

# 1RP-1554

## Groundwater Sampling Report

Appendix C (Cont.)  
Lab Analysis

**DATE:**  
**March 29, 2012**

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6701 Abernethy 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 888•588•3443 915•585•3443 FAX 915•585•4944  
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313  
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260  
E-Mail: lab@traceanalysis.com

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report (Corrected Report)

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

Report Date: August 24, 2011

Work Order: 11080104



Project Location: Chavez Co, NM  
Project Name: Celero/Rock Queen #1 TB  
Project Number: 115-6403129

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
273194	MW-1	water	2011-07-28	15:00	2011-07-29
273195	MW-2	water	2011-07-28	14:50	2011-07-29
273196	MW-3	water	2011-07-28	15:20	2011-07-29
273197	MW-4	water	2011-07-28	15:40	2011-07-29
273198	MW-5	water	2011-07-28	14:40	2011-07-29
273199	MW-6	water	2011-07-28	15:10	2011-07-29
273200	MW-7	water	2011-07-28	15:30	2011-07-29

### Report Corrections (Work Order 11080104)

- Corrected Report
- Re-ran the chlorides and SO4 for 273198. 8/24/11

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

This report consists of a total of 36 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 #1 TB were received by TraceAnalysis, Inc. on 2011-07-29 and assigned to work order 11080104. Samples for work order 11080104 were received intact without headspace and at a temperature of 10.8 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	70921	2011-08-02 at 09:42	83491	2011-08-02 at 09:42
BTEX	S 8021B	70958	2011-08-03 at 09:47	83538	2011-08-03 at 09:47
Chloride (IC)	E 300.0	70869	2011-08-01 at 12:42	83505	2011-08-02 at 11:12
Chloride (IC)	E 300.0	70897	2011-08-02 at 10:07	83579	2011-08-03 at 15:04
Chloride (IC)	E 300.0	70898	2011-08-02 at 10:08	83580	2011-08-03 at 15:05
Chloride (IC)	E 300.0	71505	2011-08-22 at 09:26	84218	2011-08-22 at 14:27
SO4 (IC)	E 300.0	70869	2011-08-01 at 12:42	83505	2011-08-02 at 11:12
SO4 (IC)	E 300.0	70897	2011-08-02 at 10:07	83579	2011-08-03 at 15:04
SO4 (IC)	E 300.0	70898	2011-08-02 at 10:08	83580	2011-08-03 at 15:05
SO4 (IC)	E 300.0	71505	2011-08-22 at 09:26	84218	2011-08-22 at 14:27
TDS	SM 2540C	70895	2011-08-02 at 08:59	83717	2011-08-09 at 11:17
TDS	SM 2540C	70948	2011-08-03 at 14:50	83789	2011-08-11 at 10:15

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11080104 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.

Samples were received on ice.

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: 273194 - MW-1

Laboratory: Midland

Analysis: BTEX

QC Batch: 83538

Prep Batch: 70958

Analytical Method: S 8021B

Date Analyzed: 2011-08-03

Sample Preparation: 2011-08-03

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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)			0.0723	mg/L	1	0.100	72	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0733	mg/L	1	0.100	73	67.5 - 140.8

### Sample: 273194 - MW-1

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 83505

Prep Batch: 70869

Analytical Method: E 300.0

Date Analyzed: 2011-08-02

Sample Preparation: 2011-08-01

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	141000	mg/L	5000	2.50

### Sample: 273194 - MW-1

Laboratory: Midland

Analysis: SO4 (IC)

QC Batch: 83505

Prep Batch: 70869

Analytical Method: E 300.0

Date Analyzed: 2011-08-02

Sample Preparation: 2011-08-01

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	2210	mg/L	50	2.50

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**Sample: 273194 - MW-1**

Laboratory: Midland

Analysis: TDS

QC Batch: 83717

Prep Batch: 70895

Analytical Method: SM 2540C

Date Analyzed: 2011-08-09

Sample Preparation: 2011-08-02

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	231000	mg/L	100	10.0

**Sample: 273195 - MW-2**

Laboratory: Midland

Analysis: BTEX

QC Batch: 83491

Prep Batch: 70921

Analytical Method: S 8021B

Date Analyzed: 2011-08-02

Sample Preparation: 2011-08-02

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.102	mg/L	1	0.100	102	67.5 - 140.8

**Sample: 273195 - MW-2**

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 83579

Prep Batch: 70897

Analytical Method: E 300.0

Date Analyzed: 2011-08-03

Sample Preparation: 2011-08-02

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	9870	mg/L	1000	2.50



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**Sample: 273195 - MW-2**

Laboratory: Midland  
Analysis: SO4 (IC)  
QC Batch: 83579  
Prep Batch: 70897

Analytical Method: E 300.0  
Date Analyzed: 2011-08-03  
Sample Preparation: 2011-08-02

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	135	mg/L	5	2.50

**Sample: 273195 - MW-2**

Laboratory: Midland  
Analysis: TDS  
QC Batch: 83717  
Prep Batch: 70895

Analytical Method: SM 2540C  
Date Analyzed: 2011-08-09  
Sample Preparation: 2011-08-02

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	25300	mg/L	100	10.0

**Sample: 273196 - MW-3**

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 83491  
Prep Batch: 70921

Analytical Method: S 8021B  
Date Analyzed: 2011-08-02  
Sample Preparation: 2011-08-02

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0899	mg/L	1	0.100	90	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0877	mg/L	1	0.100	88	67.5 - 140.8

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**Sample: 273196 - MW-3**

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2011-08-03	Analyzed By:	AR
QC Batch:	83579	Sample Preparation:	2011-08-02	Prepared By:	AR
Prep Batch:	70897				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	67300	mg/L	5000	2.50

**Sample: 273196 - MW-3**

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	SO4 (IC)	Date Analyzed:	2011-08-03	Analyzed By:	AR
QC Batch:	83579	Sample Preparation:	2011-08-02	Prepared By:	AR
Prep Batch:	70897				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	2070	mg/L	50	2.50

**Sample: 273196 - MW-3**

Laboratory:	Midland	Analytical Method:	SM 2540C	Prep Method:	N/A
Analysis:	TDS	Date Analyzed:	2011-08-09	Analyzed By:	AR
QC Batch:	83717	Sample Preparation:	2011-08-02	Prepared By:	AR
Prep Batch:	70895				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	93400	mg/L	100	10.0

**Sample: 273197 - MW-4**

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5030B
Analysis:	BTEX	Date Analyzed:	2011-08-02	Analyzed By:	ME
QC Batch:	83491	Sample Preparation:	2011-08-02	Prepared By:	ME
Prep Batch:	70921				

*continued ...*

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sample 273197 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.102	mg/L	1	0.100	102	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0988	mg/L	1	0.100	99	67.5 - 140.8

**Sample: 273197 - MW-4**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 83579  
Prep Batch: 70897

Analytical Method: E 300.0  
Date Analyzed: 2011-08-03  
Sample Preparation: 2011-08-02

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	934	mg/L	50	2.50

**Sample: 273197 - MW-4**

Laboratory: Midland  
Analysis: SO4 (IC)  
QC Batch: 83579  
Prep Batch: 70897

Analytical Method: E 300.0  
Date Analyzed: 2011-08-03  
Sample Preparation: 2011-08-02

