1RP-1554

Groundwater Sampling Report

Appendix C (Cent.)
Lab Analysis

DATE:
March 29, 2012
3 of 4



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 800 • 378 • 1296 888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301 FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

Ft. Worth, Texas 76132

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019 HUB:

1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX El Paso:

T104704221-08-TX

LELAP-02002

Midland:

T104704392-08-TX

LELAP-02003

Kansas E-10317

Analytical and Quality Control Report

Jeff Kindley Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Report Date: February 8, 2011

Work Order:

Project Location: Chavez County, 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.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
256095	MW-1	water	2011-01-24	16:55	2011-01-25
256096	MW-2	water	2011-01-24	16:45	2011-01-25
256097	MW-3	water	2011-01-24	17:10	2011-01-25
256098	MW-4	water	2011-01-24	16:15	2011-01-25
256099	MW-5	water	2011-01-24	16:32	2011-01-25
256100	MW-6	water	2011-01-24	17:05	2011-01-25
256101	MW-7	water	2011-01-24	17:18	2011-01-25

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

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

Mehar Wel

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

Standard Flags

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

Samples for project Celero/Rock Queen #1 TB were received by TraceAnalysis, Inc. on 2011-01-25 and assigned to work order 11012511. Samples for work order 11012511 were received intact without headspace and at a temperature of 1.6 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	66196	2011-01-25 at 10:00	77170	2011-01-25 at 14:57
Chloride (IC)	E 300.0	66402	2011-02-04 at 11:18	77415	2011-02-04 at 15:32
Chloride (IC)	E 300.0	66403	2011-02-04 at 11:36	77416	2011-02-04 at 20:18
SO4 (IC)	E 300.0	66403	2011-02-04 at 11:36	77416	2011-02-04 at 20:18
SO4 (IC)	E 300.0	66414	2011-02-06 at 10:00	77427	2011-02-07 at 11:31
SO4 (IC)	E 300.0	66439	2011-02-07 at 15:00	77456	2011-02-07 at 16:41
TDS	SM 2540C	66190	2011-01-26 at 13:45	77318	2011-02-01 at 15:05

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 11012511 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 4 of 22 Chavez County, NM

Analytical Report

Sample: 256095 - MW-1

Laboratory: Midland

Analysis:

BTEX

QC Batch: Prep Batch:

77170 66196 Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B

2011-01-25

2011-01-25

Prep Method:

S 5030B

0.00100

Analyzed By: Prepared By:

1

AG AG

		RL
Parameter	Flag	Result
Benzene		< 0.00100

< 0.00100 Toluene < 0.00100 Ethylbenzene < 0.00100 Xylene < 0.00100

mg/Lmg/L mg/L mg/L

Units

Dilution RL0.00100 1 1 0.00100 1 0.00100

Spike Percent Recovery Units Dilution Surrogate Flag Result Amount Recovery Limits Trifluorotoluene (TFT) 0.0539mg/L 1 0.100 54 75.4 - 119.4 mg/L 1 0.10054 78.6 - 122.8 4-Bromofluorobenzene (4-BFB) 0.0537

Sample: 256095 - MW-1

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77415

Analytical Method: Date Analyzed:

E 300.0

Prep Method:

N/A Analyzed By: PG

Prep Batch: 66402

Sample Preparation:

2011-02-04 2011-02-04

Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		144000	mg/L	10000	2.50

Sample: 256095 - MW-1

Laboratory:

Lubbock

Analysis: QC Batch: Prep Batch:

SO4 (IC) 77427 66414

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-02-07 2011-02-06 Prep Method:

Analyzed By:

PG Prepared By:

N/A

RL

Parameter	Flag	Result	Units	Dilution	RL
Sulfate		2560	mg/L_	100	2.50

¹SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 5 of 22 Chavez County, NM

AR

AR

Sample: 256095 - MW-1

Laboratory:

Prep Batch: 66190

Midland

Analysis: QC Batch: TDS 77318

Analytical Method: Date Analyzed:

SM 2540C 2011-02-01

Prep Method: N/A Analyzed By: Sample Preparation: 2011-01-26 Prepared By:

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		258000	mg/L	100	10.0

Sample: 256096 - MW-2

Laboratory: Midland

BTEX Analysis: QC Batch: 77170 Prep Batch: 66196

Analytical Method: Date Analyzed:

S 8021B 2011-01-25 Sample Preparation: 2011-01-25 Prep Method: S 5030B Analyzed By: AGPrepared By: \mathbf{AG}

RL

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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.113	mg/L	1	0.100	113	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0976	${ m mg/L}$	1	0.100	98	78.6 - 122.8

Sample: 256096 - MW-2

Laboratory:

Lubbock

Analysis: Chloride (IC) QC Batch: 77415 Prep Batch: 66402

Analytical Method: Date Analyzed:

E 300.0 2011-02-04 Sample Preparation: 2011-02-04 Prep Method: N/A Analyzed By: PG Prepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		7310	mg/L	500	2.50

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 6 of 22 Chavez County, NM

Sample: 256096 - MW-2

Laboratory:

Lubbock

Analysis: QC Batch: Prep Batch:

SO4 (IC) 77427 66414

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0

2011-02-07 2011-02-06 Prep Method: N/A Analyzed By:

PGPrepared By: PG

> RL2.50

RL

Parameter	Flag	Result	Units	Dilution
Sulfate		108	m mg/L	5

Sample: 256096 - MW-2

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

TDS 77318 66190 Analytical Method:

SM 2540C Date Analyzed: 2011-02-01 Sample Preparation: 2011-01-26 Prep Method: N/A Analyzed By: AR

Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		26800	m mg/L	100	10.0

Sample: 256097 - MW-3

Laboratory:

Midland

Analysis: BTEX QC Batch: 77170 Prep Batch: 66196

Analytical Method: Date Analyzed:

RL

S 8021B 2011-01-25 Sample Preparation: 2011-01-25 Prep Method: S 5030B Analyzed By: AG Prepared By: AG

Flag

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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0754	mg/L	1	0.100	75	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0702	mg/L	1	0.100	70	78.6 - 122.8

Report Date 115-6403129	: February 8,	2011			er: 11012511 Queen #1 TB	Page Numbe Chavez Co	
Sample: 25	6097 - MW	-3					
Laboratory:	Lubbock						
Analysis:	Chloride (IC	C)		Analytical Metho	od: E 300.0	Prep Metho	•
QC Batch:	77415			Date Analyzed:	2011-02-04	Analyzed B	
Prep Batch:	66402			Sample Preparat	ion: 2011-02-04	Prepared B	y: PG
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Chloride				51900	mg/L	10000	2.50
1				·			
Sample: 25	6097 - MW	-3					
Laboratory:	Lubbock						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Metho	d: N/A
QC Batch:	77427			Date Analyzed:	2011-02-07	Analyzed B	y: PG
Prep Batch:	66414			Sample Preparation	n: 2011-02-06	Prepared B	y: PG
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Sulfate				2280	mg/L	100	2.50
Sample: 256 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77318 66190	-3		Analytical Method: Date Analyzed: Sample Preparation	2011-02-01	Prep Metho Analyzed B Prepared B	y: AR
				RL			
Parameter			Flag	Result	Units	Dilution	RL
Total Dissolv	ed Solids			95300	mg/L	100	10.0
Sample: 25	6098 - MW	-4					
Laboratory:	Midland						
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	77170			Date Analyzed:	2011-01-25	Analyzed By:	AG
Prep Batch:	66196			Sample Preparation:	2011-01-25	Prepared By:	AG
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Benzene				< 0.00100	mg/L	1	0.00100
Toluene				< 0.00100	mg/L	1	0.00100

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 8 of 22 Chavez County, NM

sample	256098	continued			
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Parameter F	'lag		R. Resul		Units	ח	ilution	RL
	iag			·····		D	11461011	
Ethylbenzene			< 0.00100		mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate	\mathbf{F}	lag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.112	mg/L	1	0.100	112	75.4 - 119.4
4-Bromofluorobenzene (4-BF)	В)		0.0948	$_{ m mg/L}$	1	0.100	95	78.6 - 122.8

Sample: 256098 - MW-4

Laboratory:

Lubbock

Analysis: QC Batch: Chloride (IC)

77416

Analytical Method: Date Analyzed:

E 300.0

2011-02-04

Prep Method: N/A Analyzed By:

PG

Prep Batch: 66403

Sample Preparation: 2011-02-04

Prepared By: PG

RL

		100			
Parameter	Flag	\mathbf{Result}	Units	Dilution	RL
Chloride		6230	mg/L	500	2.50

Sample: 256098 - MW-4

Laboratory: Lubbock

Analysis: QC Batch:

SO4 (IC) 77456 Prep Batch: 66439

Analytical Method:

Sample Preparation:

Date Analyzed:

E 300.0

2011-02-07 2011-02-07 Prep Method: N/A Analyzed By:

PG Prepared By: PG

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		180	m mg/L	5	2.50

Sample: 256098 - MW-4

Laboratory:

