20
Toluene			1	0.0746	mg/L	1	0.100	<0.000600	75	70 - 130	2	20
Ethylbenzene	Q _s	Q _s	1	0.0608	mg/L	1	0.100	<0.000800	61	70 - 130	3	20
Xylene	Q _s	Q _s	1	0.130	mg/L	1	0.300	<0.000767	43	70 - 130	3	20

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

Surrogate	F	C	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{st}	Q _{st}	0.0649	0.0662	mg/L	1	0.1	65	66	70 - 130
4-Bromofluorobenzene (4-BFB)	Q _{st}	Q _{st}	0.0527	0.0502	mg/L	1	0.1	53	50	70 - 130

Matrix Spike (MS-1) Spiked Sample: 313026

QC Batch: 96325
Prep Batch: 81633

Date Analyzed: 2012-11-05
QC Preparation: 2012-11-05

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0932	mg/L	1	0.100	<0.000600	93	70 - 130
Toluene		1	0.0917	mg/L	1	0.100	<0.000600	92	70 - 130
Ethylbenzene		1	0.0863	mg/L	1	0.100	<0.000800	86	70 - 130

continued ...

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene		1	0.270	mg/L	1	0.300	<0.000767	90	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0949	mg/L	1	0.100	<0.000600	95	70 - 130	2	20
Toluene		1	0.0930	mg/L	1	0.100	<0.000600	93	70 - 130	1	20
Ethylbenzene		1	0.0870	mg/L	1	0.100	<0.000800	87	70 - 130	1	20
Xylene		1	0.273	mg/L	1	0.300	<0.000767	91	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0862	0.0863	mg/L	1	0.1	86	86	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0885	0.0880	mg/L	1	0.1	88	88	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 96232

Date Analyzed: 2012-11-01

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0975	98	80 - 120	2012-11-01
Toluene		1	mg/L	0.100	0.0942	94	80 - 120	2012-11-01
Ethylbenzene		1	mg/L	0.100	0.0870	87	80 - 120	2012-11-01
Xylene		1	mg/L	0.300	0.273	91	80 - 120	2012-11-01

Standard (CCV-2)

QC Batch: 96232

Date Analyzed: 2012-11-01

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0963	96	80 - 120	2012-11-01
Toluene		1	mg/L	0.100	0.0931	93	80 - 120	2012-11-01
Ethylbenzene		1	mg/L	0.100	0.0861	86	80 - 120	2012-11-01
Xylene		1	mg/L	0.300	0.269	90	80 - 120	2012-11-01

Standard (CCV-1)

QC Batch: 96279

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.6	94	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96279

Date Analyzed: 2012-11-05

Analyzed By: AR

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.2	97	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96279

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.8	95	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96279

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96280

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.8	95	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96280

Date Analyzed: 2012-11-05

Analyzed By: AR

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96280

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.5	94	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96280

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.3	97	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96281

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	23.5	94	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96281

Date Analyzed: 2012-11-05

Analyzed By: AR

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.3	97	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96281

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	24.4	98	90 - 110	2012-11-05

Standard (CCV-2)

QC Batch: 96281

Date Analyzed: 2012-11-05

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2012-11-05

Standard (CCV-1)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0937	94	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0914	91	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0845	84	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.265	88	80 - 120	2012-11-03

Standard (CCV-2)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0925	92	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0905	90	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0844	84	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.264	88	80 - 120	2012-11-03

Standard (CCV-3)

QC Batch: 96287

Date Analyzed: 2012-11-03

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0909	91	80 - 120	2012-11-03
Toluene		1	mg/L	0.100	0.0886	89	80 - 120	2012-11-03
Ethylbenzene		1	mg/L	0.100	0.0819	82	80 - 120	2012-11-03
Xylene		1	mg/L	0.300	0.258	86	80 - 120	2012-11-03

Standard (CCV-1)

QC Batch: 96325

Date Analyzed: 2012-11-05

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0891	89	80 - 120	2012-11-05
Toluene		1	mg/L	0.100	0.0870	87	80 - 120	2012-11-05
Ethylbenzene		1	mg/L	0.100	0.0811	81	80 - 120	2012-11-05
Xylene		1	mg/L	0.300	0.255	85	80 - 120	2012-11-05

Standard (CCV-2)

QC Batch: 96325

Date Analyzed: 2012-11-05

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0932	93	80 - 120	2012-11-05

continued ...

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standard continued ...

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		1	mg/L	0.100	0.0906	91	80 - 120	2012-11-05
Ethylbenzene		1	mg/L	0.100	0.0840	84	80 - 120	2012-11-05
Xylene		1	mg/L	0.300	0.264	88	80 - 120	2012-11-05

Standard (CCV-3)

QC Batch: 96325

Date Analyzed: 2012-11-05

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0939	94	80 - 120	2012-11-05
Toluene		1	mg/L	0.100	0.0925	92	80 - 120	2012-11-05
Ethylbenzene		1	mg/L	0.100	0.0865	86	80 - 120	2012-11-05
Xylene		1	mg/L	0.300	0.272	91	80 - 120	2012-11-05

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	Midland

Standard Flags

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

Result Comments

- 1 Data confirmed by reanalysis.
- 2 Data confirmed by reanalysis.

Attachments

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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



TETRA TECH

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

CLIENT NAME: Celero		SITE MANAGER: Jeff Kindley	
PROJECT NO.: 115-6403131A		PROJECT NAME: Celero - Rock Canyon #11	
LAB I.D. NUMBER		SAMPLE IDENTIFICATION	
	DATE	TIME	GRAB
312907	10/25	1140	✓
908		1120	✓
909		1150	✓
910		1205	✓
911		1110	✓
912		1130	✓
913		1200	✓

RECEIVING LABORATORY:		RECEIVED BY: (Signature)	
ADDRESS:	CITY:	STATE:	ZIP:
CONTACT:	PHONE:	DATE:	TIME:
REMARKS: intact / 0 headspace			

ANALYSIS REQUEST (Circle or Specify Method No.)		PAGE: 1 OF: 1
TPH 8015 MOD. TX1005 (Ext. to C35)	BTEX 8021B	✓
PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	✓
TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	✓
TCLP Semi Volatiles	RCI	✓
GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	✓
PCB's 8080/608	Pest. 808/608	✓
Chloride	Gamma Spec.	✓
Alpha Beta (Air)	PLM (Asbestos)	✓
Major Anions/Cations, pH, TDS	Sulfate	✓

RELINQUISHED BY: (Signature) Joe P. [Signature]	Date: 10/25/11	Time: 1455
RELINQUISHED BY: (Signature)	Date:	Time:
RELINQUISHED BY: (Signature)	Date:	Time:
RECEIVING LABORATORY: Trace		
ADDRESS: Midland	CITY: Midland	STATE: TX
CONTACT: Jeff Kindley	PHONE: 432-682-4559	DATE: 10/25/11
REMARKS: intact / 0 headspace		

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