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	90.5	mg/L	5	2.50

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**Sample: 273197 - MW-4**

Laboratory: Midland

Analysis: TDS

QC Batch: 83789

Prep Batch: 70948

Analytical Method: SM 2540C

Date Analyzed: 2011-08-11

Sample Preparation: 2011-08-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	1720	mg/L	2	10.0

**Sample: 273198 - MW-5**

Laboratory: Midland

Analysis: BTEX

QC Batch: 83491

Prep Batch: 70921

Analytical Method: S 8021B

Date Analyzed: 2011-08-02

Sample Preparation: 2011-08-02

Prep Method: S 5030B

Analyzed By: ME

Prepared By: ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.100	mg/L	1	0.100	100	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0941	mg/L	1	0.100	94	67.5 - 140.8

**Sample: 273198 - MW-5**

Laboratory: Midland

Analysis: Chloride (IC)

QC Batch: 84218

Prep Batch: 71505

Analytical Method: E 300.0

Date Analyzed: 2011-08-22

Sample Preparation: 2011-08-22

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	40.9	mg/L	.5	2.50

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**Sample: 273198 - MW-5**

Laboratory: Midland  
Analysis: SO4 (IC)  
QC Batch: 84218  
Prep Batch: 71505

Analytical Method: E 300.0  
Date Analyzed: 2011-08-22  
Sample Preparation: 2011-08-22

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	138	mg/L	5	2.50

**Sample: 273198 - MW-5**

Laboratory: Midland  
Analysis: TDS  
QC Batch: 83789  
Prep Batch: 70948

Analytical Method: SM 2540C  
Date Analyzed: 2011-08-11  
Sample Preparation: 2011-08-05

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	414	mg/L	2	10.0

**Sample: 273199 - MW-6**

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 83491  
Prep Batch: 70921

Analytical Method: S 8021B  
Date Analyzed: 2011-08-02  
Sample Preparation: 2011-08-02

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0770	mg/L	1	0.100	77	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0771	mg/L	1	0.100	77	67.5 - 140.8

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**Sample: 273199 - MW-6**

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	Chloride (IC)	Date Analyzed:	2011-08-03	Analyzed By:	AR
QC Batch:	83579	Sample Preparation:	2011-08-02	Prepared By:	AR
Prep Batch:	70897				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	101000	mg/L	5000	2.50

**Sample: 273199 - MW-6**

Laboratory:	Midland	Analytical Method:	E 300.0	Prep Method:	N/A
Analysis:	SO4 (IC)	Date Analyzed:	2011-08-03	Analyzed By:	AR
QC Batch:	83579	Sample Preparation:	2011-08-02	Prepared By:	AR
Prep Batch:	70897				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	2680	mg/L	500	2.50

**Sample: 273199 - MW-6**

Laboratory:	Midland	Analytical Method:	SM 2540C	Prep Method:	N/A
Analysis:	TDS	Date Analyzed:	2011-08-11	Analyzed By:	AR
QC Batch:	83789	Sample Preparation:	2011-08-05	Prepared By:	AR
Prep Batch:	70948				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	160000	mg/L	20	10.0

**Sample: 273200 - MW-7**

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5030B
Analysis:	BTEX	Date Analyzed:	2011-08-02	Analyzed By:	ME
QC Batch:	83491	Sample Preparation:	2011-08-02	Prepared By:	ME
Prep Batch:	70921				

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sample 273200 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0764	mg/L	1	0.100	76	79.1 - 127.2
4-Bromofluorobenzene (4-BFB)			0.0771	mg/L	1	0.100	77	67.5 - 140.8

**Sample: 273200 - MW-7**

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: Chloride (IC)	Date Analyzed: 2011-08-03	Analyzed By: AR
QC Batch: 83580	Sample Preparation: 2011-08-02	Prepared By: AR
Prep Batch: 70898		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1	99400	mg/L	5000	2.50

**Sample: 273200 - MW-7**

Laboratory: Midland	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2011-08-03	Analyzed By: AR
QC Batch: 83580	Sample Preparation: 2011-08-02	Prepared By: AR
Prep Batch: 70898		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1	2300	mg/L	50	2.50

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**Sample: 273200 - MW-7**

Laboratory: Midland

Analysis: TDS

QC Batch: 83789

Prep Batch: 70948

Analytical Method: SM 2540C

Date Analyzed: 2011-08-11

Sample Preparation: 2011-08-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1	194000	mg/L	100	10.0

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## Method Blanks

Method Blank (1) QC Batch: 83491

QC Batch: 83491  
Prep Batch: 70921

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-02

Analyzed By: ME  
Prepared By: ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.0926	mg/L	1	0.100	93	61.1 - 118.4
4-Bromofluorobenzene (4-BFB)			0.0850	mg/L	1	0.100	85	45.9 - 126.4

Method Blank (1) QC Batch: 83505

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	0.780	mg/L	2.5

Method Blank (1) QC Batch: 83505

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

Analyzed By: AR  
Prepared By: AR

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

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**Method Blank (1)**      QC Batch: 83538

QC Batch: 83538  
Prep Batch: 70958

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-03

Analyzed By: ME  
Prepared By: ME

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

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

**Method Blank (1)**      QC Batch: 83579

QC Batch: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	2.49	mg/L	2.5

**Method Blank (1)**      QC Batch: 83579

QC Batch: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

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: 83580

QC Batch: 83580  
Prep Batch: 70898

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

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Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1	2.77	mg/L	2.5

**Method Blank (1)**      QC Batch: 83580

QC Batch: 83580      Date Analyzed: 2011-08-03      Analyzed By: AR  
Prep Batch: 70898      QC Preparation: 2011-08-02      Prepared By: AR

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

**Method Blank (1)**      QC Batch: 83717

QC Batch: 83717      Date Analyzed: 2011-08-09      Analyzed By: AR  
Prep Batch: 70895      QC Preparation: 2011-08-02      Prepared By: AR

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

**Method Blank (1)**      QC Batch: 83789

QC Batch: 83789      Date Analyzed: 2011-08-11      Analyzed By: AR  
Prep Batch: 70948      QC Preparation: 2011-08-03      Prepared By: AR

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

**Method Blank (1)**      QC Batch: 84218

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

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

**Method Blank (1)**      QC Batch: 84218

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

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

**Duplicates (1)**      Duplicated Sample: 273196

QC Batch: 83717      Date Analyzed: 2011-08-09      Analyzed By: AR  
Prep Batch: 70895      QC Preparation: 2011-08-02      Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	99100	93400	mg/L	100	6	10

**Duplicates (1)**      Duplicated Sample: 273206

QC Batch: 83789      Date Analyzed: 2011-08-11      Analyzed By: AR  
Prep Batch: 70948      QC Preparation: 2011-08-03      Prepared By: AR

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1	940	934	mg/L	2	1	10

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 83491  
Prep Batch: 70921

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-02

Analyzed By: ME  
Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.104	mg/L	1	0.100	<0.000400	104	76.8 - 110.3
Toluene		1	0.101	mg/L	1	0.100	<0.000300	101	90.9 - 122.2
Ethylbenzene		1	0.0945	mg/L	1	0.100	<0.000300	94	72.7 - 120.2
Xylene		1	0.284	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.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.104	mg/L	1	0.100	<0.000400	104	76.8 - 110.3	0	20
Toluene		1	0.101	mg/L	1	0.100	<0.000300	101	90.9 - 122.2	0	20
Ethylbenzene		1	0.0952	mg/L	1	0.100	<0.000300	95	72.7 - 120.2	1	20
Xylene		1	0.286	mg/L	1	0.300	<0.000333	95	72.1 - 121.5	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0993	0.0992	mg/L	1	0.100	99	99	61.9 - 119.2
4-Bromofluorobenzene (4-BFB)	0.0973	0.0980	mg/L	1	0.100	97	98	56.4 - 127.9