Midland

Analysis: TDS QC Batch: 77318 Prep Batch: 66190

Analytical Method: Date Analyzed:

Sample Preparation:

SM 2540C

2011-02-01 2011-01-26 Prep Method: N/A Analyzed By:

Prepared By: AR

AR

		RL			
Parameter	Flag	Result	Units	Dilution	m RL
Total Dissolved Solids		12400	mg/L	20	10.0

Report Date: February 8, 2011 115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 9 of 22 Chavez County, NM

Sample: 256099 - MW-5

Laboratory: Midland

Analysis: **BTEX** QC Batch: 77170 Prep Batch: 66196

Analytical Method: S 8021B Date Analyzed: 2011-01-25 Sample Preparation: 2011-01-25

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

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

					\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.109	mg/L	1	0.100	109	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0941	mg/L	1	0.100	94	78.6 - 122.8

Sample: 256099 - MW-5

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77416 Prep Batch: 66403

Analytical Method: E 300.0 Date Analyzed: 2011-02-04 Sample Preparation: 2011-02-04

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

RLParameter RLFlag Result Units Dilution Chloride 58.4 mg/L 5 2.50

Sample: 256099 - MW-5

Laboratory: Lubbock Analysis:

QC Batch:

SO4 (IC) 77416 Prep Batch: 66403

Analytical Method: E 300.0 Date Analyzed: 2011-02-04 2011-02-04 Sample Preparation:

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

RLParameter Flag Result RLUnits Dilution Sulfate 121 mg/L 2.50

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 10 of 22 Chavez County, NM

Sample: 256099 - MW-5

Laboratory: Midland

Analysis: QC Batch:

TDS 77318 Prep Batch: 66190 Analytical Method: Date Analyzed:

SM 2540C 2011-02-01

Prep Method: N/A Analyzed By: AR Sample Preparation: 2011-01-26 Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		518	mg/L	1	10.0

Sample: 256100 - MW-6

Laboratory: Midland

Analysis: **BTEX** QC Batch: 77170 Prep Batch: 66196

Analytical Method: Date Analyzed:

S 8021B 2011-01-25 Sample Preparation: 2011-01-25

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

RL

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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	2	0.0519	mg/L	1	0.100	52	75.4 - 119.4
4-Bromofluorobenzene (4-BFB)		0.0518	${ m mg/L}$	1	0.100	52	78.6 - 122.8

Sample: 256100 - MW-6

Laboratory: Lubbock

Analysis: Chloride (IC) QC Batch: 77416 Prep Batch: 66403

Analytical Method: Date Analyzed:

E 300.0 2011-02-04 Sample Preparation: 2011-02-04 Prep Method: N/A Analyzed By: PGPrepared By: PG

RL

Parameter	Flag	Result	Units	Dilution	m RL
Chloride		88900	mg/L	10000	2.50

²SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

Report Date: February 8, 2011 115-6403129

66414

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 11 of 22 Chavez County, NM

Sample:	256100 -	MW-6
Danible.	400100 -	TAT AA - O

Laboratory: Lubbock Analysis: SO4 (IC) QC Batch: 77427

Analytical Method: Date Analyzed: Sample Preparation:

RL

E 300.0 2011-02-07 2011-02-06

Units

mg/L

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

Parameter Flag Result
Sulfate 2850

 Dilution
 RL

 100
 2.50

Sample: 256100 - MW-6

Laboratory:

Prep Batch:

Midland

Analysis: TDS QC Batch: 77318 Prep Batch: 66190 Analytical Method: SM 2540C Date Analyzed: 2011-02-01

Sample Preparation:

2011-02-01 2011-01-26 Prep Method: N/A
Analyzed By: AR
Prepared By: AR

 Dilution
 RL

 100
 10.0

Sample: 256101 - MW-7

Laboratory:

Midland

Analysis: BTEX QC Batch: 77170 Prep Batch: 66196 Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-01-25 2011-01-25 Prep Method: S 5030B Analyzed By: AG Prepared By: AG

RLDilution Flag Parameter Result Units RL0.00100 Benzene < 0.00100 mg/L 1 0.00100 Toluene < 0.00100 mg/L 1 1 0.00100 Ethylbenzene < 0.00100 mg/L < 0.00100 mg/L 1 . 0.00100Xylene

				Spike	Percent	Recovery
Flag	Result	Units	Dilution	Amount	Recovery	Limits
3	0.0642	mg/L	1	0.100	64	75.4 - 119.4
	0.0640	${ m mg/L}$. 1	0.100	64	78.6 - 122.8
	Flag 3	3 0.0642	³ 0.0642 mg/L	³ 0.0642 mg/L 1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Flag Result Units Dilution Amount Recovery 3 0.0642 mg/L 1 0.100 64

³SPECIAL - TFT is out of control limits due to an unknown anomaly. However, 4-BFB shows the method to be in control. •

Report Date: February 8, 2011 115-6403129			Work Order Celero/Rock C		ge Number: 12 of 22 Chavez County, NM		
Sample: 256	3101 - MW-	7					
Laboratory:	Lubbock						
Analysis:	Chloride (IC	5)	Analytical Method	E 300.0	Prep Method:	N/A	
QC Batch:	77416		Date Analyzed:	2011-02-04	Analyzed By:	PG	
Prep Batch:	66403.		Sample Preparation	n: 2011-02-04	Prepared By:	PG	
			RL		•		
Parameter .		Flag	Result	Units	Dilution	RL	
Chloride			92400	mg/L	10000	2.50	
Sample: 256	3101 - MW-	7					
	Lubbock						
	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	•	
QC Batch:	77427		Date Analyzed:	2011-02-07	Analyzed By:	PG	
Prep Batch:	66414		Sample Preparation:	2011-02-06	Prepared By:	\mathbf{PG}	
	-	\	RL				
Parameter		Flag	Result	Units	Dilution	RL	
Sulfate			2580	mg/L	100	2.50	
Analysis: QC Batch:	Midland TDS 77318 66190	7	Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-02-01 2011-01-26	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
D		171	RL	T7	. Dilatian	Dī	
Parameter Total Dissolve	d Colida	Flag	Result 179000	Units mg/L	Dilution	RL 10.0	
Method Bla		QC Batch: 77170				2000	
QC Batch:	77170		v	011-01-25	Analyzed By:		
Prep Batch:	66196		QC Preparation: 2	011-01-25	Prepared By:	AG	
Parameter		Flag	Res		Units	m RL	
Benzene			< 0.000		m mg/L	0.001	
Toluene			< 0.000		mg/L	$0.001 \\ 0.001$	
Ethylbenzene			< 0.000		m mg/L		

 $continued \dots$

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 13 of 22 Chavez County, NM

method	blank	continued		

			M	DL			
Parameter	Flag		Re	sult	Un	iits	m RL
Xylene			< 0.000333			mg/L	
					Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.111	mg/L	1	0.100	111	70.8 - 117.4
4-Bromofluorobenzene (4-BFB)		0.0994	mg/L	1	0.100	99	79 - 113.4

Method Blank (1)

QC Batch: 77318

QC Batch: 77318 Prep Batch: 66190

Date Analyzed: 2011-02-01 QC Preparation: 2011-01-26 Analyzed By: AR Prepared By: AR

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

Method Blank (1)

QC Batch: 77415

QC Batch: 77415 Prep Batch: 66402

Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04 Analyzed By: PG Prepared By: PG

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

Method Blank (1)

QC Batch: 77416

QC Batch: 77416 Prep Batch: 66403 Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04 Analyzed By: PG Prepared By: PG

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

Method Blank (1)

QC Batch: 77416

QC Batch: 77416 Prep Batch: 66403 Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04

Analyzed By: PG Prepared By: PG

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 14 of 22 Chavez County, NM

		$\dot{ ext{MDL}}$		
Parameter	Flag	Result	Units	RL
Sulfate		< 0.126	mg/L	2.5

Method Blank (1)

QC Batch: 77427

QC Batch: Prep Batch: 66414

77427

Date Analyzed:

2011-02-07

Analyzed By: PG

QC Preparation: 2011-02-06

Prepared By: PG

MDL Flag Parameter Result Units RLSulfate < 0.126 mg/L 2.5

Method Blank (1)

QC Batch: 77456

QC Batch: Prep Batch: 66439

77456

Date Analyzed:

2011-02-07 QC Preparation: 2011-02-07 Analyzed By: PG

Prepared By: PG

MDL

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

Duplicates (1)

Duplicated Sample: 256101

QC Batch: Prep Batch:

77318 66190

Date Analyzed:

2011-02-01

QC Preparation: 2011-01-26

Analyzed By: AR

Prepared By: AR

Duplicate Sample RPD Result Result Dilution RPD Limit Param Units Total Dissolved Solids 178000 179000 mg/L 100 1 10

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 66196

77170

Date Analyzed:

2011-01-25

Analyzed By: AG

QC Preparation: 2011-01-25

Prepared By:

AG

		LCS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		0.0891	mg/L	1	0.100	< 0.000400	89	76.8 - 110.3
Toluene	1	0.103	mg/L	1	0.100	< 0.000300	103	81 - 108.2
Ethylbenzene		0.108	mg/L	1	0.100	< 0.000300	108	78.8 - 111

 $continued \dots$

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 15 of 22 Chavez County, NM

control spikes continued ...