### Laboratory Control Spike (LCS-1)

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	25.6	mg/L	1	25.0	<0.265	102	90.9 - 113.9

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		1	25.7	mg/L	1	25.0	<0.265	103	90.9 - 113.9	0	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.0	mg/L	1	25.0	<0.177	100	99 - 113.6

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	24.8	mg/L	1	25.0	<0.177	99	99 - 113.6	1	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 83538  
Prep Batch: 70958

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-03

Analyzed By: ME  
Prepared By: ME

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.103	mg/L	1	0.100	<0.000400	103	76.8 - 110.3	2	20
Toluene		1	0.0996	mg/L	1	0.100	<0.000300	100	90.9 - 122.2	2	20

*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
Ethylbenzene		1	0.0942	mg/L	1	0.100	<0.000300	94	72.7 - 120.2	2	20
Xylene		1	0.282	mg/L	1	0.300	<0.000333	94	72.1 - 121.5	2	20

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

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	26.2	mg/L	1	25.0	<0.265	105	90.9 - 113.9

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	25.6	mg/L	1	25.0	<0.265	102	90.9 - 113.9	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: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	25.2	mg/L	1	25.0	<0.177	101	99 - 113.6

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	25.2	mg/L	1	25.0	<0.177	101	99 - 113.6	0	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: 83580  
Prep Batch: 70898

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	26.1	mg/L	1	25.0	<0.265	104	90.9 - 113.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	26.3	mg/L	1	25.0	<0.265	105	90.9 - 113.9	1	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 83580  
Prep Batch: 70898

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

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	99 - 113.6

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	25.4	mg/L	1	25.0	<0.177	102	99 - 113.6	1	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 83717  
Prep Batch: 70895

Date Analyzed: 2011-08-09  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	964	mg/L	1	1000	<9.75	96	85.5 - 112.7

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



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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1010	mg/L	1	1000	<9.75	101	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: 83789  
Prep Batch: 70948

Date Analyzed: 2011-08-11  
QC Preparation: 2011-08-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1	981	mg/L	1	1000	<9.75	98	85.5 - 112.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1	1030	mg/L	1	1000	<9.75	103	85.5 - 112.7	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: 84218  
Prep Batch: 71505

Date Analyzed: 2011-08-22  
QC Preparation: 2011-08-22

Analyzed By: AR  
Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	24.0	mg/L	1	25.0	<0.265	96	90.9 - 113.9	1	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 84218  
Prep Batch: 71505

Date Analyzed: 2011-08-22  
QC Preparation: 2011-08-22

Analyzed By: AR  
Prepared By: AR

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	26.1	mg/L	1	25.0	<0.177	104	99 - 113.6	0	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273205

QC Batch: 83491  
Prep Batch: 70921

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-02

Analyzed By: ME  
Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.0992	mg/L	1	0.100	<0.000400	99	66.9 - 128.2
Toluene		1	0.0931	mg/L	1	0.100	<0.000300	93	81.6 - 122.9
Ethylbenzene		1	0.0805	mg/L	1	0.100	<0.000300	80	62.7 - 117.9
Xylene		1	0.241	mg/L	1	0.300	<0.000333	80	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	0.107	mg/L	1	0.100	<0.000400	107	66.9 - 128.2	8	20
Toluene		1	0.0999	mg/L	1	0.100	<0.000300	100	81.6 - 122.9	7	20
Ethylbenzene		1	0.0868	mg/L	1	0.100	<0.000300	87	62.7 - 117.9	8	20
Xylene		1	0.259	mg/L	1	0.300	<0.000333	86	62.9 - 118.2	7	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)	0.0945	0.0975	mg/L	1	0.1	94	98	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.0964	0.0997	mg/L	1	0.1	96	100	52.2 - 135.8

**Matrix Spike (MS-1)** Spiked Sample: 273192

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

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	3210	mg/L	100	2750	912	84	48.4 - 143.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	3260	mg/L	100	2750	912	85	48.4 - 143.2	2	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273192

QC Batch: 83505  
Prep Batch: 70869

Date Analyzed: 2011-08-02  
QC Preparation: 2011-08-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	2400	mg/L	100	2750	148	82	59.7 - 115.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	2430	mg/L	100	2750	148	83	59.7 - 115.4	1	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273037

QC Batch: 83538  
Prep Batch: 70958

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-03

Analyzed By: ME  
Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.587	mg/L	5	0.500	0.127	92	66.9 - 128.2
Toluene		1	0.544	mg/L	5	0.500	0.1205	85	81.6 - 122.9
Ethylbenzene		1	0.421	mg/L	5	0.500	<0.00150	84	62.7 - 117.9
Xylene		1	1.29	mg/L	5	1.50	0.1543	76	62.9 - 118.2

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

*continued ...*

Report Date: August 24, 2011  
115-6403129

Work Order: 11080104  
Celero/Rock Queen #1 TB

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matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.607	mg/L	5	0.500	0.127	96	66.9 - 128.2	3	20
Toluene		1	0.563	mg/L	5	0.500	0.1205	88	81.6 - 122.9	3	20
Ethylbenzene		1	0.438	mg/L	5	0.500	<0.00150	88	62.7 - 117.9	4	20
Xylene		1	1.34	mg/L	5	1.50	0.1543	79	62.9 - 118.2	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.511	0.468	mg/L	5	0.5	102	94	58.6 - 119.7
4-Bromofluorobenzene (4-BFB)	0.502	0.461	mg/L	5	0.5	100	92	52.2 - 135.8

Matrix Spike (MS-1) Spiked Sample: 273196

QC Batch: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	56000	mg/L	50	1380	56000	0	48.4 - 143.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	56000	mg/L	50	1380	56000	0	48.4 - 143.2	0	20

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

Matrix Spike (MS-1) Spiked Sample: 273196

QC Batch: 83579  
Prep Batch: 70897

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	3080	mg/L	50	1380	2070	73	59.7 - 115.4

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	3090	mg/L	50	1380	2070	74	59.7 - 115.4	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: 273201

QC Batch: 83580  
Prep Batch: 70898

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1	21800	mg/L	100	2750	21600	7	48.4 - 143.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	21800	mg/L	100	2750	21600	7	48.4 - 143.2	0	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273201

QC Batch: 83580  
Prep Batch: 70898

Date Analyzed: 2011-08-03  
QC Preparation: 2011-08-02

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1	3000	mg/L	100	2750	625	86	59.7 - 115.4

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	3020	mg/L	100	2750	625	87	59.7 - 115.4	1	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273206

QC Batch: 84218  
Prep Batch: 71505

Date Analyzed: 2011-08-22  
QC Preparation: 2011-08-22

Analyzed By: AR  
Prepared By: AR

Report Date: August 24, 2011  
115-6403129

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	2150	mg/L	50	1380	1010	83	48.4 - 143.2	2	20

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

**Matrix Spike (MS-1)** Spiked Sample: 273206

QC Batch: 84218  
Prep Batch: 71505

Date Analyzed: 2011-08-22  
QC Preparation: 2011-08-22

Analyzed By: AR  
Prepared By: AR

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1	1230	mg/L	50	1380	103	82	59.7 - 115.4	3	20