•	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Xylene	0.328	mg/L	1	0.300	< 0.000333	109	80.3 - 111.4

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.0843	mg/L	1	0.100	< 0.000400	84	76.8 - 110.3	6	20
Toluene	0.0988	mg/L	1	0.100	< 0.000300	99	81 - 108.2	4	20
Ethylbenzene	0.103	mg/L	1	0.100	< 0.000300	103	78.8 - 111	5	20
Xylene	0.312	mg/L	1	0.300	< 0.000333	104	80.3 - 111.4	5	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.112	0.111	mg/L	1	0.100	112	111	66.6 - 114.5
4-Bromofluorobenzene (4-BFB)	0.108	0.106	mg/L	1	0.100	108	106	77.1 - 114.4

Laboratory Control Spike (LCS-1)

QC Batch:

77318

Date Analyzed:

2011-02-01

Analyzed By: AR

Prep Batch: 66190

QC Preparation: 2011-01-26

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids	1080	mg/L	1	1000	< 9.75	108	90 - 110

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1000	mg/L	1	1000	< 9.75	100	90 - 110	8	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:

77415

Date Analyzed:

2011-02-04

Analyzed By: PG

Prep Batch:

66402

QC Preparation: 2011-02-04

Prepared By: PG

	LCS			Spike	Matrix		Rec .
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.6	m mg/L	1	25.0	< 0.0142	94	90 - 110

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

Work Order: 11012511

Page Number: 16 of 22

115-6403129

Celero/Rock Queen #1 TB

Chavez County, NM

· ·	LCSD			Spike	Matrix		${ m Re}c.$		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	23.7	$\mathrm{mg/L}$	1	25.0	< 0.0142	95	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: 77416 Prep Batch: 66403

Date Analyzed: 2011-02-04 QC Preparation: 2011-02-04

Analyzed By: PG Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	23.6	mg/L	1	25.0	< 0.0142	94	90 - 110

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount'	Result	Rec.	Limit	RPD	Limit
Chloride	23.6	mg/L	1	25.0	< 0.0142	94	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:

77416

Date Analyzed:

2011-02-04

Analyzed By: PG

Prep Batch: 66403

QC Preparation: 2011-02-04

Prepared By: PG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.0	mg/L	1	25.0	< 0.126	96	90 - 110

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

		LCSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		24.1	mg/L	1	25.0	< 0.126	96	90 - 110	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch:

77427

Date Analyzed:

2011-02-07

Analyzed By: PG

Prep Batch:

66414

QC Preparation:

2011-02-06

Prepared By: PG

continued ...

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 17 of 22 Chavez County, NM

control spikes continued ...

Param	LCS Result	Units	Dil.	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	Matrix Result	Rec.	Rec. Limit
	LCS	7.81	· · · · · · · · · · · · · · · · · · ·	Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	24.7	mg/L	1	25.0	< 0.126	99	90 - 110

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch:

77456

Date Analyzed:

2011-02-07

Analyzed By: PG

Prepared By: PG

Prep Batch: 66439

QC Preparation: 2011-02-07

LCS Matrix Spike Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 25.3 mg/L 25.0 < 0.126101 90 - 110

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

·	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	25.1	mg/L	1	25.0	< 0.126	100	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 256101

QC Batch: Prep Batch:

77170 66196 Date Analyzed: QC Preparation:

2011-01-25 2011-01-25 Analyzed By: AG Prepared By: AG

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		0.0827	mg/L	1	0.100	< 0.000400	83	68.2 - 119.3
Toluene		0.0851	mg/L	1	0.100	< 0.000300	85	74.6 - 110.8
Ethylbenzene		0.0786	mg/L	1	0.100	< 0.000300	79	71.6 - 111.9
Xylene	4	0.204	${ m mg/L}$	1	0.300	< 0.000333	68	71.3 - 113.4

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

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

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 18 of 22 Chavez County, NM

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		0.0777	mg/L	1	0.100	< 0.000400	78	68.2 - 119.3	6	20
Toluene		0.0814	mg/L	. 1	0.100	< 0.000300	81	74.6 - 110.8	4	20
Ethylbenzene	5	0.0750	mg/L	1	0.100	< 0.000300	75	71.6 - 111.9	5	20
Xylene	6	0.193	mg/L	1	0.300	< 0.000333	64	71.3 - 113.4	6	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)	0.0829	0.0831	mg/L	1	0.1	83	83	68.2 - 110.1
4-Bromofluorobenzene (4-BFB)	0.0830	0.0816	mg/L	1	0.1	83	82	78.7 - 116.2

Matrix Spike (MS-1)

Spiked Sample: 256097

QC Batch:

77415

Date Analyzed:

2011-02-04

Analyzed By: PG

Prepared By: PG

Prep Batch: 66402

QC Preparation:

2011-02-04

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	300000	mg/L	10000	250000	51900	99	90 - 110

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	299000	mg/L	10000	250000	51900	99	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: 256357

QC Batch: Prep Batch: 66403

77416

Date Analyzed:

2011-02-04

QC Preparation: 2011-02-04

Analyzed By: PG

Prepared By: PG

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	13400	mg/L	500	12500	1430	96	90 - 110

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	13400	mg/L	500	12500	1430	96	90 - 110		20

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

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

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

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 19 of 22 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 256357

QC Batch: Prep Batch:

77416 66403 Date Analyzed:

2011-02-04

QC Preparation: 2011-02-04 Analyzed By: PG

Rec.

97

Prepared By: PG

Rec.

Limit

90 - 110

	MS			Spike	Matrix	
Param	Result	Units	Dil.	Amount	Result	
Sulfate	14000	mg/L	500	12500	1870	

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	14000	mg/L	500	12500	1870	97	90 - 110	0	20

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

Matrix Spike (MS-1)

Spiked Sample: 256101

QC Batch:

77427

Date Analyzed:

2011-02-07

Analyzed By: PG

Prep Batch:

66414

Prepared By: PG

QC Preparation:

2011-02-06

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Sulfate	5290	mg/L	100	2500	2580	108	90 - 110

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

•	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate	5280	mg/L	100	2500	2580	108	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: 256847

QC Batch:

77456

Date Analyzed:

2011-02-07

Analyzed By: PG

Rec.

735

19.4

Prep Batch:

Param

Sulfate

66439

QC Preparation:

2011-02-07

50

1250

Prepared By: PG

Rec.

Limit

90 - 110

MS Spike Matrix Result Units Dil. Amount Result

mg/L

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. $continued \dots$

9210

⁷Matrix spikes ran with batch but spiked sample was not reported in batch. Use LCS/LCSD to show analysis is under control •

115-6403129

Work Order: 11012511 Celero/Rock Queen #1 TB Page Number: 20 of 22 Chavez County, NM

matrix spikes continued		
-------------------------	--	--

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
·		MSD			Spike .	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Sulfate	8	9140	mg/L	50	1250	19.4	731	90 - 110	1	20

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

Standard (CCV-1)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

			CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0857	86	80 - 120	2011-01-25
Toluene		$_{ m mg/L}$	0.100	0.100	100	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.104	104	80 - 120	2011-01-25
Xylene		mg/L	0.300	0.314	105	80 - 120	2011-01-25

Standard (CCV-2)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene	,	mg/L	0.100	0.0873	· 87	80 - 120	2011-01-25
Toluene		$_{ m mg/L}$	0.100	0.101	101	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.105	105	80 - 120	2011-01-25
Xylene		m mg/L	0.300	0.315	105	80 - 120	2011-01-25

Standard (CCV-3)

QC Batch: 77170

Date Analyzed: 2011-01-25

Analyzed By: AG

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0844	84	80 - 120	2011-01-25
Toluene		mg/L	0.100	0.0988	99	80 - 120	2011-01-25
Ethylbenzene		mg/L	0.100	0.103	103	80 - 120 .	2011-01-25
Xylene		mg/L	0.300	0.310	103	80 - 120	2011-01-25

⁸Matrix spikes ran with batch but spiked sample was not reported in batch. Use LCS/LCSD to show analysis is under control •