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

Report Date: August 24, 2011  
115-6403129

Work Order: 11080104  
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## Calibration Standards

### Standard (CCV-1)

QC Batch: 83491

Date Analyzed: 2011-08-02

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.0972	97	80 - 120	2011-08-02
Toluene		1	mg/L	0.100	0.0955	96	80 - 120	2011-08-02
Ethylbenzene		1	mg/L	0.100	0.0882	88	80 - 120	2011-08-02
Xylene		1	mg/L	0.300	0.273	91	80 - 120	2011-08-02

### Standard (CCV-2)

QC Batch: 83491

Date Analyzed: 2011-08-02

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.104	104	80 - 120	2011-08-02
Toluene		1	mg/L	0.100	0.0994	99	80 - 120	2011-08-02
Ethylbenzene		1	mg/L	0.100	0.0933	93	80 - 120	2011-08-02
Xylene		1	mg/L	0.300	0.279	93	80 - 120	2011-08-02

### Standard (CCV-3)

QC Batch: 83491

Date Analyzed: 2011-08-02

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.101	101	80 - 120	2011-08-02
Toluene		1	mg/L	0.100	0.0976	98	80 - 120	2011-08-02
Ethylbenzene		1	mg/L	0.100	0.0913	91	80 - 120	2011-08-02
Xylene		1	mg/L	0.300	0.274	91	80 - 120	2011-08-02

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115-6403129

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**Standard (ICV-1)**

QC Batch: 83505

Date Analyzed: 2011-08-02

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	26.6	106	90 - 110	2011-08-02

**Standard (ICV-1)**

QC Batch: 83505

Date Analyzed: 2011-08-02

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	26.3	105	90 - 110	2011-08-02

**Standard (CCV-1)**

QC Batch: 83505

Date Analyzed: 2011-08-02

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	25.9	104	90 - 110	2011-08-02

**Standard (CCV-1)**

QC Batch: 83505

Date Analyzed: 2011-08-02

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	24.9	100	90 - 110	2011-08-02

**Standard (CCV-1)**

QC Batch: 83538

Date Analyzed: 2011-08-03

Analyzed By: ME



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115-6403129

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Celero/Rock Queen #1 TB

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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	0.0989	99	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0948	95	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0892	89	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.271	90	80 - 120	2011-08-03

**Standard (CCV-2)**

QC Batch: 83538

Date Analyzed: 2011-08-03

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.102	102	80 - 120	2011-08-03
Toluene		1	mg/L	0.100	0.0980	98	80 - 120	2011-08-03
Ethylbenzene		1	mg/L	0.100	0.0920	92	80 - 120	2011-08-03
Xylene		1	mg/L	0.300	0.276	92	80 - 120	2011-08-03

**Standard (ICV-1)**

QC Batch: 83579

Date Analyzed: 2011-08-03

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	25.3	101	90 - 110	2011-08-03

**Standard (ICV-1)**

QC Batch: 83579

Date Analyzed: 2011-08-03

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1	mg/L	25.0	24.9	100	90 - 110	2011-08-03

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Celero/Rock Queen #1 TB

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**Standard (CCV-1)**

QC Batch: 83579

Date Analyzed: 2011-08-03

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	26.5	106	90 - 110	2011-08-03

**Standard (CCV-1)**

QC Batch: 83579

Date Analyzed: 2011-08-03

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	2011-08-03

**Standard (ICV-1)**

QC Batch: 83580

Date Analyzed: 2011-08-03

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	26.5	106	90 - 110	2011-08-03

**Standard (ICV-1)**

QC Batch: 83580

Date Analyzed: 2011-08-03

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	2011-08-03

**Standard (CCV-1)**

QC Batch: 83580

Date Analyzed: 2011-08-03

Analyzed By: AR

Report Date: August 24, 2011  
115-6403129

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Celero/Rock Queen #1 TB

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1	mg/L	25.0	26.2	105	90 - 110	2011-08-03

**Standard (CCV-1)**

QC Batch: 83580

Date Analyzed: 2011-08-03

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	25.0	100	90 - 110	2011-08-03

**Standard (ICV-1)**

QC Batch: 84218

Date Analyzed: 2011-08-22

Analyzed By: AR

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

**Standard (ICV-1)**

QC Batch: 84218

Date Analyzed: 2011-08-22

Analyzed By: AR

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

**Standard (CCV-1)**

QC Batch: 84218

Date Analyzed: 2011-08-22

Analyzed By: AR

Report Date: August 24, 2011  
115-6403129

Work Order: 11080104  
Celero/Rock Queen #1 TB

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

**Standard (CCV-1)**

QC Batch: 84218

Date Analyzed: 2011-08-22

Analyzed By: AR

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

## Appendix

### Laboratory Certifications

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

### Standard Flags

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

### Attachments

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

XWO #: 11080104

## Analysis Request of Chain of Custody Record

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

PAGE:

OF:

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME:

Celero

SITE MANAGER:

Jeff Kindley

PROJECT NO.:

115-6403129

PROJECT NAME:

Celero / Rock Queen #1 TB

LAB I.D.  
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

Chavez Co. NM  
SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE  
METHODBTX 8021B  
TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

TDS

Sulfates Sulfates

RELINQUISHED BY: (Signature)

Date:

7/29/11

Time:

1535

RECEIVED BY: (Signature)

Date:

7/29/11

Time:

15:35

SAMPLED BY: (Print &amp; Initial)

JT/RS

Date:

7/29/11

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

HAND DELIVERED

UPS

AIRBILL #:

OTHER:

TETRA TECH CONTACT PERSON:

Jeff Kindley

Results by:

RUSH Charges

Authorized:

Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY:

STATE:

PHONE:

ZIP:

CONTACT:

RECEIVED BY: (Signature)

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

10.8°C intact

REMARKS:

X All tests Midland

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



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 888•588•3443 915•585•3443 FAX 915•585•4944  
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313  
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260  
E-Mail: lab@traceanalysis.com

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

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

Report Date: November 10, 2011

Work Order: 11103128



Project Location: Chavez Co., NM  
Project Name: Celero/Rock Queen #1 TB  
Project Number: 115-6403129

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
281160	MW-4	water	2011-10-25	09:25	2011-10-31
281161	MW-7	water	2011-10-25	10:20	2011-10-31
281162	MW-3	water	2011-10-25	11:15	2011-10-31
281163	MW-5	water	2011-10-25	12:15	2011-10-31
281164	MW-2	water	2011-10-25	13:08	2011-10-31
281165	MW-6	water	2011-10-25	13:48	2011-10-31
281166	MW-1	water	2011-10-25	16:20	2011-10-31

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

This report consists of a total of 20 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 #1 TB were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103128. Samples for work order 11103128 were received intact without headspace and at a temperature of 3.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	73017	2011-11-01 at 15:26	86000	2011-11-01 at 15:26
Chloride (IC)	E 300.0	73107	2011-11-03 at 09:31	86200	2011-11-03 at 11:32
Chloride (IC)	E 300.0	73108	2011-11-03 at 09:33	86204	2011-11-03 at 11:33
Chloride (IC)	E 300.0	73109	2011-11-03 at 09:33	86206	2011-11-04 at 11:34

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 11103128 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: 281160 - MW-4