Page Number: 21 of 22 Report Date: February 8, 2011 Work Order: 11012511 Chavez County, NM 115-6403129 Celero/Rock Queen #1 TB Standard (CCV-1) QC Batch: 77415 Analyzed By: PG Date Analyzed: 2011-02-04 **CCVs** CCVs **CCVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Limits Analyzed Conc. Recovery Chloride mg/L 25.0 24.0 90 - 110 2011-02-04 96 Standard (CCV-2) QC Batch: 77415 Date Analyzed: 2011-02-04 Analyzed By: PG **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Flag Param Units Conc. Conc. Limits Analyzed Recovery Chloride 25.0 23.5 90 - 110 2011-02-04 mg/L 94 Standard (CCV-1) QC Batch: 77416 Date Analyzed: 2011-02-04 Analyzed By: PG **CCVs CCVs CCVs** Percent True Found Date Percent Recovery Flag Param Units Conc. Analyzed Conc. Recovery Limits Chloride 2011-02-04 25.0 90 - 110 mg/L 23.594 Standard (CCV-1) QC Batch: 77416 Date Analyzed: 2011-02-04 Analyzed By: PG **CCVs CCVs CCVs** Percent True Found Recovery Date Percent Flag Units Conc. Analyzed Param Conc. Recovery Limits Sulfate mg/L 25.0 24.0 96 90 - 110 2011-02-04 Standard (CCV-2)

QC Batch: 77416

Date Analyzed: 2011-02-04

CCVs CCVs CCVs
True Found Percent

Percent Date Recovery Flag Units Param Conc. Conc. Recovery Limits Analyzed 2011-02-04 Chloride mg/L 25.0 23.6 $\overline{94}$ 90 - 110

Analyzed By: PG

Report Date: February 8, 2011 Work Order: 11012511 Page Number: 22 of 22 115-6403129 Celero/Rock Queen #1 TB Chavez County, NM Standard (CCV-2) Analyzed By: PG QC Batch: 77416 Date Analyzed: 2011-02-04 **CCVs CCVs CCVs** Percent True Found Percent Recovery Date Units Param Flag Conc. Conc. Recovery Limits Analyzed Sulfate 25.0 24.1 90 - 110 2011-02-04 mg/L 96 Standard (CCV-1) QC Batch: 77427 Date Analyzed: 2011-02-07 Analyzed By: PG **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Conc. Analyzed Param Flag Units Conc. Recovery Limits Sulfate 90 - 110 mg/L 25.0 24.7 99 2011-02-07 Standard (CCV-2) QC Batch: 77427 Date Analyzed: 2011-02-07 Analyzed By: PG **CCVs CCVs** CCVsPercent True Found Percent Recovery Date Units Conc. Conc. Limits Analyzed Param Flag Recovery Sulfate mg/L 25.0 24.5 98 90 - 110 2011-02-07 Standard (CCV-1) QC Batch: 77456 Date Analyzed: 2011-02-07 Analyzed By: PG **CCVs CCVs CCVs** Percent True. Found -Percent Recovery Date Units Param Flag Conc. Conc. Recovery Limits Analyzed Sulfate 90 - 110 2011-02-07 mg/L 25.0 25.5102 Standard (CCV-2) Date Analyzed: 2011-02-07 Analyzed By: PG QC Batch: 77456

CCVs

Found

Conc.

25.5

CCVs

Percent

Recovery

102

Percent

Recovery

Limits

90 - 110

Date

Analyzed

2011-02-07

CCVs

True

Conc.

25.0

Param

Sulfate

Flag

Units

mg/L

XWO #: 110/2511

Analysis Request of Chain of Custoo	ly Record	PAGE: OF:
	ANALYSIS REQUEST (Circle or Specify Method No.)	
TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		6 (Ext. to C35) 1 Cr Pb Hg Se d Vr Pd Hg Se (105)
CLIENT NAME: SITE MANAGER:	PRESERVATIVE METHOD	As Ba Cd Ci As Ba Cd Ci As Ba Cd Vi B250/624 B270/625
PROJECT NO.: PROJECT NAME:	NATA INTERPOS	
115-6403129 Rock Creen #1 73		8015 MOD 8015 MOD 8015 MOD 8015 Motals Ag / Aletals Ag / Semi Volatile & Semi Volatile & Semi Volatile & Spec. 808/608 908/608 908/608 Anions/Cati
LAB I.D. DATE TIME TIME SAMPLE IDENTIFICATION SOLL	NUMBER OF CONTAINERS FILTERED (Y/N) HCL HNO3 ICE NONE	BTEX 8021B7 TPH 8015 MOD. TX100 PAH 8270 RCRA Metals Ag As Ba C TCLP Volatiles TCLP Semi Volatiles RCI GC.MS Vol. 8240/8260/624 GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/622 PCB's 8080/608 Pest. 808/608 Gfloridg: Gamma Spec. Alpha Beta (Air) PLM (Asbestos) Major Anions/Cations, pH
25/0095 1/24 16/55 W X MW-1	ANXX	X
096 / 1645 / Mu-2		
097 17:10 mu-3		
098 \ 16:15 \ mw.i		
Off \ 16.32 \ \ mw 5		
100 17:05 / mw-10		
10/ 17:18/ V mw 7		
RELINQUIS/ED BY (Signature) Date: /~25-1/ REDETVED BY (Signature)		
And 11:27 M	Date: 17.35/1 Time: 11.3	SAMPLED BY: (Print & Initial) Date: 1-24-11 Time:
MELINGUISHED BY: (Signature) Date: 1/35 // REOSWED BY: (Signature) Time: 1/2 // REOSWED BY: (Signature)	Date:	SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:
REJ NQUISHED BY: (Signature) Date: RECEIVED BY: (Signature) Time:	Date:	TETRA TECH CONTACT PERSON: Results by:
RECEIVING LABORATORY: ADDRESS: CITY: CITY: PHONE: PHONE: DATE: DATE:	LS ZK957	723 Lift Kindley RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: REMARKS: 1.6 CINTACT AMIDLAND - BTEX, TOS	7	M-Ohlaides, Doy 4



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

Lubbock, Texas 79424

800 • 378 • 1296

806 • 794 • 1296

FAX 806 • 794 • 1298

5002 Basin Street, Suite A1

El Paso, Texas 79922

888 • 588 • 3443 915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944

Midland, Texas 79703

FAX 432 • 689 • 6313

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

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

Certifications

NCTRCA DBE NELAP Dod LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Jeff Kindley Tetra Tech

Report Date: May 4, 2011

1910 N. Big Spring Street Midland, TX, 79705

Work Order:

11041530

Project Location:

Chavez County, NM

Project Name:

Celero/Rock Queen #1 TB

Project Number:

114-6403129

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
263909	MW-1	water	2011-04-13	10:30	2011-04-15
263910	MW-2	water	2011-04-13	11:00	2011-04-15
263911	MW-3	water	2011-04-13	11:05	2011-04-15
263912	MW-4	water	2011-04-13	10:50	2011-04-15
263913	MW-5	water	2011-04-13	10:40	2011-04-15
263914	MW-6	water	2011-04-13	11:30	2011-04-15
263915	MW-7	water	2011-04-13	11:20	2011-04-15
263916	RW-1	water	2011-04-13	10:40	2011-04-15

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

This report consists of a total of 31 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

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

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Case Narrative

Samples for project Celero/Rock Queen #1 TB were received by TraceAnalysis, Inc. on 2011-04-15 and assigned to work order 11041530. Samples for work order 11041530 were received intact without headspace and at a temperature of 0.6 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	68300	2011-04-19 at 09:52	80470	2011-04-20 at 01:20
Chloride (IC)	E 300.0	68439	2011-04-25 at 14:24	80666	2011-04-26 at 15:33
Chloride (IC)	E 300.0	68477	2011-04-26 at 12:02	80692	2011-04-27 at 10:03
Chloride (IC)	· E 300.0	68478	2011-04-26 at 13:03	80693	2011-04-27 at 10:06
SO4 (IC)	E 300.0	68439	2011-04-25 at 14:24	80666	2011-04-26 at 15:33
SO4 (IC)	E 300.0	68477	2011-04-26 at 12:02	80692	2011-04-27 at 10:03
SO4 (IC)	E 300.0	68478	2011-04-26 at 13:03.	80693	2011-04-27 at 10:06
TDS	SM 2540C	68433	2011-04-25 at 12:18	80869	2011-05-02 at 09:35
TDS	SM 2540C	68476	2011-04-26 at 12:00	80871	2011-05-02 at 09:55

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 11041530 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: May 4, 2011

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 6 of 31 Chavez County, NM

Analytical Report

Sample: 263909 - MW-1

Laboratory: Midland

Analysis: **BTEX** QC Batch: 80470 Prep Batch: 68300

Analytical Method: Date Analyzed:

S 8021B 2011-04-20 Sample Preparation: 2011-04-19 Prep Method: S 5030B

Analyzed By: ME Prepared By:

			RL			
Parameter	Flag	Cert	Result	\mathbf{Units}	Dilution	RL
Benzene		1	0.00600	mg/L	1	0.00100
Toluene		1 .	< 0.00100	$_{ m mg/L}$	1	0.00100
Ethylbenzene		1	< 0.00100	mg/L	1	0.00100
Xvlene		1	< 0.00100	mg/L	1	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Durrogatic	Liag	Oct	racome	Omos	Dittuion	Amount	recovery	Limits
Trifluorotoluene (TFT)		1	0.0528	mg/L	1	0.100	53	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0654	mg/L	1	0.100	65	51.1 - 128

Sample: 263909 - MW-1

Laboratory:

Midland

Analysis: Chloride (IC) QC Batch: 80666 Prep Batch: 68439

Analytical Method:

Date Analyzed:

E 300.0 2011-04-26 Sample Preparation: 2011-04-25

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

RLFlag Parameter Cert Result Units Dilution RLChloride 168000 5000 2.50 mg/L

Sample: 263909 - MW-1

Midland

Laboratory:

Analysis: SO4 (IC) QC Batch: 80666 Prep Batch: 68439

Analytical Method:

E 300.0 Date Analyzed: 2011-04-26 Sample Preparation: 2011-04-25 Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RLParameter Flag Cert Result Dilution RLUnits Sulfate 2210 50 2.50 mg/L

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 7 of 31 Chavez County, NM

Sample: 263909 - MW-1

Laboratory: Midland Analysis: TDS QC Batch: 80869 Prep Batch: 68433

Analytical Method: Date Analyzed: Sample Preparation:

SM 2540C 2011-05-02 2011-04-26

Result

250000

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

RL

10.0

RL

Parameter Flag Cert Total Dissolved Solids 1

Units Dilution

mg/L

Sample: 263910 - MW-2

Laboratory: Analysis:

QC Batch:

Midland BTEX 80470 Prep Batch: 68300

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-04-20 2011-04-19

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

100

RLFlag Cert Result

Parameter Units Dilution RLBenzene < 0.00100 mg/L 0.00100 Toluene mg/L0.00100< 0.00100 1 Ethylbenzene < 0.00100 mg/L 1 0.00100 Xylene < 0.00100 mg/L0.00100 1

		~				Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	$_{ m Limits}$
Trifluorotoluene (TFT)		1	0.0966	mg/L	1	0.100	97	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.104	mg/L	1	0.100	104	51.1 - 128

Sample: 263910 - MW-2

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 80666 Prep Batch: 68439

Analytical Method: Date Analyzed:

Sample Preparation:

E 300.0 2011-04-26 2011-04-25 Prep Method: N/A Analyzed By: AR Prepared By: AR

RL Parameter Flag Cert Result Units Dilution RLChloride 8270 mg/L 100 2.50 1

114-6403129 Chavez County, NM Celero/Rock Queen #1 TB Sample: 263910 - MW-2 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: Prep Method: N/A E 300.0QC Batch: 80666 Date Analyzed: 2011-04-26 Analyzed By: AR Prep Batch: 68439 Sample Preparation: 2011-04-25 Prepared By: ARRLCert RLParameter Flag Result Units Dilution Sulfate 125 mg/L 5 2.50 Sample: 263910 - MW-2 Laboratory: Midland Analysis: TDS Analytical Method: Prep Method: N/A SM 2540C QC Batch: 80869 Date Analyzed: 2011-05-02 Analyzed By: AR Prep Batch: 68433 Sample Preparation: Prepared By: AR2011-04-26

RL

Units

mg/L

Result

29800

Work Order: 11041530

Sample: 263911 - MW-3

Report Date: May 4, 2011

Laboratory:	Midland
Analysis	BTEX

Total Dissolved Solids

Parameter

Analysis: BTEX Analysis

QC Batch: 80470 Date A

Prep Batch: 68300 Sample

Analytical Method: S 8021B Date Analyzed: 2011-04-20 Sample Preparation: 2011-04-19

Cert

Flag

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

Dilution

100

RL

10.0

Page Number: 8 of 31

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.00100	mg/L	1	0.00100
Toluene		1	< 0.00100	m mg/L	1	0.00100
Ethylbenzene		1	< 0.00100	$_{ m mg/L}$	1	0.00100
Xylene		1	< 0.00100	mg/L	1	0.00100

						$_{ m Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	· Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0759	mg/L	1	0.100	76	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0874	mg/L	1	0.100	87	51.1 - 128

Report Date: May 114-6403129	4, 2011		der: 11041530 k Queen #1 TB	Page Number: 9 Chavez Count			
Sample: 263911 -	MW-3						
Laboratory: Midla Analysis: Chlor QC Batch: 80692 Prep Batch: 68477	ide (IC)	Analytical M Date Analyze Sample Prepa	ed: 2011-04-		Prep Method: Analyzed By: Prepared By:	N/A AR AR	
	•		RL				
Parameter	Flag	Cert	Result	Units	Dilution	RL	
Chloride		1	57800	nig/L	5000	2.50	
Sample: 263911 -	MW-3						
Laboratory: Midla Analysis: SO4 (QC Batch: 80692	IC)	Analytical Metl Date Analyzed:			Prep Method: Analyzed By:	N/A AR	
Prep Batch: 68477		Sample Prepara			Prepared By:	AR.	
Parameter	Flag	Cert	RL Result	Units	Dilution	RL	
Sulfate	- 1.00	1	1990	mg/L	(50	2.50	
Sample: 263911 - Laboratory: Midla Analysis: TDS QC Batch: 80869 Prep Batch: 68433	•	Analytical Meth Date Analyzed: Sample Prepara	2011-05-02		Prep Method: Analyzed By: Prepared By:	N/A AR AR	
Parameter		Flag Cert	RL . Result	Units	Dilution	RL	
Total Dissolved Solid	ls	1	103000	mg/L	100	10.0	
Total Dissolved Solid Sample: 263912 -							
Laboratory: Midla							
Analysis: BTEX QC Batch: 80470	•	Analytical Method				5030B	
QC Batch: 80470 Prep Batch: 68300		Date Analyzed: Sample Preparation	2011-04-20 on: 2011-04-19		Analyzed By: M Prepared By: M		
		. Sumple r reputation	/*** MOTT OT-TO		i i oparoti Dy. 101.	_	

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 10 of 31 Chavez County, NM

sample 263912 continued ...

Parameter	Flag	Cert		RL Result	Unit	c	Dilution	m RL
T CATCOLI	1100			Toburo	- Olik	D	Dilution	100
•				RL				
Parameter	Flag	Cert		Result	Unit	s	Dilution	RL
Benzene		1	<	0.00100	mg/l	L	1	0.00100
Toluene		1	<	0.00100	mg/1		1	0.00100
Ethylbenzene		1	<	0.00100	mg/1		1	0.00100
Xylene		1	<	0.00100	mg/		1	0.00100
						Spike	Percent	Recovery
Surrogate	Fla	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0928	mg/L	1	0.100	93	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.102	$_{ m mg}/{ m L}$	1	0.100	102	51.1 - 128

Sample: 263912 - MW-4

Laboratory: Midland

Analysis: QC Batch:

Chloride (IC) 80692

Prep Batch: 68477

Analytical Method: Date Analyzed:

E 300.0

2011-04-27 Sample Preparation: 2011-04-26 Prep Method: N/A

Analyzed By: AR Prepared By: AR

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	7870	m mg/L	1000	2.50

Sample: 263912 - MW-4

Laboratory:

Midland

Analysis: QC Batch:

Prep Batch: 68477

SO4 (IC) 80692

Analytical Method: Date Analyzed:

E 300.0 2011-04-27

Sample Preparation: 2011-04-26

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Sulfate		1	193	$_{ m mg/L}$	5	2.50

Report Date: May 4, 2011 Work Order: 11041530 Page Number: 11 of 31 114-6403129 Chavez County, NM Celero/Rock Queen #1 TB Sample: 263912 - MW-4 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80869 Date Analyzed: 2011-05-02 Analyzed By: ARPrep Batch: 68433 Sample Preparation: 2011-04-26 Prepared By: AR. RLFlag Parameter Cert Result Units Dilution RLTotal Dissolved Solids

18500

mg/L

Sample: 263913 - MW-5

Laboratory: Midland

Analysis: **BTEX** QC Batch: 80470 Prep Batch: 68300

Analytical Method: S 8021B Date Analyzed: 2011-04-20 Sample Preparation: 2011-04-19 Prep Method: S 5030B Analyzed By: MEPrepared By: ME

100

10.0

RLFlag Parameter Cert Dilution Result Units RLBenzene 0.00100 < 0.00100 mg/L Toluene < 0.00100 mg/L1 0.00100 Ethylbenzene < 0.00100 1 0.00100 mg/LXylene 0.00100< 0.00100 mg/L 1

Surrogate	Flag	Cert	Result	Units	Dilution	$egin{array}{c} { m Spike} \\ { m Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1	0.0927	mg/L	1	0.100	93 .	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0941	mg/L	1	0.100	94	51.1 - 128

Sample: 263913 - MW-5

Laboratory:

Midland

Analysis: Chloride (IC) QC Batch: 80692 Prep Batch: 68477

Analytical Method: Date Analyzed:

E 300.0 2011-04-27 Sample Preparation: 2011-04-26 Prep Method: N/A Analyzed By: AR Prepared By: AR.