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.110	mg/L	1	0.100	110	70 - 130
4-Bromofluorobenzene (4-BFB)			0.115	mg/L	1	0.100	115	70 - 130

### Sample: 281160 - MW-4

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86200  
Prep Batch: 73107

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs	Qs	2	23700	mg/L	5000	2.50

### Sample: 281161 - MW-7

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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)			0.106	mg/L	1	0.100	106	70 - 130
4-Bromofluorobenzene (4-BFB)			0.115	mg/L	1	0.100	115	70 - 130

**Sample: 281161 - MW-7**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86204  
Prep Batch: 73108

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	99400	mg/L	10000	2.50

**Sample: 281162 - MW-3**

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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)			0.0919	mg/L	1	0.100	92	70 - 130
4-Bromofluorobenzene (4-BFB)			0.0986	mg/L	1	0.100	99	70 - 130

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**Sample: 281162 - MW-3**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86204  
Prep Batch: 73108

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	60700	mg/L	10000	2.50

**Sample: 281163 - MW-5**

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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)			0.111	mg/L	1	0.100	111	70 - 130
4-Bromofluorobenzene (4-BFB)			0.111	mg/L	1	0.100	111	70 - 130

**Sample: 281163 - MW-5**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86204  
Prep Batch: 73108

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	128	mg/L	10	2.50

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**Sample: 281164 - MW-2**

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.107	mg/L	1	0.100	107	70 - 130
4-Bromofluorobenzene (4-BFB)			0.110	mg/L	1	0.100	110	70 - 130

**Sample: 281164 - MW-2**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86204  
Prep Batch: 73108

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		2	9200	mg/L	1000	2.50

**Sample: 281165 - MW-6**

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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

Parameter	Flag	Cert	RL	Units	Dilution	RL	
			Result				
Benzene		1	<0.00100	mg/L	1	0.00100	
Toluene	u	U	1	<0.00100	mg/L	1	0.00100
Ethylbenzene	u	U	1	<0.00100	mg/L	1	0.00100
Xylene	u	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)			0.106	mg/L	1	0.100	106	70 - 130
4-Bromofluorobenzene (4-BFB)			0.115	mg/L	1	0.100	115	70 - 130

**Sample: 281165 - MW-6**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86206  
Prep Batch: 73109

Analytical Method: E 300.0  
Date Analyzed: 2011-11-04  
Sample Preparation: 2011-11-03

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs	2	111000	mg/L	10000	2.50

**Sample: 281166 - MW-1**

Laboratory: Lubbock  
Analysis: BTEX  
QC Batch: 86000  
Prep Batch: 73017

Analytical Method: S 8021B  
Date Analyzed: 2011-11-01  
Sample Preparation: 2011-11-01

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		1	0.0205	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr	0.157	mg/L	1	0.100	157	70 - 130
4-Bromofluorobenzene (4-BFB)			0.110	mg/L	1	0.100	110	70 - 130

**Sample: 281166 - MW-1**

Laboratory: Midland  
Analysis: Chloride (IC)  
QC Batch: 86206  
Prep Batch: 73109

Analytical Method: E 300.0  
Date Analyzed: 2011-11-04  
Sample Preparation: 2011-11-03

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

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Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs	Qs	2	155000	mg/L	10000	2.50

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## Method Blanks

Method Blank (1) QC Batch: 86000

QC Batch: 86000  
Prep Batch: 73017

Date Analyzed: 2011-11-01  
QC Preparation: 2011-11-01

Analyzed By: ZLM  
Prepared By: ZLM

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.000765	mg/L	0.001
Toluene		1	<0.000719	mg/L	0.001
Ethylbenzene		1	<0.000860	mg/L	0.001
Xylene		1	<0.000942	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.106	mg/L	1	0.100	106	70 - 130
4-Bromofluorobenzene (4-BFB)			0.105	mg/L	1	0.100	105	70 - 130

Method Blank (1) QC Batch: 86200

QC Batch: 86200  
Prep Batch: 73107

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	0.667	mg/L	2.5

Method Blank (1) QC Batch: 86204

QC Batch: 86204  
Prep Batch: 73108

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	0.650	mg/L	2.5

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Method Blank (1)      QC Batch: 86206

QC Batch: 86206  
Prep Batch: 73109

Date Analyzed: 2011-11-04  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		2	0.679	mg/L	2.5

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## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 86000  
Prep Batch: 73017

Date Analyzed: 2011-11-01  
QC Preparation: 2011-11-01

Analyzed By: ZLM  
Prepared By: ZLM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.103	mg/L	1	0.100	<0.000765	103	70 - 130
Toluene		1	0.0993	mg/L	1	0.100	<0.000719	99	70 - 130
Ethylbenzene		1	0.0973	mg/L	1	0.100	<0.000860	97	70 - 130
Xylene		1	0.289	mg/L	1	0.300	<0.000942	96	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.107	mg/L	1	0.100	<0.000765	107	70 - 130	4	20
Toluene		1	0.102	mg/L	1	0.100	<0.000719	102	70 - 130	3	20
Ethylbenzene		1	0.0998	mg/L	1	0.100	<0.000860	100	70 - 130	2	20
Xylene		1	0.294	mg/L	1	0.300	<0.000942	98	70 - 130	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.100	0.0953	mg/L	1	0.100	100	95	70 - 130
4-Bromofluorobenzene (4-BFB)	0.0975	0.0923	mg/L	1	0.100	98	92	70 - 130

### Laboratory Control Spike (LCS-1)

QC Batch: 86200  
Prep Batch: 73107

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	22.9	mg/L	1	25.0	<0.265	92	90 - 110

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

*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	23.4	mg/L	1	25.0	<0.265	94	90 - 110	2	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 86204  
Prep Batch: 73108

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	23.1	mg/L	1	25.0	<0.265	92	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	23.1	mg/L	1	25.0	<0.265	92	90 - 110	0	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 86206  
Prep Batch: 73109

Date Analyzed: 2011-11-04  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	23.1	mg/L	1	25.0	<0.265	92	90 - 110

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	23.3	mg/L	1	25.0	<0.265	93	90 - 110	1	20

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

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Matrix Spike (MS-1) Spiked Sample: 281152

QC Batch: 86000  
Prep Batch: 73017

Date Analyzed: 2011-11-01  
QC Preparation: 2011-11-01

Analyzed By: ZLM  
Prepared By: ZLM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	0.102	mg/L	1	0.100	<0.000765	102	70 - 130
Toluene		1	0.0935	mg/L	1	0.100	<0.000719	94	70 - 130
Ethylbenzene		1	0.0881	mg/L	1	0.100	<0.000860	88	70 - 130
Xylene		1	0.260	mg/L	1	0.300	<0.000942	87	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	0.0891	mg/L	1	0.100	<0.000765	89	70 - 130	14	20
Toluene		1	0.0813	mg/L	1	0.100	<0.000719	81	70 - 130	14	20
Ethylbenzene		1	0.0776	mg/L	1	0.100	<0.000860	78	70 - 130	13	20
Xylene		1	0.228	mg/L	1	0.300	<0.000942	76	70 - 130	13	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.102	0.101	mg/L	1	0.1	102	101	70 - 130
4-Bromofluorobenzene (4-BFB)	0.107	0.106	mg/L	1	0.1	107	106	70 - 130