RLParameter Flag Cert Result Units Dilution RLChloride 62.7 mg/L 2.50 5 1

Report Date: May 4, 2011 Work Order: 11041530 Page Number: 12 of 31 114-6403129. Celero/Rock Queen #1 TB Chavez County, NM Sample: 263913 - MW-5 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80692 Date Analyzed: 2011-04-27 Analyzed By: ARPrep Batch: 68477 Sample Preparation: 2011-04-26 Prepared By: ARRLCert Result Parameter Flag Units Dilution RLSulfate 126 mg/L 5 2.50 Sample: 263913 - MW-5 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80869 Date Analyzed: 2011-05-02 Analyzed By: AR Sample Preparation: Prep Batch: 68433 2011-04-26 Prepared By: ARRL Parameter Flag Cert Result Units Dilution RL

458

mg/L

Sample: 263914 - MW-6

Laboratory: Midland

Total Dissolved Solids

Analysis: BTEX QC Batch: 80470 Prep Batch: 68300 Analytical Method: S 8021B Date Analyzed: 2011-04-20 Sample Preparation: 2011-04-19 Prep Method: S 5030B Analyzed By: ME Prepared By: ME

10.0

RLFlag Parameter Cert Result Units Dilution RLBenzene 0.00630mg/L1 0.00100 1 Toluene 0.00620mg/L 1 0.00100 . Ethylbenzene < 0.00100 mg/L 1 0.00100Xylene < 0.00100 mg/L 1 0.00100

Corre	E1	Q4	D1	T T *4	D:1	Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0610	mg/L	1	0.100	61	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0759	mg/L	1	0.100	76	51.1 - 128
4-Diomondorobenzene (4-DFD)		I	0.0100	mg/ D	1	0.100		01.1 - 120

114-6403129	:: May 4, 2011		Work Order: Celero/Rock Q	Page Number: 13 of 31 Chavez County, NM			
Sample: 26	3914 - MW-6						
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 80692 68477		Analytical Meth Date Analyzed: Sample Preparat	2011-04-2		Prep Method: Analyzed By: Prepared By:	N/A AR AR
			t * *	RL			
Parameter		Flag		Result	Units	Dilution	RL
Chloride			1	92900	mg/L	5000	2.50
_	3914 - MW-6						
Laboratory: Analysis:	Midland SO4 (IC)		Analytical Mathad	E 300.0		Dron Mothod	INT / A
QC Batch:	80692		Analytical Method Date Analyzed:	2011-04-27		Prep Method: Analyzed By:	N/A AR
Prep Batch:	68477		Sample Preparation			Prepared By:	AR
Trop Datem.	,		continue i reputation	1. 2011 04 20		r repared D _j .	2110
	•			RL			
Parameter		Flag	 	Result	Units	Dilution	RL
Sulfate			. 1	2310	mg/L	50	2.50
Laboratory: Analysis: QC Batch:	3914 - MW-6 Midland TDS 80869		Analytical Method: Date Analyzed:	2011-05-02		Prep Method: Analyzed By:	N/A AR
Laboratory: Analysis:	Midland TDS			2011-05-02			
Laboratory: Analysis: QC Batch:	Midland TDS 80869 68433		Date Analyzed:	2011-05-02	Units mg/L	Analyzed By:	AR
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 26: Laboratory:	Midland TDS 80869 68433 ed Solids 3915 - MW-7 Midland		Date Analyzed: Sample Preparation Flag Cert	2011-05-02 2011-04-26 RL Result 146000		Analyzed By: Prepared By: Dilution 100	AR AR RL 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 26: Laboratory: Analysis:	Midland TDS 80869 68433 ed Solids 3915 - MW-7 Midland BTEX		Date Analyzed: Sample Preparation Flag Cert 1 Analytical Method:	2011-05-02 2011-04-26 RL Result 146000		Analyzed By: Prepared By: Dilution 100 Prep Method: S 5	AR. AR. RL. 10.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 26: Laboratory:	Midland TDS 80869 68433 ed Solids 3915 - MW-7 Midland		Date Analyzed: Sample Preparation Flag Cert	2011-05-02 2011-04-26 RL Result 146000		Analyzed By: Prepared By: Dilution 100	AR AR RL 10.0

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 14 of 31 Chavez County, NM

sample 263915 continued ...

				RL .				
Parameter	Flag	Cert	,	Result	Unit	s	Dilution	RL
				RL				
Parameter	Flag	Cert		Result	Unit	S	Dilution	RL
Benzene	:	1	<	0.00100	mg/l	Ĺ	1	0.00100
Toluene		1	<	0.00100	mg/l		1	0.00100
Ethylbenzene		i	<	0.00100	mg/1		1	0.00100
Xylene		1	<	0.00100	mg/l		1	0.00100
,						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0610	mg/L	1	0.100	61	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0744	mg/L	1	0.100	74	51.1 - 128

Sample: 263915 - MW-7

Laboratory: Midland

Analysis: Chloride (IC) QC Batch: 80693 Prep Batch: 68478

Analytical Method: Date Analyzed: Sample Preparation:

E 300.0 Prep Method: N/A 2011-04-27 Analyzed By: 2011-04-26 Prepared By:

RLParameter Flag CertResult Units Dilution RLChloride 102000 mg/L5000 2.50

Sample: 263915 - MW-7

Laboratory: Midland

Analysis:

QC Batch:

Prep Batch:

SO4 (IC) 80693

68478

Analytical Method: Date Analyzed: Sample Preparation:

E 300.0 2011-04-27 2011-04-26 Prep Method: N/A Analyzed By: AR Prepared By: AR

AR

AR

RLParameter Flag Cert Result Dilution RLUnits Sulfate 2330 mg/L 50 2.50

Report Date: May 4, 2011 Work Order: 11041530 Page Number: 15 of 31 114-6403129 Celero/Rock Queen #1 TB Chavez County, NM Sample: 263915 - MW-7 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80871 Date Analyzed: 2011-05-02 Analyzed By: AR Prep Batch: 68476 Sample Preparation: 2011-04-28 Prepared By: AR. RL

Cert

Result

177000

Units

mg/L

Dilution

Prep Method:

Analyzed By:

Prepared By:

100

 $^{\cdot}\mathrm{RL}$

10.0

S 5030B

ME

ME

Sample: 263916 - RW-1

Laboratory: Midland

Total Dissolved Solids

Parameter

Analysis: BTEX Analytical Method: S 8021B
QC Batch: 80470 Date Analyzed: 2011-04-20
Prep Batch: 68300 Sample Preparation: 2011-04-19

Flag

RLParameter Flag Cert Result Units Dilution RLBenzene 0.0133 mg/L 0.00100 Toluene mg/L 0.00100< 0.00100 1 Ethylbenzene mg/L1 0.00100< 0.00100 Xylene 0.00100< 0.00100 mg/L 1

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1	0.0589	mg/L	1	0.100	59	67.8 - 129
4-Bromofluorobenzene (4-BFB)		1	0.0765	mg/L	1	0.100	76	51.1 - 128

Sample: 263916 - RW-1

Laboratory: Midland

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80693 Date Analyzed: 2011-04-27 Analyzed By: ARPrep Batch: 68478 Sample Preparation: 2011-04-26 Prepared By: AR

114-6403129 Celero/Rock Queen #1 TB Chavez County, NM Sample: 263916 - RW-1 Laboratory: Midland Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 80693 Date Analyzed: 2011-04-27 Analyzed By: AR Prep Batch: 68478 Sample Preparation: 2011-04-26 Prepared By: ARRLParameter Flag Cert Result Units Dilution RLSulfate 2680 mg/L 50 2.50 1 Sample: 263916 - RW-1 Laboratory: Midland Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A QC Batch: 80871 Date Analyzed: 2011-05-02 Analyzed By: ARPrep Batch: 68476 Sample Preparation: 2011-04-28 Prepared By: ARRLParameter Flag Cert Result Units Dilution RL

222000

mg/L

Work Order: 11041530

Page Number: 16 of 31

100

10.0

Report Date: May 4, 2011

Total Dissolved Solids

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 17 of 31 Chavez County, NM

Method Blanks

Method Blank (1)

QC Batch: 80470

QC Batch: 80470

Parameter

Ethylbenzene

Benzene

Toluene

Date Analyzed:

Flag

2011-04-20

Analyzed By: ME Prepared By: ME

0.001

47.3 - 116

Prep Batch: 68300

QC Preparation:

2011-04-19

< 0.000300

1

MDL Result Units RL< 0.000400 mg/L0.001 < 0.000300 mg/L 0.001

0.100

mg/L

96

mg/L**Xylene** < 0.000333 0.001Spike Percent Recovery Surrogate Flag Cert Units Dilution Amount Recovery Limits Result Trifluorotoluene (TFT) 0.0880 mg/L0.100 88 70.2 - 118 1

0.0959

Cert

Method Blank (1)

4-Bromofluorobenzene (4-BFB)

QC Batch: 80666

QC Batch: Prep Batch: 68439

80666

Date Analyzed: QC Preparation:

2011-04-26 2011-04-25

mg/L

Analyzed By: AR ARPrepared By:

MDL Flag Cert

RLParameter Units Result Chloride 0.724 2.5 mg/L

Method Blank (1)