Matrix Spike (MS-1) Spiked Sample: 281157

QC Batch: 86200  
Prep Batch: 73107

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Qs	Qs	2	3870	mg/L	50	1380	2750	81 90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	Qs	Qs	2	3880	mg/L	50	1380	2750	82 90 - 110	0	20

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

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Matrix Spike (MS-1) Spiked Sample: 281163

QC Batch: 86204  
Prep Batch: 73108

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		2	382	mg/L	10	275	128	92	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		2	384	mg/L	10	275	128	93	90 - 110	0	20

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

Matrix Spike (MS-1) Spiked Sample: 281167

QC Batch: 86206  
Prep Batch: 73109

Date Analyzed: 2011-11-04  
QC Preparation: 2011-11-03

Analyzed By: AR  
Prepared By: AR

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Qs	Qs	2	40900	mg/L	50	1380	40900	0	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	Qs	2	43300	mg/L	50	1380	40900	0	90 - 110	6	20

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

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## Calibration Standards

### Standard (CCV-1)

QC Batch: 86000

Date Analyzed: 2011-11-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.106	106	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.102	102	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.0994	99	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.297	99	80 - 120	2011-11-01

### Standard (CCV-2)

QC Batch: 86000

Date Analyzed: 2011-11-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.109	109	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.104	104	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.101	101	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.300	100	80 - 120	2011-11-01

### Standard (CCV-3)

QC Batch: 86000

Date Analyzed: 2011-11-01

Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/L	0.100	0.108	108	80 - 120	2011-11-01
Toluene		1	mg/L	0.100	0.102	102	80 - 120	2011-11-01
Ethylbenzene		1	mg/L	0.100	0.100	100	80 - 120	2011-11-01
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-11-01

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**Standard (CCV-1)**

QC Batch: 86200

Date Analyzed: 2011-11-03

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	22.6	90	90 - 110	2011-11-03

**Standard (CCV-2)**

QC Batch: 86200

Date Analyzed: 2011-11-03

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	22.9	92	90 - 110	2011-11-03

**Standard (CCV-1)**

QC Batch: 86204

Date Analyzed: 2011-11-03

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	22.9	92	90 - 110	2011-11-03

**Standard (CCV-2)**

QC Batch: 86204

Date Analyzed: 2011-11-03

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	23.2	93	90 - 110	2011-11-03

**Standard (CCV-1)**

QC Batch: 86206

Date Analyzed: 2011-11-04

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
Chloride		2	mg/L	25.0	23.2	93	90 - 110	2011-11-04

**Standard (CCV-2)**

QC Batch: 86206

Date Analyzed: 2011-11-04

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	23.8	95	90 - 110	2011-11-04

## Appendix

### Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-11-4	Lubbock
2	NELAP	T104704392-10-TX	Midland

### Standard Flags

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

WO # 11103128

# Analysis Request of Chain of Custody Record



**TETRA TECH**

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

PAGE: 1

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME: Celero

SITE MANAGER: Jeff Kindley

PROJECT NO.: 115-6403129

PROJECT NAME: Celero / Rak Queen #1 TB

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	PREPARED BY	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/824	GC/MS Semi. Vol. 8270/825	PCB's 8080/608	Post. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
28160	10/25	0925	W		X	MW-4	4	N	X		X		X	X											X				
161		1020				MW-7																							
162		1115				MW-3																							
163		1215				MW-5																							
164		1308				MW-2																							
165		1348				MW-6																							
166		1620				MW-1																							

RELINQUISHED BY: (Signature) [Signature] Date: 10/31/11 Time: 1146

RECEIVED BY: (Signature) [Signature] Date: 10/31/11 Time: 1140

SAMPLED BY: (Print & Initial) ST/6A Date: 10/25/11 Time:

RELINQUISHED BY: (Signature)  Date:  Time:

RECEIVED BY: (Signature)  Date:  Time:

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

RELINQUISHED BY: (Signature)  Date:  Time:

RECEIVED BY: (Signature)  Date:  Time:

TETRA TECH CONTACT PERSON: Jeff Kindley Results by:

RECEIVING LABORATORY: Tetra  
ADDRESS: Midland STATE: TX ZIP:   
CONTACT:  PHONE:  DATE:  TIME:

RECEIVED BY: (Signature)  DATE:  TIME:

RUSH Charges Authorized:  Yes No

SAMPLE CONDITION WHEN RECEIVED: Intact 39°C

REMARKS:

3.90

WO # 11103128

# Analysis Request of Chain of Custody Record

PAGE: 1



**TETRA TECH**

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

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME: Celero

SITE MANAGER: Jeff Kindley

PROJECT NO.: 115-6403129

PROJECT NAME: Celero / Rak Queen #1 TB

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF	FILTERED (Y)	HCL	HNO3	ICE	NONE	ATEX 80218	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatiles	TCLP Semi V	RCI	GC-MS Vol. E	GC-MS Semi	PCB's 8080/0	Pest. 808/60	Chloride	Gamma Spec	Alpha Beta (u	PLM (Asbest	Major Anions
281160	10/25	0925	W		X	MW-4	4	N	X		X		X												X				
161		1020				MW-7																							
162		1115				MW-3																							
163		1215				MW-5																							
164		1308				MW-2																							
165		1348				MW-6																							
166		1620				MW-1																							

RELINQUISHED BY: (Signature) [Signature] Date: 10/31/11 Time: 1140

RELINQUISHED BY: (Signature) [Signature] Date: 10/31/11 Time: 1600

RELINQUISHED BY: (Signature) [Signature] Date: 10/31/11 Time: 1600

RECEIVED BY: (Signature) [Signature] Date: 10/31/11 Time: 1140

RECEIVED BY: (Signature) [Signature] Date: 10/31/11 Time: 1600

RECEIVED BY: (Signature) [Signature] Date: 10/31/11 Time: 1600

SAMPLED BY: (Print & Initial) ST/6A Date: 10/25/11 Time: 1140

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

HAND DELIVERED UPS OTHER:         

RECEIVING LABORATORY: True RECEIVED BY: (Signature) [Signature] Date: 11/1/11 TIME: 8:40

ADDRESS: Midland STATE: TX ZIP:         

CONTACT:          PHONE:         

TETRA TECH CONTACT PERSON: Jeff Kindley

Results by:         

RUSH Charges Authorized:          Yes          No

SAMPLE CONDITION WHEN RECEIVED: Intact 39°C

REMARKS: LS ZN003973 2.9/3.1° 3.9°



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

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

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

Report Date: November 30, 2011

Work Order: 11103128



Project Location: Chavez Co., NM  
Project Name: Celero/Rock Queen #1 TB  
Project Number: 115-6403129

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
281160	MW-4	water	2011-10-25	09:25	2011-10-31
281161	MW-7	water	2011-10-25	10:20	2011-10-31
281162	MW-3	water	2011-10-25	11:15	2011-10-31
281163	MW-5	water	2011-10-25	12:15	2011-10-31
281164	MW-2	water	2011-10-25	13:08	2011-10-31
281165	MW-6	water	2011-10-25	13:48	2011-10-31
281166	MW-1	water	2011-10-25	16:20	2011-10-31

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

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

### Notes:

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

*Michael Abel*

---

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

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## Case Narrative

Samples for project Celero/Rock Queen #1 TB were received by TraceAnalysis, Inc. on 2011-10-31 and assigned to work order 11103128. Samples for work order 11103128 were received intact without headspace and at a temperature of 3.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
SO4 (IC)	E 300.0	73346	2011-11-01 at 10:24	86377	2011-11-03 at 10:38
SO4 (IC)	E 300.0	73346	2011-11-01 at 10:24	86378	2011-11-03 at 10:39
SO4 (IC)	E 300.0	73346	2011-11-01 at 10:24	86379	2011-11-03 at 10:41
TDS	SM 2540C	73371	2011-11-14 at 13:39	86618	2011-11-17 at 15:43
TDS	SM 2540C	73603	2011-11-22 at 13:44	86755	2011-11-28 at 15:17

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 11103128 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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Celero/Rock Queen #1 TB

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## Analytical Report

### Sample: 281160 - MW-4

Laboratory: Midland  
Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A  
QC Batch: 86377 Date Analyzed: 2011-11-03 Analyzed By: AR  
Prep Batch: 73346 Sample Preparation: 2011-11-03 Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	J,Qs	2	442	<1250	<88.5	mg/L	500	88.5	2.5	0.177

### Sample: 281160 - MW-4

Laboratory: Midland  
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A  
QC Batch: 86618 Date Analyzed: 2011-11-17 Analyzed By: AR  
Prep Batch: 73371 Sample Preparation: 2011-11-14 Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		2	48300	48300	<975	mg/L	100	975	10	9.75

### Sample: 281161 - MW-7

Laboratory: Midland  
Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A  
QC Batch: 86378 Date Analyzed: 2011-11-03 Analyzed By: AR  
Prep Batch: 73346 Sample Preparation: 2011-11-03 Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	J,Qs	2	2370	<2500	<177	mg/L	1000	177	2.5	0.177

### Sample: 281161 - MW-7

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

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QC Batch: 86618  
Prep Batch: 73371

Date Analyzed: 2011-11-17  
Sample Preparation: 2011-11-14

Analyzed By: AR  
Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		2	170000	170000	<975	mg/L	100	975	10	9.75

**Sample: 281162 - MW-3**

Laboratory: Midland  
Analysis: SO4 (IC)  
QC Batch: 86378  
Prep Batch: 73346

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	J,Qs	2	2000	<2500	<177	mg/L	1000	177	2.5	0.177

**Sample: 281162 - MW-3**

Laboratory: Midland  
Analysis: TDS  
QC Batch: 86755  
Prep Batch: 73603

Analytical Method: SM 2540C  
Date Analyzed: 2011-11-28  
Sample Preparation: 2011-11-22

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

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		2	110000	110000	<975	mg/L	100	975	10	9.75

**Sample: 281163 - MW-5**

Laboratory: Midland  
Analysis: SO4 (IC)  
QC Batch: 86378  
Prep Batch: 73346

Analytical Method: E 300.0  
Date Analyzed: 2011-11-03  
Sample Preparation: 2011-11-03

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

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	2	136	136	<1.77	mg/L	10	1.77	2.5	0.177

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**Sample: 281163 - MW-5**

Laboratory: Midland

Analysis: TDS

QC Batch: 86755

Prep Batch: 73603

Analytical Method: SM 2540C

Date Analyzed: 2011-11-28

Sample Preparation: 2011-11-22

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL	MQL	Method	Units	Dilution	SDL	MQL	MDL
			Based Result	Based Result	Blank Result				(Unadjusted)	(Unadjusted)
Total Dissolved Solids		2	896	896	<19.5	mg/L	2	19.5	10	9.75

**Sample: 281164 - MW-2**

Laboratory: Midland

Analysis: SO4 (IC)

QC Batch: 86378

Prep Batch: 73346

Analytical Method: E 300.0

Date Analyzed: 2011-11-03

Sample Preparation: 2011-11-03

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL	MQL	Method	Units	Dilution	SDL	MQL	MDL
			Based Result	Based Result	Blank Result				(Unadjusted)	(Unadjusted)
Sulfate	J,Qs	2	189	<250	<17.7	mg/L	100	17.7	2.5	0.177

**Sample: 281164 - MW-2**

Laboratory: Midland

Analysis: TDS

QC Batch: 86755

Prep Batch: 73603

Analytical Method: SM 2540C

Date Analyzed: 2011-11-28

Sample Preparation: 2011-11-22

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL	MQL	Method	Units	Dilution	SDL	MQL	MDL
			Based Result	Based Result	Blank Result				(Unadjusted)	(Unadjusted)
Total Dissolved Solids		2	14800	14800	<975	mg/L	100	975	10	9.75

**Sample: 281165 - MW-6**

Laboratory: Midland

Analysis: SO4 (IC)

QC Batch: 86379

Prep Batch: 73346

Analytical Method: E 300.0

Date Analyzed: 2011-11-03

Sample Preparation: 2011-11-03

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Report Date: November 30, 2011  
115-6403129

Work Order: 11103128  
Celero/Rock Queen #1 TB

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Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	Qs	2	2660	2660	<177	mg/L	1000	177	2.5	0.177

**Sample: 281165 - MW-6**

Laboratory: Midland

Analysis: TDS

QC Batch: 86755

Prep Batch: 73603

Analytical Method: SM 2540C

Date Analyzed: 2011-11-28

Sample Preparation: 2011-11-22

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		2	160000	160000	<975	mg/L	100	975	10	9.75

**Sample: 281166 - MW-1**

Laboratory: Midland

Analysis: SO4 (IC)

QC Batch: 86379

Prep Batch: 73346

Analytical Method: E 300.0

Date Analyzed: 2011-11-03

Sample Preparation: 2011-11-03

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Sulfate	J,Qs	2	2270	<2500	<177	mg/L	1000	177	2.5	0.177

**Sample: 281166 - MW-1**

Laboratory: Midland

Analysis: TDS

QC Batch: 86755

Prep Batch: 73603

Analytical Method: SM 2540C

Date Analyzed: 2011-11-28

Sample Preparation: 2011-11-22

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	F	C	SDL Based Result	MQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Total Dissolved Solids		2	239000	239000	<975	mg/L	100	975	10	9.75

Report Date: November 30, 2011  
115-6403129

Work Order: 11103128  
Celero/Rock Queen #1 TB

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## Method Blanks

### Method Blank (1)

QC Batch: 86377  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Sulfate		2	<0.177	mg/L	0.177

### Method Blank (1)

QC Batch: 86378  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Sulfate		2	<0.177	mg/L	0.177

### Method Blank (1)

QC Batch: 86379  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Sulfate		2	<0.177	mg/L	0.177

### Method Blank (1)

QC Batch: 86618  
Prep Batch: 73371

Date Analyzed: 2011-11-17  
QC Preparation: 2011-11-14

Analyzed By: AR  
Prepared By: AR

Report Date: November 30, 2011  
115-6403129

Work Order: 11103128  
Celero/Rock Queen #1 TB

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Parameter	F	C	Result	Units	Reporting Limits
Total Dissolved Solids		2	<9.75	mg/L	9.75

**Method Blank (1)**

QC Batch: 86755  
Prep Batch: 73603

Date Analyzed: 2011-11-28  
QC Preparation: 2011-11-22

Analyzed By: AR  
Prepared By: AR

Parameter	F	C	Result	Units	Reporting Limits
Total Dissolved Solids		2	<9.75	mg/L	9.75

**Duplicate (1) Duplicated Sample: 281161**

QC Batch: 86618  
Prep Batch: 73371

Date Analyzed: 2011-11-17  
QC Preparation: 2011-11-14

Analyzed By: AR  
Prepared By: AR

Param	F	C	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2	168000	170000	mg/L	100	1	10