QC Batch: 80666

QC Batch: Prep Batch:

80666 68439 Date Analyzed: QC Preparation:

2011-04-26 2011-04-25 Analyzed By: AR Prepared By: AR

MDL

RLParameter Flag Cert Result Units < 0.177 2.5 Sulfate mg/L

Report Date: May 4, 2 114-6403129		Work Order Celero/Rock (Page Number: 18 of 31 Chavez County, NM				
Method Blank (1)	QC Batch: 80692				·			
QC Batch: 80692 Prep Batch: 68477		Date Analyzed: QC Preparation:	2011-04-27 2011-04-26		Analyzed By: Prepared By:			
				MDL				
Parameter Chloride	Flag	Cert		Result 0.571	Units mg/L			
			,					
Method Blank (1)	QC Batch: 80692							
QC Batch: 80692 Prep Batch: 68477		Date Analyzed: QC Preparation:	2011-04-27 2011-04-26		Analyzed By: Prepared By:			
•								
		~		MDL				
Parameter Sulfate Method Blank (1)	Flag QC Batch: 80693	Cert		MDL Result <0.177	Units mg/L			
Parameter Sulfate			2011-04-27 2011-04-26	Result	Units	-		
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478	QC Batch: 80693	Date Analyzed: QC Preparation:	2011-04-27	Result <0.177	Units mg/L Analyzed By: Prepared By:			
Parameter Sulfate Method Blank (1) QC Batch: 80693		Date Analyzed:	2011-04-27	Result <0.177	Units mg/L Analyzed By:			
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478	QC Batch: 80693	Date Analyzed: QC Preparation: Cert	2011-04-27	Result <0.177 MDL Result	Units mg/L Analyzed By: Prepared By: Units			
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478	QC Batch: 80693	Date Analyzed: QC Preparation: Cert	2011-04-27	Result <0.177 MDL Result	Units mg/L Analyzed By: Prepared By: Units			
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478 Parameter Chloride Method Blank (1) QC Batch: 80693	QC Batch: 80693 Flag	Date Analyzed: QC Preparation: Cert	2011-04-27	Result <0.177 MDL Result	Units mg/L Analyzed By: Prepared By: Units			
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478 Parameter Chloride Method Blank (1) QC Batch: 80693	QC Batch: 80693 Flag	Date Analyzed: QC Preparation: Cert 1 Date Analyzed:	2011-04-27 2011-04-26 2011-04-27	Result <0.177 MDL Result	Units mg/L Analyzed By: Prepared By: Units mg/L Analyzed By:			
Parameter Sulfate Method Blank (1) QC Batch: 80693 Prep Batch: 68478 Parameter Chloride Method Blank (1) QC Batch: 80693	QC Batch: 80693 Flag	Date Analyzed: QC Preparation: Cert 1 Date Analyzed:	2011-04-27 2011-04-26 2011-04-27	Result <0.177 MDL Result 0.691	Units mg/L Analyzed By: Prepared By: Units mg/L Analyzed By:			

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					•	
•						
Report Date: May 4, 2011 114-6403129	Work Order				Page Number: 1	
114-04(A)129	Celero/Rock (Aneen #1 1D			Chavez Coun	
Method Blank (1) QC Batch: 80869)					
QC Batch: 80869	Date Analyzed:	2011-05-02			Analyzed By:	AR.
Prep Batch: 68433	QC Preparation:	2011-04-25			Prepared By:	AR
			MDL			
Parameter	Flag	Cert	Result		Units	RL
Total Dissolved Solids		1	< 9.75		mg/L	10
		•		•		
Method Blank (1) QC Batch: 80871	l					•
QC Batch: 80871	Date Analyzed:	2011-05-02			Analyzed By:	AR.
Prep Batch: 68476	QC Preparation:				Prepared By:	
			MDL			
Parameter	Flag	Cert	Result		Units	RL
Total Dissolved Solids		1	10.0		mg/L	10
·						
Duplicates (1) Duplicated Sample: 263	R01 <i>A</i>					
- , , ,						
QC Batch: 80869 Prep Batch: 68433	Date Analyzed: QC Preparation:	2011-05-02			Analyzed By: Prepared By:	
rep baten. 00400	CO I Teparation.	2011-04-20			Trepared by.	7110
	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	151000	146000	mg/L	100	3	10
Duplicates (1) Duplicated Sample: 263	3916					
QC Batch: 80871	Date Analyzed:	2011-05-02			Analyzed By:	AR
Prep Batch: 68476	QC Preparation:	2011-03-02			Prepared By:	AR
	Duplicate	Sample				RPD
Param	Result	Result	Units	Dilution	RPD	Limit
Total Dissolved Solids	220000	222000	mg/L	100	3	10

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 20 of 31 Chavez County, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-04-20

Analyzed By: ME

Prep Batch: 68300

QC Preparation: 2011-04-19

Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	${ m Rec.} \ { m Limit}$
Benzene		1	0.0942	mg/L	1	0.100	< 0.000400	94	76.8 - 110
Toluene		1	0.101	mg/L	1	0.100	< 0.000300	101	81 - 108
Ethylbenzene		1	0.101	mg/L	1	0.100	< 0.000300	101	78.8 - 118
Xylene		1	0.304	mg/L	1	0.300	< 0.000333	101	80.3 - 119

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene		1	0.0870	mg/L	1	0.100	< 0.000400	87	76.8 - 110	8	20
Toluene		1	0.0940	mg/L	1	0.100	< 0.000300	94	81 - 108	7	20
Ethylbenzene		1	0.0934	mg/L	1	0.100	< 0.000300	93	78.8 - 118	8	20
Xylene		1	0.284	mg/L	1	0.300	< 0.000333	95	80.3 - 119	7	20

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

		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Result	Result	Units	Dil.	Amount	Rec.	Rec.	${f Limit}$
Trifluorotoluene (TFT)	1	0.0920	0.0856	mg/L	1	0.100	92	86	66.6 - 114
4-Bromofluorobenzene (4-BFB)	1	0.108	0.0993	mg/L	1	0:100	108	99	68.2 - 124

Laboratory Control Spike (LCS-1)

QC Batch:

80666

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68439

2011-04-25 QC Preparation:

Prepared By: AR

•			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	${f Amount}$	Result	Rec.	$_{ m Limit}$
Chloride		1	27.3	mg/L	1	25.0	< 0.265	109	90 - 110

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

 $continued \dots$

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 21 of 31 Chavez County, NM

control spikes continued . . .

Param	F	C	LCSD Result	Units	Dil.	${f Spike} \ {f Amount}$	Matrix Result	Rec.	${ m Rec.} \ { m Limit}$	RPD	$egin{array}{c} ext{RPD} \ ext{Limit} \end{array}$
Param	F	С	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1	27.4	mg/L	1	25.0	< 0.265	110	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:

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68439

QC Preparation: 2011-04-25

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\rm C}$	Result	\mathbf{Units}^{\cdot}	Dil.	Amount	Result	Rec.	Limit
Sulfate		1	25.8	mg/L	1	25.0	< 0.177	103	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	25.6	mg/L	1	25.0	< 0.177	102	90 - 110	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch:

80692

Date Analyzed:

2011-04-27 2011-04-26 Analyzed By: AR

Prepared By: AR

Prep Batch:	68477	QC Preparation

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	27.5	mg/L	1	25.0	< 0.265	110	90 - 110

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

			LCSD			Spike	Matrix	•	Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	27.5	mg/L	1	25.0	< 0.265	110	90 - 110	0	20

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 22 of 31 Chavez County, NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 68477

Date Analyzed:

2011-04-27

QC Preparation: 2011-04-26 Analyzed By: AR Prepared By: AR

LCS Spike MatrixRec. Param F \mathbf{C} Result Units Dil. Amount Result Rec. Limit Sulfate 27.3 25.0 < 0.177 109 90 - 110 mg/L1

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

			LCSD			Spike	Matrix		${ m Rec.}$		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	27.1	mg/L	1	25.0	< 0.177	108	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:

80693

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch:

68478

QC Preparation:

2011-04-26

Prepared By:

			LCS			Spike	Matrix		${ m Rec.}$
Param	F	C	Result	Units	Dil.	Amount	Result	Rec .	Limit
Chloride		1	26.4	mg/L	1	25.0	< 0.265	106	90 - 110

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride		1	26.4	mg/L	1	25.0	< 0.265	106	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:

80693

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch: 68478 QC Preparation:

2011-04-26

Prepared By:

LCS Spike Matrix Rec. Param F Result Dil. Result Rec. Limit Units Amount Sulfate 24.7 mg/L 25.0< 0.17799 90 - 110

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 23 of 31 Chavez County, NM

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		i	24.6	m 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:

80869

Date Analyzed:

2011-05-02

Analyzed By: AR

Prep Batch: 68433

QC Preparation: 2011-04-25

Prepared By: AR

•			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		1	1030	mg/L	1	1000	< 9.75	103	90 - 110

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

•			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		1	990	mg/L	1	1000	< 9.75	99	90 - 110	4	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:

80871

Date Analyzed:

2011-05-02

Analyzed By: AR.