**Duplicate (1) Duplicated Sample: 281167**

QC Batch: 86755  
Prep Batch: 73603

Date Analyzed: 2011-11-28  
QC Preparation: 2011-11-22

Analyzed By: AR  
Prepared By: AR

Param	F	C	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2	93700	96800	mg/L	100	3	10

Report Date: November 30, 2011  
115-6403129

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Celero/Rock Queen #1 TB

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## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 86377  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		2	24.5	mg/L	1	25.0	<0.177	98	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		2	24.6	mg/L	1	25.0	<0.177	98	90 - 110	0	20

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

### Laboratory Control Spike (LCS-1)

QC Batch: 86378  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		2	24.9	mg/L	1	25.0	<0.177	100	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		2	24.7	mg/L	1	25.0	<0.177	99	90 - 110	1	20

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

### Laboratory Control Spike (LCS-1)

QC Batch: 86379  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		2	24.8	mg/L	1	25.0	<0.177	99	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		2	25.1	mg/L	1	25.0	<0.177	100	90 - 110	1	20

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 86618  
Prep Batch: 73371

Date Analyzed: 2011-11-17  
QC Preparation: 2011-11-14

Analyzed By: AR  
Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		2	1010	mg/L	1	1000	<9.75	101	85.5 - 112.7	3	10

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

#### Laboratory Control Spike (LCS-1)

QC Batch: 86755  
Prep Batch: 73603

Date Analyzed: 2011-11-28  
QC Preparation: 2011-11-22

Analyzed By: AR  
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		2	924	mg/L	1	1000	<9.75	92	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	948	mg/L	1	1000	<9.75	95	85.5 - 112.7	3	10

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

#### Matrix Spike (MS-1) Spiked Sample: 281157

QC Batch: 86377  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR



Report Date: November 30, 2011  
115-6403129

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Chavez Co., NM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Qs	2	1250	mg/L	50	1380	68	86	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Qs	2	1250	mg/L	50	1380	68	86	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: 281163

QC Batch: 86378  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Qs	2	362	mg/L	10	275	136	82	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Qs	2	350	mg/L	10	275	136	78	90 - 110	3	20

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

**Matrix Spike (MS-1)** Spiked Sample: 281167

QC Batch: 86379  
Prep Batch: 73346

Date Analyzed: 2011-11-03  
QC Preparation: 2011-11-01

Analyzed By: AR  
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	Qs	2	1290	mg/L	50	1380	521	56	90 - 110

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate	Qs	2	1320	mg/L	50	1380	521	58	90 - 110	2	20

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

## Calibration Standards

### Standard (ICV-1)

QC Batch: 86377

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	24.3	97	90 - 110	2011-11-03

### Standard (CCV-1)

QC Batch: 86377

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	24.7	99	90 - 110	2011-11-03

### Standard (ICV-1)

QC Batch: 86378

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	24.7	99	90 - 110	2011-11-03

### Standard (CCV-1)

QC Batch: 86378

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	24.7	99	90 - 110	2011-11-03

Report Date: November 30, 2011  
115-6403129

Work Order: 11103128  
Celero/Rock Queen #1 TB

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**Standard (ICV-1)**

QC Batch: 86379

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	24.7	99	90 - 110	2011-11-03

**Standard (CCV-1)**

QC Batch: 86379

Date Analyzed: 2011-11-03

Analyzed By: AR

Param	F	C	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		2	mg/L	25.0	25.3	101	90 - 110	2011-11-03

Report Date: November 30, 2011  
115-6403129

Work Order: 11103128  
Celero/Rock Queen #1 TB

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## Limits of Detection (LOD)

## Appendix

### Report Definitions

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

### Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-11-4	Lubbock
2	NELAP	T104704392-10-TX	Midland

### Standard Flags

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

WO # 11103128

# Analysis Request of Chain of Custody Record



**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

PAGE: 1

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME:

Celero

SITE MANAGER:

Jeff Kindley

PROJECT NO.:

115-6403129

PROJECT NAME:

Celero / Rack Queen #1 TB

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF FILTERED (Y/N)	HCL	HNO3	ICE	NONE	CETEX 80215	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatili	TCLP Semi	RCI	GC/MS Vol.	GC/MS Semi	PCB's 8080/	Pest. 808/60	Chloride	Gamma Spec	Alpha Beta	PLM (Asbes	Major Anion
281160	10/25	0925	W		X	MW-4	4	N	X	X		X												X				
161		1020				MW-7																						
162		1115				MW-3																						
163		1215				MW-5																						
164		1308				MW-2																						
165		1348				MW-6																						
166		1620				MW-1																						

RELINQUISHED BY: (Signature)

*[Signature]*

Date: 10/31/11  
Time: 1140

RECEIVED BY: (Signature)

*[Signature]*

Date: 10/31/11  
Time: 1140

SAMPLED BY: (Print & Initial)

516A

Date: 10/25/11  
Time:

RELINQUISHED BY: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

RECEIVED BY: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

SAMPLE SHIPPED BY: (Circle)

FEDEX  
HAND DELIVERED  
UPS

AIRBILL #: \_\_\_\_\_

OTHER: \_\_\_\_\_

RELINQUISHED BY: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

RECEIVED BY: (Signature)

Date: \_\_\_\_\_  
Time: \_\_\_\_\_

TETRA TECH CONTACT PERSON:

Jeff Kindley

Results by:

RUSH Charges

Authorized:

Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland STATE: TX ZIP: \_\_\_\_\_

CONTACT: \_\_\_\_\_ PHONE: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED:

Intact 39°C

REMARKS:

3.90

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



# TETRA TECH

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

**ANALYSIS REQUEST**  
(Circle or Specify Method No.)

[illegible]

WO #. 1103128

# Analysis Request of Chain of Custody Record



**TETRA TECH**

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

PAGE:

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME:

Celero

SITE MANAGER:

Jeff Kindley

PROJECT NO.:

115-6403129

PROJECT NAME:

Celero Rock Quarry #1 TB

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF FILTERED (Y/N)	PRESERVATIVE METHOD				BTX 80215	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatiles	TCLP Semi V	RCI	GC/MS Vol. &	GC/MS Semi	PCB's 8080/608	Pest. 809/608	Chloride	Gamma Spec.	Alpha Beta (A)	PLM (Asbest)	Major Anions	pH, TDS		
								HCL	HNO3	ICE	NONE																				
201160	10/25	0925	W		X	MW-4	4	N	X		X													X							
161		1020				MW-7																									
162		1115				MW-3																									
163		1215				MW-5																									
164		1308				MW-2																									
165		1348				MW-6																									
166		1620				MW-1																									
																					</										

RELINQUISHED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

RECEIVED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

SAMPLED BY: (Print & Initial)

ST/6A

Date: 10/25/11  
Time:

RELINQUISHED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

RECEIVED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS  
HAND DELIVERED UPS

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

RECEIVED BY: (Signature)

*[Signature]*

Date: 10/25/11  
Time: 11:40

TETRA TECH CONTACT PERSON:

Jeff Kindley

Results by:

RUSH Charges Authorized:  
Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

*[Signature]*

DATE: 11/1/11

TIME: 8:40

SAMPLE CONDITION WHEN RECEIVED:

Intact 39°C

REMARKS:

LS ZN003973 29/3.1°

NOV 10 2011

3.9°

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

MR