Prep Batch: 68476

QC Preparation: 2011-04-26

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolved Solids		J	1040	mg/L	1	1000	< 9.75	104	90 - 110

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

		LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F} + \mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	ı	1070	mg/L	1	1000	<9.75	107	90 - 110	3	10

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

Matrix Spike (MS-1) Spiked Sample: 263910

QC Batch:

80666

Date Analyzed:

2011-04-26

Analyzed By: AR

Prep Batch: 68439

QC Preparation: 2011-04-25

Prepared By: AR

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 24 of 31 Chavez County, NM

		MS			Spike	Matrix		Rec.
\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
	1	10400	mg/L	100	2750	8280	77	90 - 110
	F	F C	F C Result	F C Result Units	F C Result Units Dil.	F C Result Units Dil. Amount	F C Result Units Dil. Amount Result	F C Result Units Dil. Amount Result Rec.

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

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	10400	mg/L	100	2750	8280	77	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: 263910

QC Batch:

80666

Date Analyzed:

2011-04-26

Analyzed By: AR

Prepared By: AR

Prep Batch: 68439

QC Preparation: 2011-04-25

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit
Sulfate		1	2470	mg/L	100	2750	167	84	90 - 110

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	2490	mg/L	100	2750	167	84	90 - 110	1	20

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

Matrix Spike (MS-1) Spiked Sample: 263913

QC Batch:

80692

Date Analyzed:

2011-04-27

Analyzed By: AR Prepared By: AR

Prep Batch: 68477

QC Preparation: 2011-04-26

MS Spike Matrix Rec. Param F Result Units Dil. Amount Result Rec. Limit Chloride 338 90 - 110 mg/L 10 275 62.2 100

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$_{ m Limit}$
Chloride		1	339	mg/L	10	275	62.2	101	90 - 110	0	20

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 25 of 31 Chavez County, NM

Matrix Spike (MS-1)

Spiked Sample: 263913

QC Batch:

80692

Date Analyzed:

2011-04-27

Analyzed By: AR

Prep Batch: 68477

QC Preparation: 2011-04-26

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Sulfate		1 .	373	mg/L	10	275	124	90	90 - 110

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		1	373	mg/L	10	275	124	90	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: 263916

QC Batch: Prep Batch: 68478

Date Analyzed: QC Preparation:

2011-04-27 2011-04-26 Analyzed By: AR

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	143000	mg/L	.50	1380	132000	800	90 - 110

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	143000	mg/L	50	1380	132000	800	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: 263916

QC Batch:

80693

Date Analyzed:

2011-04-27

Analyzed By: AR.

Prep Batch: 68478

2011-04-26

QC Preparation:

Prepared By: AR

			MS			\mathbf{Spike}	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Sulfate		1	3590	mg/L	50	1380	2680	66	90 - 110

Report Date: May 4, 2011 114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 26 of 31 Chavez County, NM

			MSD			Spike	Matrix		Rec.		R.PD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	$_{ m Limit}$
Sulfate		1	3570	mg/L	50	1380	2680	65	90 - 110	1	20

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 27 of 31 Chavez County, NM

Calibration Standards

Standard (CCV-1)

QC Batch: 80470

Date Analyzed: 2011-04-20

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	0.0916	92	80 - 120	2011-04-20
Toluene		1	mg/L	0.100	0.0996	100	80 - 120	2011-04-20
Ethylbenzene		1	mg/L	0.100	0.0983	98	80 - 120	2011-04-20
Xylene		1	mg/L	0.300	0.298	99	80 - 120	2011-04-20

Standard (CCV-2)

QC Batch: 80470

Date Analyzed: 2011-04-20

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	0.0907	91	80 - 120	2011-04-20
Toluene		1	mg/L	0.100	0.0978	98	80 - 120	2011-04-20
Ethylbenzene		1	mg/L	0.100	0.0964	96	80 - 120	2011-04-20
Xylene		1	mg/L	0.300	0.290	97	80 - 120	2011-04-20

Standard (ICV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

Analyzed By: AR

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

Standard (ICV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 28 of 31 Chavez County, NM

				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	\mathbf{A} nalyzed
Sulfate		1	$_{ m mg/L}$	25.0	24.2	97	90 - 110	2011-04-26

Standard (CCV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

Analyzed By: AR

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

Standard (CCV-1)

QC Batch: 80666

Date Analyzed: 2011-04-26

Analyzed By: AR

				CCVs True	$\begin{array}{c} \text{CCVs} \\ \text{Found} \end{array}$	$\begin{array}{c} { m CCVs} \\ { m Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.0	96	90 - 110	2011-04-26

Standard (ICV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	m mg/L	25.0	23.1	92	90 - 110	2011-04-27

Standard (ICV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 29 of 31 Chavez County, NM

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1 aram	riag	Cert	Omos	Conc.	Conc.	recovery	Lillios.	mayzea
Sulfate		1	mg/L	25.0	24.1	96	90 - 110	2011-04-27

Standard (CCV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

		~ .		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	$\mathbf{Flag}_{\underline{\mathbf{r}}}$	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	23.8	95	90 - 110	2011-04-27

Standard (CCV-1)

QC Batch: 80692

Date Analyzed: 2011-04-27

Analyzed By: AR

				CCVs True	$\begin{array}{c} \text{CCVs} \\ \text{Found} \end{array}$	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	nig/L	25.0	24.3	97	90 - 110	2011-04-27

Standard (ICV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	23.8	95	90 - 110	2011-04-27

Standard (ICV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 30 of 31 Chavez County, NM

				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		'1	mg/L	25.0	24.3	97	90 - 110	2011-04-27

Standard (CCV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

Analyzed By: AR

•				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/L	25.0	23.1	. 92	90 - 110	2011-04-27

Standard (CCV-1)

QC Batch: 80693

Date Analyzed: 2011-04-27

				CCVs True	${ m CCVs}$ Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		1	mg/L	25.0	24.4	98	90 - 110	2011-04-27

114-6403129

Work Order: 11041530 Celero/Rock Queen #1 TB Page Number: 31 of 31 Chavez County, NM

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

Analysis Request of Chain of Custody Record						L							PAG	E:	\perp		0	F: ——	<u>/</u>		
							ANALYSIS REQUEST (Circle or Specify Method No.)														
1910 N. Big Midland, To	A TECH g Spring St. exas 79705 9 • Fax (432) 682-3946						H)5 (Ext. to C35)	Cd Cr Pb Hg Se	Pd Hg											
CLIENT NAME: SITE MANAC	T Kindley	ERS	Р		ERVA			TX1005	Ba	8			30/624	70/625					s, pH,		
PROJECT NO.: PROJECT NAME: 115-6403129 Rock Queen # TB	· NAU · G	F CONTAIN		1	T	T		S MOD.	uls Ag As	als Ag As	Volatiles		8240/826	ni. vol. 82 /608	90		Air)	stos)	ns/Cation	3	
LAB I.D. DATE TIME WAY OF SAME	PLE IDENTIFICATION	NUMBER OF CONTAINERS FILTERED (Y/N)	HCL	HNO3	ICE MONE		121	TPH 8015	RCRA Metals Ag A	TCLP Metals	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. VC PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec. Albha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, (TDS	4150	
263909 4/3 1030 W X MW-1		4 10	X		ΧX	(X									K			X X		
910 5 1100 5 (mw-z					1 (′													(
911 \ 1105 \ (mw-3		\mathbb{W}			\sum_{i}	\rangle	ζ									7			\prod		
912 (1050) / mw4		$\langle \rangle$	7													\setminus			\prod		
913 / 1040 / mw-s		//			\mathcal{M}		5								П				\prod		
914) 1130 / mw-6		\prod			\prod	/										/			\prod	П	
915 1120 1 mw-7		()	7	7	(T)		3	十	T		T	П		1	Π	\backslash			小		
916 4/13 1040 W X RW-1	4	YN.	X	Ì	x >	۲	X									X	I		XX		
															Ш			Ш	\perp	Ш	
						1															
RELINQUISHED BY Signature) Date: 4-15-11 Time:	RECEIVED BY: (Signifture)	Date: 5//3/// Time: 13/50						SAMPLED BY: (Print & Initial)						Z	Date: Y-13-14 Time:						
RELINQUISHED BY (Signature) Date: Time: RELINQUISHED BY: (Signature) Date:	RECEIVED SY. (Signature)	Date:						SAMPLE SHIPPED BY: (Circle) FEDEX BUS (HAND DELIVERED) UPS									AIRBILL #:				
Time:	RECEIVED BY: (Signature)	Date:						TETRA TECH CONTACT PERSON:								Results by:					
RECEIVING LABORATORY: TOUC ADDRESS: CITY: DIGITAL STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE:1	TIME:					Jeff Kindley									RUSH Charges Authorized: Yes No					
SAMPLE CONDITION WHEN RECEIVED: REMARKS: XXII tests Midland																					